PROCEEDINGS OF
THE 7ᵀᴴ INTERNATIONAL CONFERENCE ON LOCAL GOVERNMENT

Leadership for Digital Governance:
Building the Teams to Implement
the Technology

November 18-19, 2022
Pullman Arcadia Naithon Beach
Phuket, Thailand
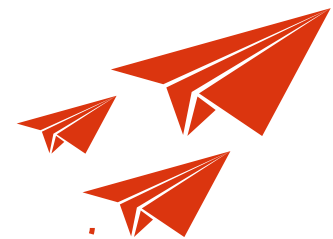
Editors
Peerasit Kamnuansilpa
Grichawat Lowatcharin

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Proceedings
of the 7th International Conference on Local Government

Volume Editors:
Peerasit Kamnuansilpa
Grichawat Lowatcharin

Editorial Staff:
Pakpoom Phonsungnoen
Wutthichai Uanpromma
Tony Criswell
Nattaya Srihanarm
Kewaree Saengsawang

A MESSAGE FROM THE VICE CHAIRMAN OF KHON KAEN UNIVERSITY COUNCIL

H.E. Surapon Petch-vra

Dean Peerasit, Vice President Nguyen, Dr. Caro, Honored Guests, Conference Participants, Ladies and Gentlemen.

I would like to join Dean Peerasit and his College of Local Administration team to welcome you to the 7th International Conference on Local Government hosted by Khon Kaen University.

As Vice Chair of the University Council of Khon Kaen University, it has been my pleasure to watch the growth and success of the College of Local Administration under the active leadership of Dean Peerasit.

We were thrilled to see that the College of Local Administration was included in the 2021 Class of the Ministry of Higher Education, Science, Research, and Innovation's Education Criteria Performance for Excellence, or EdPEx, National Forum for Excellence, joining an elite group of only 68 other colleges and faculties from throughout of Thailand.

COLA is not only a center of excellence in governance, public policy, and local administration, it is also a center of excellence in higher education performance. Congratulations to the COLA faculty, staff, students, community partners, and alumni for this achievement.

I have been asked to open this conference on the theme "Leadership for Digital Governance: Building the Teams to Implement the Technology."

The COVID-19 pandemic has vastly accelerated the growth and acceptance of digital technology worldwide. As Dean Peerasit noted, we in higher education cannot preach digital governance to others without practicing it ourselves. In addition to the digital governance initiatives being pursued by COLA, we at Khon Kaen University have been actively embracing digital governance and transformation.

In September, we organized a campus-wide "Digital Transformation 2022" meeting, led by our Vice President for Digital Affairs, to accelerate digital trends on campus. We began this with a campus-wide exhibition on the production of digital media for teaching and learning by our Center for Teaching Innovation. We are keenly aware that digital transformation is accelerating.

It is because of the acceleration of digital transformation that the question of digital governance arises. As Dean Peerasit and Dr. Bruce Gilley wrote in their op-ed in the *Bangkok Post* last Saturday, digital governance means two different things: the governing *through* the use of digital technologies and the governing *of* digital technologies.

Not surprisingly, most of the emphasis has been placed on the first of these, governing *through* the use_of digital technologies. From the earliest years of e-government services in the 1990s, governments have been rapidly expanding their use of digital technologies to deliver government services and to improve governing processes.

It is difficult for governments, especially local governments, to efficiently and successfully implement this technology. Many experts agree that the success of implementation begins with the leaders and the teams they build.

Leadership for building the teams to implement the technology in this sense means leadership that is mission-oriented, performance-minded, and aligned with the idea of delivering public value.

I look forward to the insights that our keynote speaker Andrew Greenway will provide on lessons for leadership in digital transformation.

Some political scientists might say that this sort of leadership helps to build "performance legitimacy" for governments at all levels. If the people see that the government is performing well, they may treat it as a rightful and deserving holder of power.

But what about leadership for digital governance in the second sense? When we shift to the question of building teams to implement the technology in the second sense of the governing *of* the digital, then implementation takes on a different meaning.

To implement the governance *of* the digital means to implement values and procedures that ensure digital transformation is aligned with the values and expectations of the community – such as safety, privacy, fairness, transparency, cost-effectiveness, humility, and accountability.

For instance, is there a "right to analog" – the right of citizens, in other words, to *not* be forced to exercise their citizenship through digital means -- that leaders who are in charge of implementation need to respect.

How can the leaders who are building the teams to implement digital technology make sure that rapid rollouts do not come at a cost of major cybersecurity vulnerabilities?

How is privacy and personal data going to be protected if more and more data about individuals is held by government in easily accessible digital form?

Where will governments draw the line between the use of digital technologies to improve the government information function, and the dangers of expert overreach and elite management of opinion that this might pose?

Finally, as our students asked us repeatedly during the switch to remote learning during the pandemic, how can in-person connections be built into the DNA of digital transformation?

Leadership for building the teams to implement the technology in this second sense means leadership that is process-oriented, risk and uncertainty-minded, and aligned with the idea of conforming to public values.

Some political scientists might say that this second sort of leadership helps to build "procedural legitimacy" for governments at all levels. The people see that the government is acting in a way that reflects the values of the citizens, and they therefore treat it as a rightful and deserving holder of power.

Over the next two days, we will hear presentations and hold discussions on both of these aspects of digital governance and transformation.

While I do not have time to commend each and every paper to you, let me give you some examples of papers that address each aspect.

On the first issue of governing *through* or *by* the use of digital technology, we will hear a wide number of perspectives, issues, and case studies.

These will include papers on specific issues of digital governance delivery and papers addressing general issues of digital governance delivery.

Every country and every policy sector have specific needs and contexts that make the delivery of digital government services and the delivery of digital governance far from easy. What does leadership for building the teams to implement the technology in a tribal governance in India or poverty alleviation in China entail?

The simple answer is that it entails leadership that builds teams that generate good performance, and thus performance legitimacy. But what sort of performance is needed?

Work by scholars such as Claire McLoughlin of the University of Birmingham tells us that "performance" is often judged by citizens based on things other than objective service outputs: they want to know that service is delivered fairly, that the interface with the state is trustworthy, and that the public sector is aware ahead of time of their expectations.

This is why digital governance in the second sense, the governing *of* the digital in order to ensure procedural legitimacy, is inextricably connected to digital governance in the first sense.

There is also the question of governing digital governance that will be addressed

As a conference on local government, we always welcome papers and ideas on recurrent challenges for local government of all types, whether digital or analog! Several papers at this 7th ICLG will address other pressing issues in local government affairs.

I leave you then to roll-up your sleeves and get to work over the next two days. The digital governance challenge is upon us whether we like it or not. The leadership needed to build the teams to implement the technology is a critical step. In addition, a relentless focus on not only the governing by digital but also the governing of digital will be needed to ensure continuing the legitimacy of the public sector.

We at Khon Kaen University and our partner universities, as well as our sponsors at the Konrad Adenauer Foundation, are thrilled to welcome you to the 7th International Conference on Local Government. Good luck! And Welcome!

A MESSAGE FROM THE DEAN OF COLLEGE OF LOCAL ADMINISTRATION

Assoc. Prof. Dr.
Peerasit Kamnuansilpa

I would like to welcome H.E. Surapon Phetwara, Vice Chair of Khon Kaen University Council; Dr. Nguyen Thanh Trong, Vice President of Eastern International University; Dr. Celine-Agathe Caro, Head of Konrad Adenauer Stiftung Office in Thailand; Honored Guests; Conference Participants; Ladies and Gentlemen:

Welcome to the 7th International Conference on Local Government!

My name is Peerasit Kamnuansilpa, chair of the ICLG 2022 Organizing Committee and Dean of the College of Local Administration, Khon Kaen University. I am honored to serve as your host.

The International Conference on Local Government, known as the ICLG, has been held regularly since 2010. This is the first meeting since we held the conference at Khon Kaen in 2015. With a new momentum among our partners, we believe this conference will launch a more frequent and more significant phase in the ICLG series.

We are excited to have both in-person and online participation as we embrace the opportunities of technology and innovative new conference forms.

We have been working hard to make sure that this will be a productive and enjoyable experience. We express our thanks to the staff at the Pullman Phuket Arcadia Naithon Beach Resort who have worked with us on the arrangements. And we express our thanks to the people of Phuket, who hosted the Thai "Sandbox" program for visitors during the difficult time of COVID.

We also are grateful for our sponsors, our ICLG staff, and our participants for supporting this endeavor.

For the next two days, we will be meeting here to share our experiences and to make new connections on local government. We have chosen the theme of ICLG 2022 as "Leadership for Digital Governance: Building the Teams to Implement the Technology."

We at the College of Local Administration, Khon Kaen University, have been training public service leaders in digital transformation for several years, alongside our work on other innovations in local government. I am glad that we can focus our attention on the challenges of digital governance, while continuing to share lessons on other key topics in local government.

As I and my Portland State University colleague, Professor Bruce Gilley, wrote in an Op-Ed in the *Bangkok Post* last Saturday, digital governance will present far more challenges than the relatively easy "e-government" challenges of the past. We chose this theme because we at COLA are eager to share experiences and knowledge from partners and scholars around Asia and around the world. We need fresh thinking and bold experiments to help governments adjust to the new realities of digital technology.

In planning the conference, we knew that we needed the insights of a globally recognized leader in digital governance transformations to offer the Keynote Speech. Why not go directly to the source and bring to Phuket one of the acknowledged global leaders in this field?

When we contacted Mr. Andrew Greenway, who was a key figure in setting up the UK Government's Digital Service and who is the author of the widely acclaimed book *Digital Transformation at Scale*, but we recognized that his busy schedule might not allow him to participate. After all, he would be leaving behind, according to my latest information, 7 degrees Celsius and rain.

When he immediately accepted to offer the Keynote Address on the conference theme, we were not only grateful, but felt that perhaps this conference was blessed with good luck!

Dr. Brady Deaton, former Chancellor of the University of Missouri, will provide a plenary lecture entitled "Higher Education in the Digital Era." I feel particularly strongly about this topic. After all, if we in higher education and research, and if we do not undertake digital governance and digital transformation, how can we successfully advocate and train others?

At the College of Local Administration, we have been running to catch the rapidly moving train of digital governance.

In collaboration with the College of Computer Science at Khon Kaen University, this year we launched a Master of Public Administration program, focusing on digital governance.

We have also been in the community advocating for digital governance and the governance of digital. In August, we organized a series of workshops for local administrative organizations on Thailand's new personal data protection act. In July, we held a one-day conference at COLA partnering with Khon Kaen province and the national Digital Government Development Agency to discuss digital local development in Khon Kaen Province.

Just last month, we were in the field in Muang Phon Municipality in Khon Kaen Province to advise local leaders on upgrading public services to develop digital government according to the Thailand 4.0 national strategy. So, we are not letting the grass grow under our feet as we rush to meet this new challenge.

I would like you to use these two days for productive conversations that lead to concrete results. I would ask that you join with us over the next two days to take notes on general themes emerging here so that we can share them together during our closing session tomorrow. Professor Gilley will lead a discussion of lessons learned.

As the Chair of the ICLG Organizing Committee and Dean of the host organization, I feel a special responsibility for your success and well-being whether you are here in Phuket or joining us remotely. All in-person sessions will he held here at the resort, and please consult your latest conference program for details.

If you have questions or needs, please talk to Mr. Tony Criswell, who is standing there, or Ms. Kewaree Sangsawang (who we call Imm), who is standing there.

Thank you, again, for attending. Enjoy the conference and enjoy Phuket!

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- Registration
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- Opening ceremony
- Keynote session
- Individual and Panel presentations
- Reception dinner

Day 3: Saturday, November 19, 2022

- Panel presentations continued
- Closing ceremony

DETAILED PROGRAM

Date and Time	Activity	Location

Day 1 Pre-Conference: Thursday, November 17, 2022

Various times	Participants and guests arrive in Phuket (Shuttle service: airport-Pullman Arcadia only)	
4 Hrs.	Conference registration • Registration desk opens • Participants receive name tags and conference programs	Registration desk, Arcadia Ballroom
17-18 Hrs.	Conference Executive and Steering Committees meeting (invited guests only)	TBA
18-20 Hrs.	Conference Executive and Steering Committees dinner (invited guests only)	TBA

Day 2 Conference: Friday, November 18, 2022

7:30-8:30 Hrs.	Participants and guests arrive in Phuket (Shuttle service: airport-Pullman Arcadia only)	
8:30 Hrs.	Conference registration • Registration desk opens • Participants receive name tags and conference programs	Registration desk, Arcadia Ballroom
8-9 Hrs.	Video presentations (host's and sponsors' videos)	Arcadia Ballroom

9-9:40 Hrs.	Opening ceremony
	 • Welcoming remarks, conference overview and recognition of sponsors by Assoc. Prof. Dr. Peerasit Kamnuansilpa, Chair of ICLG2022 Organizing Committee
	
	 • Remarks by institutional sponsors
	    o Dr. Celine-Agathe Caro, Head of Konrad Adenauer Stiftung Office in Thailand
	    o Dr. Nguyen Thanh Trong, Vice President of Eastern International University, Vietnam
		Arcadia Ballroom

Date and Time	Activity	Location
	• Remarks by Assoc. Prof. Dr. Sumon Sakolchai, President Emeritus of Khon Kaen University and Chairman of Burapha University Council	
9:40-10 Hrs.	Conference opening remarks • Opening remarks by H.E. Surapon Petch-vra, Vice Chairman of the University Council • Mr. Surapon Petch-vra awards certificates of appreciation to sponsors	Arcadia Ballroom
10-11 Hrs.	Keynote speeches • Introducing the Keynote Speaker • Keynote speech "Digital Governance: Building Teams to Implement Technology" by Mr. Andrew Greenway, co-founder of Public Digital and co-founder of Government Digital Service, United Kingdom	Arcadia Ballroom
10:30-11 Hrs.	Refreshments (to be served inside the ballroom)	Arcadia Ballroom
11-11:50 Hrs.	Plenary lectures • "Higher Education in the Digital Era" by Prof. Dr. Brady Deaton, Chancellor Emeritus of University of Missouri, United States • "Of Individuals, Institutions, and Innovations: Transformative Leadership for Progressive Local Planning and Governance" by Assoc. Prof. Ashok Das, University of Hawaii at Manoa, United States	Acadia Ballroom
12-13 Hrs.	Lunch hosted by COLA	Element Restaurant
13-14:30 Hrs.	Breakout sessions • Concurrent panel 1: Applying Digital Technology and Social Media in Public Affairs 1 • Concurrent panel 2: Applying Digital Technology and Social Media in Public Affairs 2 • Concurrent panel 3: Local Governance and Sustainable Development	Various rooms
14:30-14:45 Hrs.	Refreshment break	Foyer

Date and Time	Activity	Location
14:45-16.15 Hrs.	Breakout sessions (continued) • Concurrent panel 4: Governing in the Disruptive Era: Cases from China • Concurrent panel 5: Smart City Challenges and Prospects • Concurrent panel 6: Representation of Women and Minorities in Public Affairs	Various rooms
18-20 Hrs.	Reception dinner for all conference participants and guests Dress code: business casual	Andaman Sunset

Day 3 Conference: Saturday, November 19, 2022

9-10:30 Hrs.	Breakout sessions (continued) • Concurrent panel 7: "Digital Governance: From the Perspective of PV-GPG" • Concurrent panel 8: Local Initiatives in Public Healthcare and Safety • Concurrent panel 9: Emerging Issues in Public Affairs in the 21st Century	Various rooms
	Refreshment available (no break)	Foyer
10:30-11:45 Hrs.	• Concurrent panel 10: Urban Planning and Urban Revitalization • Concurrent panel 11: Tackling Economic Challenges with Digital Innovation • Concurrent panel 12: Public Affairs during the Covid-19 Pandemic	Arcadia Ballroom
11:45-12:30 Hrs.	Conference conclusion • Conference conclusion by Prof. Dr. Bruce Gilley, Portland State University, United States • Closing remarks by Assoc. Prof. Dr. Peerasit Kamnuansilpa, Dean of COLA	Arcadia Ballroom
12:30-13:30 Hrs.	Farewell lunch hosted by COLA	Element Restaurant

ICLG2022 SPONSORS

We gratefully acknowledge the sponsorship of the conference by the following organizations.

Platinum Sponsors

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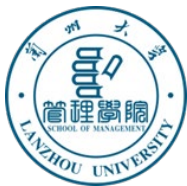
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College of Interdisciplinary Studies
Thammasat University
Bangkok, Thailand
www.cis.tu.ac.th/cis-eng

ABOUT KKU

Khon Kaen University (KKU) was established as the major university in the northeastern part of Thailand in 1964 and has since devoted itself to becoming one of the top universities in Thailand. The university's major mission is to prepare future global citizens to work in a continually changing world. KKU's strategic goal is to be recognized both internationally and regionally as a leading university in research. KKU currently has more than 40,000 students studying in 19 faculties, 3 colleges, 1 school, and 2 campuses.

In 2009, Khon Kaen University was chosen by the government as one of the 9 "National Research universities'. The target is to bring research outcomes to solve problems in the Northeast and to drive towards an international level. More faculties were founded, namely, Faculty of Law (2006), College of Local Administration (2007), and International College (2008).

KKU has become a Lifelong Learning Center from adjusting some campus areas as the social learning park such as the area by Sithan Lake, KKU sports center which now becomes the Sport Park. People from outside are able to use the areas. The Natural Museum, Science Museum have been built as well as Nong Khai Aquarium. At the same time, there is conservation of original forest areas and birds for bird studies. Some areas have been modified into Agro Park and Culture Park. At present, many people from outside use and participate in the activities at these parks.

KKU is assessed by external organizations at the institutional level, faculty level, and program level based on the evaluation standard used in the country and abroad: QS Ranking, Times Higher Education, etc. In 2018, Khon Kaen University was assessed by THE (Times Higher Education) as the first of Thailand or the 15th to 40th of Asia in Social Impact. In 2019 and 2020, KKU was ranked the first in Thailand under the Social Impact Ranking by THE and within the 101st to 200th of the world.

ขอนแก่น

ภาพ นพ.ฐาปนันท์ มหัศนันท์

ABOUT COLA

The College of Local Administration (COLA) was founded at Khon Kaen University (KKU) in 2007 in collaboration with Thailand's Department of Local Administration in the Ministry of Interior. The expressed purposes are to improve the management capacity of local government officials throughout the country and to serve as a repository of knowledge on government innovation and collaboration. This joint effort was designed to impart and apply knowledge from the field of public administration, emphasizing decentralized management.

The College initially offered a master's degree in public administration and, later, launched a bachelor's degree in public administration. Since that time, COLA has become a model for other universities in Thailand seeking their own programs in local government. The College has also been able to improve public perception and increase awareness of the importance of local governance.

Recognizing that the world is interconnected, in 2009 COLA began to offer an international Doctor of Public Administration program in public affairs management in collaboration the University of Missouri-Columbia and the University of Hawaii at Manoa and, later, Portland State University. This is the first and only program of its kind in Thailand. The program prepares students to cope with rapid social and economic challenges that are facing the country through an interactive learning approach.

For the past several years, Thailand has faced political crises. Several governments shifted the policy focus from decentralization. As a result, local administration's roles and management resources have been obstructed. Nevertheless, COLA has been elevating local governance as a national development foundation under New Public Service instead of Old Public Administration. According to the COLA strategic plan (2020-2024), the vision was defined as "the leading higher learning institution in public affairs governance in ASEAN." The College aims to strengthen the teaching and learning process, research and innovation, academic service, foreign affairs, community relations, and organizing in an attempt to be widely recognized both nationally and internationally, especially in ASEAN.

ABOUT KAS

The (KAS) is a foundation from the Federal Republic of Germany, closely associated with the Christian Democratic Union (CDU). As co-founder of the CDU and the first Chancellor of the Federal Republic of Germany, Konrad Adenauer (1876-1967) united Christian-social, conservative and liberal traditions. His name is synonymous with the democratic reconstruction of Germany, the firm alignment of foreign policy with the trans-Atlantic community of values, the vision of a unified Europe and an orientation towards the social market economy. His intellectual heritage continues to serve both as our aim as well as our obligation today.

In our European and international cooperation efforts we work for people to be able to live self-determined lives in freedom and dignity. We make a contribution underpinned by values to helping Germany meet its growing responsibilities throughout the world.

We encourage people to lend a hand in shaping the future along these lines. With more than 70 offices abroad and projects in over 120 countries, we make a unique contribution to the promotion of democracy, the rule of law and a social market economy. To foster peace and freedom we encourage a continuous dialog at the national and international levels as well as the exchange between cultures and religions.

Human beings in their distinctive dignity and with their rights and responsibilities are at the heart of our work. We are guided by the conviction that human beings are the starting point in the effort to bring about social justice and democratic freedom while promoting sustainable economic activity. By bringing people together who embrace their responsibilities in society, we develop active networks in the political and economic spheres as well as in society itself. The guidance we provide on the basis of our political know-how and knowledge helps to shape the globalization process along more socially equitable, ecologically sustainable and economically efficient lines.

We cooperate with governmental institutions, political parties, civil society organizations and handpicked elites, building strong partnerships along the way. In particular we seek to intensify political cooperation in the area of development cooperation at the national and international levels on the foundations of our objectives and values. Together with our partners we make a contribution to the creation of an international order that enables every country to develop in freedom and under its own responsibility.

ABOUT EIU

The Eastern International University (EIU), invested and developed by Binh Duong province-headquartered Becamex IDC Corporation, was established under Prime Minister Decision No. 1789/QD-TTg dated September 27, 2010.

EIU was formed with the mission of training high-quality human resources to effectively meet the urgent need of manpower for the sustainable socio-economic development in Binh Duong. EIU also aims to become a scientific research hub for technology transfers and application, to drive socio-economic development in the southern key economic region and entire Vietnam. With the educational philosophy being "Humanity – Community – Creativity – Sustainability," EIU trains, inspires, and encourages students and learners to discover their own strengths and values, while contributing new values to the community and socio-economic development.

EIU currently has four (4) Schools and seven (7) Majors focusing on Business Administration, Engineering, Technology, and Healthcare. Our curriculum is designed to keep up with the global industrial revolution 4.0 for global integration. After more than 10 years operating and developing, EIU has admitted 11 cohorts of undergraduate students, 5 of which have successfully completed university with a graduate employment rate of 94%. Notably, 100% of the graduates have a minimum IELTS band 6.0 before graduation.

EIU is one of the key players of the triple helix model of collaboration between government, industry and university. EIU has developed a creative ecosystem with closely-connected units to perform training and teaching tasks, conduct scientific research, connect and serve the community, and promote socio-economic development.

In September 2020, EIU achieved the Education Accreditation Certificate per Decision No. 06/QD-TTKD issued by the National Center for Accreditation and Evaluation of University Quality. This is a motivation for EIU to strive harder in improving educational quality and pursuing its development strategies.

ABOUT LUSM

Since its founding, guided by the motto of "The learning of management is the learning of heading for success", LUSM has borne in mind the idea of "people-oriented, professors governing", sticking to "developing the School with capable people, internationalization, and accelerating the progress by School culture". With the solid support from the faculties, well-known scholars and practitioners, the School has cultivated and trained numbers of qualified management professionals, academic elites, and competent management experts for our country, fulfilling the sacred mission of rooting in western China with national, even global perspectives. In recent years, the School strives to refining disciplinary advantages, promoting the interdisciplinary development in Public Administration, Business Administration and Political Science, forming featured stage of management discipline, and marching forward with steady steps on the course among "First-Class Universities and First-Class Disciplines".

Look into the future, by continuously carrying the University motto of "Constantly improving, blazing our own path", LUSM will unswervingly pursue to be a highly open, research-supported comprehensive management school ranking top in China with global reputation. On the way to be excellence, LUSM will response to the actual needs in practical management world; equip students with social responsibility, leadership skills, and innovative thinking; strengthen the management competence to work for the government and industries; and fuel the cooperation with other universities worldwide.

The world today is full of opportunities, especially when new concepts spring up one by one, such as "Belt and Road" iniytiative, "Mass Entrepreneurship and Innovation", "Internet +, Big Data and Cloud Technology", "Supply-side Structural Reform", "Made in China 2025", etc; when series of challenges brought by the economic restructuring pushed by market-oriented economy emerge; when the Central Government has made unprecedented commitment to deepen the reform, accelerate the modernization of national governance system and capability. As the institution to transporting management professionals, we should rise to create advanced management knowledge, devote to the reform and opening-up, and prepare for the industrial transformation. During this process, we would like to make joint efforts with our staff, our students, and all people holding the same belief and will, for a brighter future of business education.

In the world of management, we learn, we probe into, we feel close to it, and then we come to love it. Let us stay together, hand in hand, and strive for the new era of management!

ABOUT CIS

The Bachelor of Arts Program in Interdisciplinary Studies was elevated into university faculty entitled the College of Interdisciplinary Studies under Associate Professor Lek Sombat's rectorship. Subsequently when the Graduate School was dissolved, two degree programs were incorporated under the College of Interdisciplinary Studies. Incorporating two degrees formerly offered at the defunct Graduate School, the College of Interdisciplinary Studies since 2006 offers the following programs:

(1) Bachelor of Arts Program in Interdisciplinary Studies of Social Science: Offered at Thammasat University Lampang Campus, the program currently covers 4 interdisciplinary studies namely Chinese Studies, Greater Mekong Subregion Studies, Socio-Cultural Resources Management and Tourism Development. Students graduating from the program will receive a Bachelor of Arts degree in Interdisciplinary Studies of Social Science (B.A. Interdisciplinary Studies of Social Science). The 4-year program was offered at Thammasat University Lampang Campus.

(2) Master of Arts Program in Women, Gender and Sexuality Studies: Formerly known as the Master of Arts Program in Women Studies, the program was then taught as a special program at Thammasat University Tha Prachan Campus and under the administration of the Graduate Volunteer Office and Women and Youth Studies Program and was subsequently incorporated into the College of Interdisciplinary Studies and has undergone multiple curricular revisions. Students graduating from the program will receive a Master of Arts degree in Women, Gender and Sexuality Studies (M.A. women, Gender and Sexuality Studies).

(3) Doctor of Philosophy Program in Integrated Science: Formerly taught at Thammasat University Tha Prachan Campus, the program was under the administration of Graduate Studies Office and later incorporated into the College of Interdisciplinary Studies. Students graduating from the program will receive a Doctor of Philosophy degree in Integrated Science (Ph.D. Integrated Science).

PULLMAN FLOOR PLAN

PULLMAN PHUKET ARCADIA NAITHON BEACH

2nd floor

Arcadia Ballroom

Arcadia Foyer

Chillout Space

Secretariat Area

Board Room

Saku
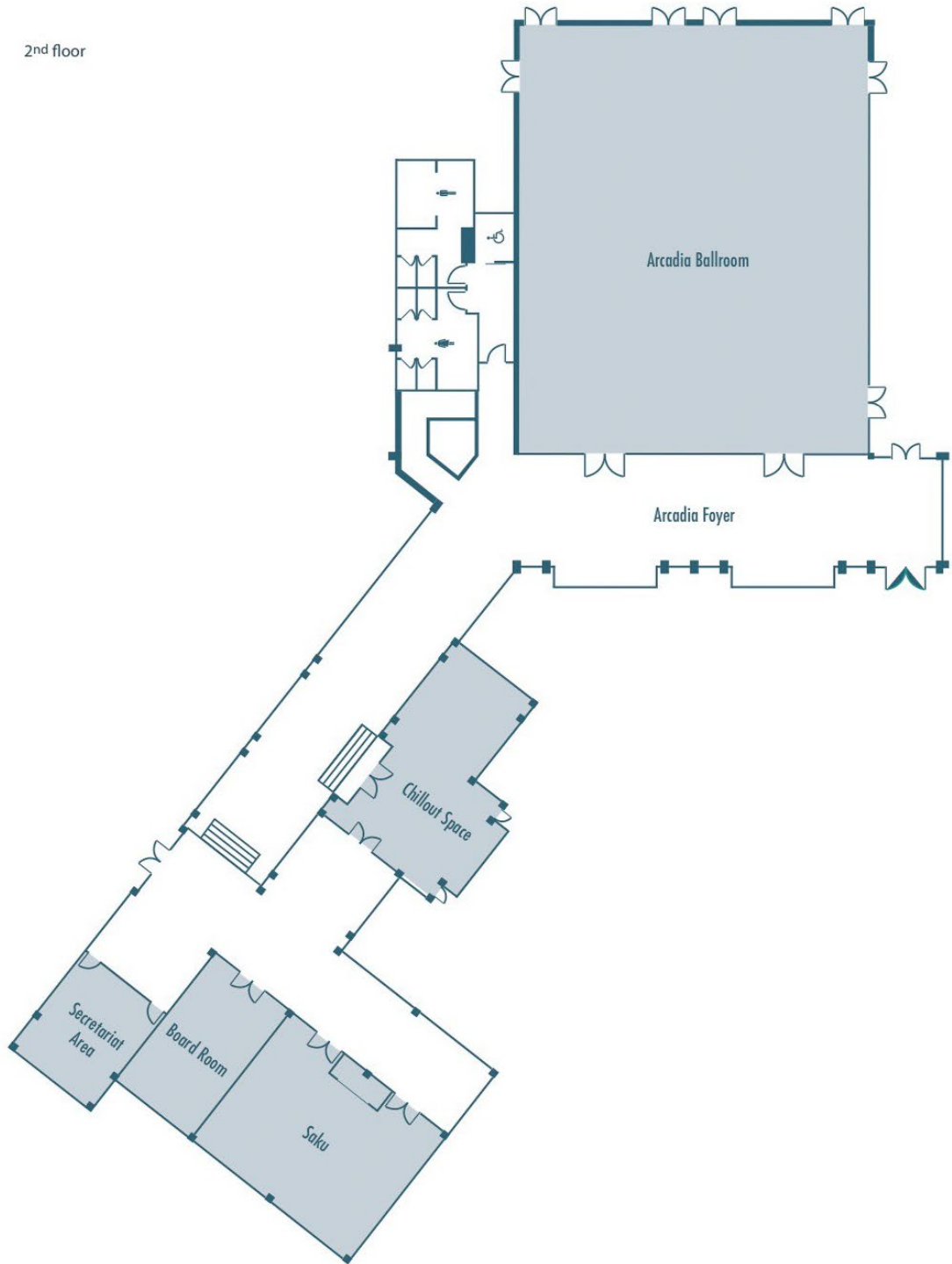
ABOUT
THE SPEAKERS

Keynote Speaker
Mr. ANDREW GREENWAY

Andrew is a Partner at Public Digital, a consultancy that helps governments, public institutions, commercial organisations and political leaders with digital transformation. He has written two books, Digital Transformation at Scale and Bluffocracy, both published in 2018. He is also a regular columnist for Civil Service World, Associate Editor for GovInsider, and occasional contributor to Apolitical, The Guardian and New Statesman.

Andrew worked in the UK civil service for 6 years, spending time in 5 government departments, covering digital, energy, health, climate change and business. While at the Government Digital Service, he led the team that delivered the first government digital service standard and design manual, set up the Technology Leaders network and wrote the Digital Efficiency Report. He has spent most of his time working on strategy, product management, data, and other forms of bureaucratic tradecraft.

Andrew ran a government review into applications of the Internet of Things, commissioned from Government's Chief Scientific Advisor by the UK Prime Minister in 2014. He was a CSAP Policy Fellow from 2014 to 2016.

Prior to working in government, Andrew did a brief stint in management consultancy and graduated from Oxford University in 2006 with a first in Philosophy, Politics and Economics.

Andrew has written two books, Bluffocracy with James Ball, and Digital Transformation at Scale with other Public Digital partners. He has also written articles for the Guardian, New Statesman and the Spectator. He is a member of Council at the University of Exeter.

Special Lecturer
Professor Dr. BRADY DEATON

Chancellor Brady J. Deaton became the 21st chief executive officer of the University of Missouri in 2004. He joined the MU faculty as a professor and chair of the Agricultural Economics Department in 1989. He was appointed chief of staff in the Office of the Chancellor in 1993, deputy chancellor in 1997 and provost in 1998. He served as MU's chancellor from 2004 to 2013.

Deaton retired from his position as chancellor Nov. 15, 2013, and leads the new Brady and Anne Deaton Institute for University Leadership in International Development.

As he departs Jesse Hall, the chancellor leaves behind a legacy. Under Deaton's leadership, the university experienced significant increases in overall student enrollment, minority student enrollment, research grants and expenditures, patents and licenses, fundraising and hiring of prestigious faculty. Since 2004 Mizzou has reduced its carbon footprint, opened 21 new buildings and transitioned to the Southeastern Conference. A lifelong advocate of responsible global citizenship, Deaton has expanded MU's international reach and backed the university's efforts in research, education and policy to help feed the world.

Special Lecturer
Assoc. Prof. Dr. ASHOK DAS

At the department of Urban and Regional Planning (DURP) at UH Manoa, Dr. Das teaches courses on planning theory and history, planning in Asia, research design, and urbanization and globalization. His areas of interest include, but are not limited to Community Participation and Empowerment, Slum Upgrading, Decentralization and Local Governance, Role of Civil Society in Equitable Development and Inclusive Urbanization, Integrated Microfinance, Disaster Risk Reduction, Socioeconomic Impacts of the Platform Economy, Reforming Planning Practice through Planning Education, Southeast Asia, South Asia.

Prior to coming to DURP, he was an assistant professor in the Department of Urban Studies and Planning, San Francisco State University. Broadly, Ashok's research explores institutional challenges to and innovations in ameliorating urban poverty through the provision of services in developing countries, especially in Southeast and South Asia. Since the mid-2000s he has continued field research in Indonesia. Community participation and empowerment, slum upgrading, decentralization and local governance, and the role of civil society in fostering equitable development and inclusive urbanization are his key interests. His recent work has explored community-managed integrated microfinance for urban poverty alleviation, disaster risk reduction, pro-poor shelter policies, planning education, and the platform economy's impacts on urban transportation-related social mobility and economic resilience. He has also researched inclusionary housing's impacts in the United States.

SESSIONS

Friday, November 18, 2022

Opening Plenary Session
Arcadia Ballroom • 09:00-12:00 Hrs.

Welcoming Remarks, Conference Overview, and Recognition of Sponsors

Assoc. Prof. Dr. Peerasit Kamnuansilpa
Dean of College of Local Administration, Khon Kaen Univerisity
Chair of ICLG2022 Organizing Committee

Remarks by Platinum Sponsors

Dr. Celine-Agathe Caro
Head of Konrad Adenauer Stiftung Office in Thailand

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Vice President of Eastern International University, Vietnam

Remarks by

Assoc. Prof. Dr. Sumon Sakolchai
President Emeritus of Khon Kaen University
Chairman of Burapha University Council

Opening Remarks

H.E. Surapon Petch-vra
Vice Chairman of the University Council

Keynote Speech

Mr. Andrew Greenway
Co-founder of Public Digital
Co-founder of Government Digital Service, United Kingdom
Digital Governance: Building Teams to Implement Technology

Plenary Lectures

Prof. Dr. Brady Deaton
Chancellor Emeritus of University of Missouri, United States
Higher Education in the Digital Era

Assoc. Prof. Ashok Das
University of Hawaii at Manoa, United States
Of Individuals, Institutions, and Innovations: Transformative Leadership for Progressive Local Planning and Governance

Breakout Sessions
Panel 1: Digital Technology
and Social Media in Public Affairs 1
Saku Room • 13:00-14:30 Hrs.

Yujiao Wang, Chunyu Li, and Haiyun Lin
Research on the Implementation Strategy of Digital Governance in Chinese Universities

Muslimin Machmud, Salahudin, and Iradhad Taqwa Sihidi
Social Media as Communication Tools for Anti-Corruption Campaign in Indonesia

Du Van Nguyen
Digital Transformation and Knowledge Sharing in Public Organizations

Alexsander Yandra
Updating of the Permanent Voters List: Inaccuracy and Independency of Voter Data Ahead of the General Election and Pilkada

Chair/Moderator: Sirisak Laochankham
College of Local Administration, Khon Kaen University, Thailand

Discussant: Anucha Somabut
Faculty of Education, Khon Kaen University, Thailand

Panel 2: Digital Technology
and Social Media in Public Affairs 2
Board Room • 13:00-14:30 Hrs.

Nabila Farhin
Disability Considerations in Disaster Risk Information Dissemination in Bangladesh

Tao Liu and Juan Shan
An Analysis on the Problems and Countermeasures of Multi-governance of Digital Government in China

Suhardiman Syamsu, Muhammad Chaeroel Ansar, and Saharuddin
Does the community adopt mobile application-based public service? Lessons from Maros Villages, Indonesia

Manggouthang Haokip
Administration System of Kuki Tribes of Manipur in the Wake of Digital India

Chair/Moderator: Krisada Prachumrasee
College of Local Administration, Khon Kaen University, Thailand

Discussant: Grichawat Lowatcharin
College of Local Administration, Khon Kaen University, Thailand

Panel 3: Local Governance
and Sustainable Development
Chillout Space • 13:00-14:30 Hrs.

Wan Nazrul Helmy Wan Mohd Zain
On the Collaborative Governance of National Park Communities Based on COP15

Xin Zhang, Chuanchen Bi, and Chang Liu
Research on Collaborative Governance Law of Yunnan National Park Community Based on COP15 "Kunming Declaration"

Lavanya Suresh and Vinay Sankar
Foregrounding Questions of Equity and Sustainability in the Co-production and Decentralisation of Water Governance in Kerala.

Raegen Harahap and Marthen Tandi
Public Services Development in Local Government in Indonesia: Evidence from District High Court Ogan Ilir, South Sumatera

Chair/Moderator: Wei Yang
College of Local Administration, Khon Kaen University, Thailand

Discussant: Panpun Ronghanam
College of Local Administration, Khon Kaen University, Thailand

Panel 4: Governing in the Disruptive Era: Cases from China
Saku Room • 14:45-16:15 Hrs.

Ran Chen and Jieyu Li
Embeddedness and Integration: How Does the New Subjects Participate in the Eco-environmental Governance System?

Guocai Wang
The Path and Practice of Digital Governance to Drive Modernization of Urban Governance Capacity

Xiaoyuan Peng
Research on Digital Governance Model of Rural Revitalization under the Post-epidemic Situation

Fang Liu
The Practical Paradoxes of "Digital Going to the Countryside" and the Generation of Governance Logic

Chair/Moderator: Charles Ruangthamsing
College of Local Administration, Khon Kaen University, Thailand

Discussant: Wimonsiri Saengkrod
College of Local Administration, Khon Kaen University, Thailand

Panel 5: Smart City Challenges and Prospects
Board Room • 14:45-16:15 Hrs.

Narong Kiettikunwong
Opting for an Unbundling Regulation Scheme for Energy Smart Grids in Thailand

Kamila Khoirunnisa
Smart Mobility Development Strategy for Public Transportation in Palembang: A Case Study of the Light Rail Train

Zixuan Wang
Smart Community Construction under Smart City System: A Case Study of Chenggong Urban Area of Kunming City, China

Pattanapong Topark-ngarm and Narongdet Mahasirikul
Role of Waste Management Policy to Greenhouse Gas Emission Reduction at MSW WTE Power Plant (Effects of Plastic)

Chair/Moderator: Pattanapong Topark-ngarm
College of Local Administration, Khon Kaen University, Thailand

Discussant: Vissanu Zumitzavan
College of Local Administration, Khon Kaen University, Thailand

Panel 6: Representation of Women and Minorities in Public Affairs
Chillout Space • 14:45-16:15 Hrs.

Bijay Kumar Das, Avi Kush, and Arpita Srivastava
Women Empowerment through Appropriate Representation in Local Governance: Case Study of Bihar state, India

Karen Webster and Charles Crothers
"Just How Representative Is Local Governance in Auckland, New Zealand"

Andi Ahmad Yani, Amril Hans , Dwiana Fajrinawati Dewi, Muhammad Adnan Kasogi, Rahmat Nurul Nugraha, and Andi Fitriyani Yahya
Policies and Challenges in Dealing with Street Children, Homeless and Beggars in an Indonesia Local Government

Phyo Thiri Mon
An Access to Social Insurance Programs for Burmese Migrant Workers During the Covid-19 Pandemic in Khon Kaen, Thailand

Chair/Moderator: Ajirapa Pienkhuntod
College of Local Administration, Khon Kaen University, Thailand

Discussant: Sirisak Laochankham
College of Local Administration, Khon Kaen University, Thailand

Saturday, November 19, 2022
Breakout Sessions
Panel 7: Digital Governance: From the Perspective of PV-GPG
Saku Room • 09:00-10:30 Hrs.

Hong Zhang and Tong Wang
High-Quality Public Service System: Dual Evolution of Theory and Policy

Yiran Bai and Guoxian Bao
Bureaucratic Renewal? The Strategy Border of AI in the Public Sector

Xuewen Mao and Luye Zhao
From Local Government Response to Central Government Promotion: The Solution to the "Digital Divide" for the Elderly—Based on a "Two-Stage Multiple Streams" Framework

Haixu Bao, Ronggen Tao, and Xiaohui Zhang
From Digital Management to Digital Governance: Theory, Practice and Reflection

Yinan Li and Yujia Li
The Sustainability Paradox of Government-Led Market Innovation: Under the Analytical Framework of PV-GPG

Chair/Moderator: Hong Zhang
Department of Public Administration, Dalian University of Technology, China

Discussant: Wei Yang
College of Local Administration, Khon Kaen University, Thailand

Panel 8: Local Initiatives in Public Healthcare and Safety
Board Room • 09:00-10:30 Hrs.

Hongxia Luo, Junfeng Duan, Guofu Jin, and Yuhao Zhang
Value Ranking and Tool Externality: The Dual Logics of Transnational Locust Plague Prevention and Control—A Comparative Study Based on Four Cases

Wiput Phoolcharoen, Sombat Haesakul, Hasem Beema, and Thanakom Wongboontham
The Governance of Coverage Health Service Supply Chain for Diabetics in Bangkok Metropolitan Administration (BMA): A Local Health System Analysis for Digital Transformation

Devi Yulianti and Intan Fitri Meutia
Policy Monitoring: Cost-Effectiveness of Community-Based Sanitation Program

Chair/Moderator: Panpun Ronghanam
College of Local Administration, Khon Kaen University, Thailand

Discussant: Krisada Prachumrasee
College of Local Administration, Khon Kaen University, Thailand

Panel 9: Emerging Issues in Public Affairs in the 21st Century
Chillout Space • 09:00-10:30 Hrs.

Vissanu Zumitzavan, Gamom Savatsomboon, and Sarinthree Udchachone
A Theoretical Modelling of the Relationship between the Knowledge-Based View Mediated by Transformational Leadership on Firm Performance in the Thai Airline Industry

Abhisek Karmakar
E-governance and the Deepening of Local Democracy in India through Panchayati Raj Institutions: An Exploration

Rapeepan Phittayadilok
Public Leadership in the 21st Century: Leader as a Gardener in Thailand's Public Sector

Bình Nghiêm-Phú
The Queerization and Straightization of Tokyo's Shinjuku Ni-chome Under the Influence of Leisure and Tourism–Implications for Local Governance

Chair/Moderator: Vissanu Zumitzavan
College of Local Administration, Khon Kaen University, Thailand

Discussant: Narong Kiettikunwong
College of Local Administration, Khon Kaen University, Thailand

Panel 10: Urban Planning and Urban Revitalization
Saku Room • 10:30-11:45 Hrs.

Fulena Rajak and Sandeep Kumar
Impact of Urbanization on Urban Green Spaces and Buffer Greens in Patna

Thanatorn Klayjinda, Thanaphat Luechathananon, Kanin Nimpisut, and Wimonsiri Saengkrod

Urban Redevelopment Analysis of Khon Kaen Bus Terminal 1, Khon Kaen Province, Thailand

Watcharapon Aiamsarad, Nattapon Phoonikom, Tharatorn Theerathititham, and Wimonsiri Saengkrod
Road network Problems: A case study Village No. 12, Ban Non Muang, Sila Municipality, Mueang District, Khon Kaen Province Study

Chuanchen Bi and Xiaolei Wang
New Trends for The Development of Thailand Tourism Industry under the Post-Pandemic Era

Chair/Moderator: Wimonsiri Saengkrod
College of Local Administration, Khon Kaen University, Thailand

Discussant: Pattanapong Topark-ngarm
College of Local Administration, Khon Kaen University, Thailand

Panel 11: Tackling Economic Challenges with Digital Innovation
Board Room • 10:30-11:45 Hrs.

Wei Yang and Chuanchen Bi
Rural Taobao: An E-commerce Channel for the Precision Poverty Alleviation in China

Orachorn Saechang
Digital Technologies and Enhancement of Public Services: A Review of the "Visit Once At Most" Administrative Service Reform in China

Chalida Yamsrisuk
Public Service of Creative City: Smart City Safety Zone in Phuket, Thailand

Chair/Moderator: Narongdet Mahasirikul
College of Local Administration, Khon Kaen University, Thailand

Discussant: Siwach Sripokangkul
College of Local Administration, Khon Kaen University, Thailand

Panel 12: Public Affairs during the Covid-19 Pandemic
Chillout Space • 10:30-11:45 Hrs.

Yinan Li and Yujia Li
Digital Mass Politics during the Covid-19 era: A case study of an urban community

Chunyu Li and Yujiao Wang
Research on Innovation Mechanism of Digital Governance: A Case Study of "Health OR code" against the Covid-19 Pandemic in China

Shahana Usman Abdulla and Bimal Puthuvayi
Containment of COVID-19: A Multi-Level Assessment of Indian Governance

Hussein Bajouk and Carme Ferré-Pavia
Government Social Media Exposure and Health Behavior during the COVID-19: The Case of Lebanon

Chair/Moderator: Narong Kiettikunwong
College of Local Administration, Khon Kaen University, Thailand

Discussant: Charles Ruangthamsing
College of Local Administration, Khon Kaen University, Thailand

MANUSCRIPTS

Panel 1:
Digital Technology and Social Media in Public Affairs 1

Research on the Implementation Strategy of Digital Governance in Chinese Universities

Yujiao Wang

College of Teacher
Education
Kunming University
Kunming, China
20104439@qq.com

Chunyu Li

College of Teacher
Education
Kunming University
Kunming, China
125185139@qq.com

Haiyun Lin*

College of Physical Science
and Technology
Kunming University
Kunming, China
tjwyj817@163.com

* Corresponding author

Abstract

From the analysis of the development status of Chinese colleges and universities at the present stage, the education management mode of Chinese colleges and universities has begun to step into the digital period. Artificial intelligence, big data, cloud computing and other information technologies have prompted Chinese colleges and universities to start the digital governance mode. Digital governance in colleges and universities plays a key role in the development of Chinese higher education. Its means and governance concept are the inevitable needs of the development of Chinese higher education, the important foundation of scientific research, and the booster of government affairs in Chinese universities. It will become an important ecological environment in the field of Chinese higher education. The digital governance of colleges and universities has created a new governance concept with digitalization as the cornerstone, sharing and communication as the way, and optimization process as the means. It also provides a new thinking method, technical means and thinking model for government departments to manage colleges and universities. Digital management of colleges and universities can provide government departments and decentralization, optimization of public services, making the role of government is truly from the management to governance, highlighting government public service function, promote the management pattern, the transformation of the government departments to increase the influence of the government departments to digital governance, make optimization of adjustment of the university organization architecture, for the comprehensive management of colleges and universities digital scheme is put forward. Based on the current development of digital governance in Chinese universities and existing problems, this paper explores the policy and system of digital governance in Chinese universities from the aspects of ideology, system and implementation.

Keywords: colleges and universities, digital governance, governance system, governance mechanism

1. Introduction

Under the COVID-19 outbreak, the Ministry of Education of China has made an active and rapid response, requiring the management of online education in colleges and universities to be strengthened during the epidemic control period, and emphasizing the active participation of administrative leaders, colleges and universities units and all walks of life to jointly carry out online education in colleges and universities in the COVID-19 epidemic. All colleges and universities have adopted new methods and technological means such as online teaching and online courses, and adopted new ways such as network and video conferencing for teaching work deployment. During this period, technologies such as artificial intelligence, big data and cloud computing have made a huge impact in the field of colleges and universities governance in China, which has led

to the recognition of new ways to modernize the management of colleges and universities in China, namely digital governance of colleges and universities.(Liang, 2020)

From the perspective of the general concern of digital technology in our society and the development of Chinese colleges and universities itself, the modernization of colleges and universities management system and management capacity will certainly intersect with the new technological revolution mainly characterized by digitalization in many ways, and these interactions and mutual promotion will also give rise to the formation and development of digital governance theory in Chinese colleges and universities. The implementation of digital governance in colleges and universities is not only an inherent requirement of colleges and universities reform, but also a need to promote the informationization of colleges and universities management.(Li & Zhu, 2019)

Digital governance of colleges and universities aims to use modern information technology to provide data collection, information transmission, identity verification, virtual classroom and other analytical and computational capabilities in order to achieve significant changes in theoretical innovation, scientific decision-making, refined management and interactive information sharing in the management methods of colleges and universities, thus influencing the organizational structure, teaching and research, and business and governmental management of colleges and universities, in order to achieve process The purpose is to optimize the process, fairness and transparency, efficiency and convenience.

3. Research Objective

From the perspective of China's emphasis on digital technology and the development of colleges and universities itself, the modernization path of colleges and universities governance system and governance capacity is bound to intersect with the information technology revolution mainly characterized by digitalization in many aspects, and this mutual influence and mutual promotion will give rise to the emergence and development of digital governance theory of colleges and universities, which may even be the mainstream form of colleges and universities governance in the coming decades. The digital governance of colleges and universities provides a new way of thinking and development for the modernization of colleges and universities, and its characteristics of technology, integration, openness and sharing are suitable for the development of colleges and universities at all levels, which can realize the optimal allocation and fine management of colleges and universities resources, build a dynamic multi-governance system suitable for the development of colleges and universities in China, and will promote the modernization of colleges and universities governance system and governance capacity.

3. Literature Review

3.1 The connotation of digital governance

In the era of digital governance, digital governance theory has entered the vision of more and more scholars and become the subject of research and discussion. Castells, M., (2009) argues that the emergence of the information technology revolution has provided the basis for government public management and digital governance has emerged. (Dunleavy et al., 2006) emphasizes the introduction of information technology and information systems into the process of public management. The digital governance theory he advocates consists of three main components, namely, Digitization changes, Reintegration, and Needs-based holism.

Sunny et al., (2003) argues that the public sector in Europe and the United States is no longer limited to online information dissemination, but uses multiple channels and takes practical actions to continuously improve the quality and level of public services, so that traditional e-governance is no longer satisfied with a single information dissemination and business disclosure, but is deeply transformed into multi-functional digital governance. (Milakovich, 2012) specifies that the state society is no longer simply in the stage of e-governance, but begins to show a transition from the traditional form of e-governance to the emerging form of digital governance. Some of his stated ideas about digital governance theory also provide a theoretical basis for government reform. (Margetts & Dunleavy, 2013) suggest that the combination of advanced technologies such as big data

and cloud computing with digital governance brings advanced industrial civilization into the transformation of public management, forming new trends and new trends in the development and application of governance theory, which continuously reshapes and transforms the public management system. It is argued that in the past five years, the continuous development of Internet technology has given rise to many new Internet organizations, which have influenced the way public management systems operate in some advanced industrial countries, and the philosophy advocated by the system has changed from the decentralization and efficiency orientation emphasized by the New Public Management movement to a value concept orientation that emphasizes informationization and integration. Taken together, foreign scholars argue that with the advancement of digital governance, the exploration of the application of public management systems is not limited to traditional government management systems, but more often shows a tendency to study electronic digitalization, such as assessing the performance of online government (Carrizales et al., 2006), the issue of citizen participation in digital governance, and how to construct a model of public value creation based on digital governance theory. The problem of citizen participation in digital governance and how to model public value creation based on digital governance theory.

In the early practice of digital governance in many European and American countries, it can be found that the mainstream of society believes that the focus of digital governance is on information disclosure and communication, but it is affected by various factors such as technology or economy, thus neglecting the democratic issues related to cooperation and participation. At the level of practical research on public participation in digital governance, most scholars pay more attention to the practical experience of frontier countries, because frontier countries such as Europe and the United States have been in digital governance for a long time and their theories are more maturely applied in practice, and although frontier countries have made breakthroughs at the level of public participation in digital governance, there are still many problems in general. (Bonson et al., 2012) shows that the level of digital governance in Europe and the United States and other frontier countries has become more open, transparent and intelligent, but it is still at a preliminary stage of exploration in promoting public participation in digital governance. (Mossberger et al., 2013), by investigating the use of social networks in the U.S. government sector, concluded that the interaction and dialogue between the U.S. government and the public are more frequent than before, but there are still many problems in the overall situation, such as the government is the publisher of information but not the public opinion. The government is the publisher of information but not the recipient of public opinion. The Internet has institutionalized intelligent government disclosure and made the flow of government information more timely and widespread, but it has not systematically enhanced public participation in digital governance. (Balla & Xie, 2020) A growing concern for many foreign scholars is the lack of public participation in the process of digital governance by governments. With the rapid development of digital technology and the increasing participation of the public in social networks, there is a trend for governments to enhance interaction with the public and improve the quality of public services.

Digital governance is a new mode of governance in the information and digital era, which is a product of the integration of governance theory and modern technology. The positive effects of digital governance include: improving government effectiveness, improving public service capacity, optimizing public policies, enhancing public participation, accelerating institutional transformation, etc. (Johnston & Desouza, 2015)

The power structure under digital governance has undergone important changes. Compared with the traditional governance model, enterprises and citizens will play a greater role in the digital governance model, emphasizing the interaction among government, enterprises and citizens, and achieving the goal of good governance through the coordination of different subjects, which is in line with the original intention of building a service-oriented government in China. (Xu & Yong, 2006) Digital governance can realize the empowerment of governance subjects at the technical level, which is conducive to the integration of social resources and the strengthening of social collaboration, thus improving the effectiveness of governance. Therefore, digital governance is not only conducive to the improvement of the government's internal governance structure and business processes, but also conducive to the reshaping of the relationship between governance subjects and the improvement of overall public governance. (Zhe, 2021)

From the management perspective, digital governance can be defined as a management activity based on digital technology, which aims to improve the effectiveness of governance, enhance the transparency and openness of governance, integrate governance resources, accelerate the flow of resource elements, and maximize the satisfaction of public needs. (Carrizales et al, 2006) In the perspective of technology, digital governance is a new ecology of governance formed through cloud computing, big data and Internet modern technology, establishing smooth communication channels, reshaping the governance model and taking advantage of software and hardware.

3.2 Research Status of Digital Governance in China

China's social governance is in the stage of digital transformation, and the early social governance model can no longer adapt to the needs of digital production development, more and more scholars have started to explore the digital characteristics of social governance in the transformation stage, i.e. the study of digital governance. Zhu, Q.W. (2008). Chinese research on digital governance is more theoretical than practical, and it started late and has been studied for a relatively short time. Theoretically, (Zhu &Chen, 2014) defined the concepts related to digital governance from different perspectives, and expanded and extended the concept of digital governance, proposing that digital governance is integrated with information, knowledge and other elements to form a new literacy of intelligent learning. (Yan& Wang, 2019) distinguish the related concepts of digital governance, data governance and smart governance, and specifically analyze the relationship between these concepts. At the practical level, some empirical studies have investigated the government effectiveness and reform approaches of local county governments. (Chen, 2018) From these empirical studies, we can see the extent of datafication in the process of government governance, and many scholars generally believe that big data use is the center of government digital governance, (Wang & Chen, 2015) point out that big data is both a tool and an object of governance, and national digital governance should not only pay attention to the management of big data, but also make full use of it; (Guo & Guo, 2015) argued that the enhancing effect of big data on national governance is reflected in many aspects, including emergency risk prevention and intelligent decision-making, etc. (Guo & Bo, 2019) used empirical analysis and selected 227 policy texts as supporting data, identified the research object specifically as local county governments, and constructed the evaluation index of local county governments' effectiveness under the perspective of governance transformation through the analysis of data.

As the level of datafication increases, more challenges come with it. To modernize governance, government digital governance no longer focuses on datafication alone, but transforms into using digital technology to promote public participation in digital governance, and combines big data with democratic politics as a way to improve digital governance. (Xu & Zhou, 2004) redefines digital transformation, and believes that the digital transformation of government should pay attention to the interaction between the three subjects: government, society and the public. (Han & Ma ,2016) proposed that governance in the digital era should not only pay attention to the development of information technology and the improvement of information processing capacity, but also change the monolithic way of citizen participation through modern information technology, and further enhance the ability of citizens to solve social problems, thus affecting the effectiveness of public policy implementation. (Wang et al., 2019) argue that in the context of digital government governance, the right to assess government effectiveness should be given to the people, so that the public can judge the government's effectiveness and governance capacity. Practically, many large, medium and small cities in China have carried out the integration of public participation into digital governance, by using Internet platforms and intelligent communication technologies to listen to the public extensively, etc.

China's colleges and universities has been making profound changes to promote the modernization of colleges and universities management, from "centralized supervision" to "regional supervision" of secondary supervision, with provincial and municipal coordination as the first priority, and then to pay more attention to the independent right of universities to run schools and strengthen the reform of school management system. (Trakman, 2010) This step-by-step transformation reflects that China's colleges and universities system and internal governance functions are improving

and adapting with the times. Since the central government has decentralized colleges and universities, Chinese colleges and universities has enjoyed more autonomy in running schools and has activated new vitality in the development of colleges and universities, so Chinese colleges and universities must seize the opportunity to seriously deal with the internal management of colleges and universities in order to better match the "decentralization" policy of China and further improve the modern university system with Chinese characteristics.(Blackman & Kennedy, 2009)

Digital governance has emerged with the trend of digitalization, so digital governance in colleges and universities will certainly be the basis for promoting the development of information technology in colleges and universities management.(Fleaca & Stanciu, 2019) Digital governance in colleges and universities is a combination of digital governance theory and educational management, which is rooted in the field of data application in colleges and universities management and works from various perspectives and levels, and its essential requirement is the reform of colleges and universities management and the method of developing informationization of colleges and universities management. (She & Zhu, 2019) Of course, the digital governance of colleges and universities is the product of theoretical research and practical integration in the fields of education, computer science, management, social ecology, etc. It is a digital reconstruction of traditional colleges and universities management, which mainly highlights the innovative features of intelligence, service, systematization, collaboration, sharing, transparency, etc., and is an organic integration and efficient management of different subsystems in colleges and universities. (Feng, 2022) Along the paradigm of "demand-supply" development, digital governance in colleges and universities aims to use the data collection, information transmission, identity verification, virtual classroom and other analytical and computational capabilities of digital information technology to achieve significant changes in theoretical innovation, scientific decision-making, fine management, information interaction and sharing of colleges and universities management methods, thus This will influence the organizational structure, teaching and research, and daily teaching management of colleges and universities institutions, in order to achieve process optimization, fairness and transparency, and efficiency and convenience.(Limani et al, 2019)

4. Analysis of the Components ff Digital Governance in Colleges and Universities

The components of governance are the core concepts that must be clarified in the process of developing and improving governance theory, which is the interpretation of management theory after deepening and integrating it into modern multidisciplinary. By sorting out and summarizing management theory and governance theory, the constituent elements of digital governance can be divided into three types, namely, management process type, logical relationship type, and multifaceted integration type.

4.1 Analysis of the components of management process type

Based on the analysis of economic and social development, the representative of the French Western classical management school built a universal classical management theory, and his theory of "five elements of management" laid the foundation of classical management. (HenriFayol & revisedbyIrwinGray, 1984) This theory believes that management activities consist of five elements: planning, organizing, directing, coordinating, and controlling, in which the object of coordination is the organization, and the implementation of control requires directing and limiting its power at the same time. The relationship between these five elements is roughly classified and ordered according to the management workflow: planning is the starting point of management activities, organization is the implementation force of management activities, command is the brain and core of the organization, coordination is the guarantee of achieving management goals, and control is the restraint of the organization. The theory of "five elements of management" is the main content of management process-type components.

4.2 Analysis of logical relationship type components

The theory of "five elements of management" has largely contributed to the development and maturity of classical management theory, but its process-oriented model cannot fully reflect and cover the complex activity of management. After the emergence of governance theory as a new paradigm, it has optimized the classical management theory from various aspects such as social development, governmental transformation and globalization development. The theory of "five elements of governance" mainly includes governance subject, governance responsibility, governance right, governance mechanism and governance means, and the center of its logical relationship is the governance subject, and the framework is mainly built through the logical relationship of each element: governance responsibility and governance right give the leadership position to the governance subject, but also limit the boundaries of the governance subject. The framework is built through the logical relationship of the elements: the responsibility and the right to govern, which give leadership to the subject of governance, also limit the boundaries of the subject of governance; the subject of governance carries out governance activities mainly through the means and mechanisms of governance, which determine the size of the responsibility and the right to govern, thus forming a virtuous circle. The framework of "five elements of governance theory" is built through the logical relationship of each element, which is an important part of the logical relationship type components.

4.3 Analysis of Multiple Integrative Elements

Based on the idea of integrating good governance, (Yu, 2003) proposes "five elements of global governance", including five elements of governance subject, governance value, governance object, governance regulation, and governance effect. These five elements have governance regulation as the core and foundation, and they affect and constrain each other. Among them, governance regulation determines the content and direction of the other four elements; governance effect evaluates and guides the other four elements; governance subject determines governance object and governance value, and governance value acts on governance subject; governance object reflects governance value, and governance value reflects whether the selection of governance object is accurate. The main feature of the "five elements of global governance" is that each element integrates and influences each other, which is not only the embodiment of "meta" governance thinking, but also the main content of the multifaceted integration of governance components. The clarification, abstraction and concretization of the constituent elements and the sorting out of logical relationships among them are the internal driving force for the continuous development of governance theory.

5. Analysis of the Relationship between the Five Elements of Digital Governance in Colleges and Universities

The five elements of governance goals, governance structure, governance participation, governance tools, and governance monitoring interact with each other and constitute the digital governance system of colleges and universities. In a nutshell, governance goal is the purpose of digital governance in colleges and universities and the core of the five elements, which is determined by the nature and content of the problem to be solved in colleges and universities itself and cannot be realized without the drive of the other four elements; governance structure is the guarantee of digital governance in colleges and universities, which is the direction guidance and institutional support for behavioral activities; governance participation is the main place where digital governance issues in colleges and universities occur and develop, which can promote the development of the governance structure. Governance participation is the main place where digital governance issues occur and develop in colleges and universities, which can promote the formulation and improvement of governance structure, raise the demand for governance goals, and provide feedback on the results of governance monitoring, etc.; governance tools are the basic elements of data governance, which are characterized by being readily available everywhere and can be integrated into all constituent elements and determine the height of governance structure. Governance monitoring is the "judge"

of digital governance in colleges and universities, which mainly plays the role of guiding governance participation, optimizing governance structure, improving governance objectives, providing governance tools and finally presenting the result data, and also has the function of guidance. With the support and synergy of the above five components, digital governance in colleges and universities can successfully complete the whole governance process and realize the effective cycle.

6. Governance Mechanism of Digital Governance in Colleges and Universities

The study analyzes the logic and core meaning of digital governance in colleges and universities, and provides specific measures for digital governance in colleges and universities from three levels according to the current development and problems of digital governance in China, and further discusses the specific ways to realize digital governance in colleges and universities.

The institutions of digital governance in colleges and universities are mainly divided into integration mechanism, interaction mechanism, supervision mechanism and emergency system management mechanism.(Feng, 2021)

At the level of integration mechanism, universities can form an integrated institution with wide coverage and large space for improvement through sorting and integration, as well as synergistic optimization of faculty, students, management talents, universities and government departments, etc., and embody these functions through technical means to play the effect of supporting the governance system.

The development and improvement of interaction mechanism is a crucial part of digital governance in colleges and universities institutions, which forms "teacher-student interaction", "teacher-school interaction", "teacher-teacher interaction", etc. The interaction mechanism of digital governance in colleges and universities can overcome this problem, which can reduce the difficulty of communication and improve the effectiveness of communication, thus saving a lot of time, money and human resource cost for school management.

Each of the governance theories has a regulatory mechanism as the driving force or sustainer to ensure the smooth functioning of the governance system. By establishing a technical oversight body, true, transparent and open oversight and enforcement can be achieved. By opening the entrance of supervision, everyone becomes a supervisor to promote the stable and safe operation of the governance system mechanism and minimize the paralysis of the mechanism.

Emergency management mechanism is also a highlight of China's colleges and universities digital governance system, but because of the current stage of China's education emergency mechanism still has a variety of problems such as slow response, poor response channels and unknown response goals. (Li & Zhu, 2019) In the digital governance of colleges and universities, we can use the method of "artificial intelligence + big data statistics" to promote the formation of colleges and universities emergency management mechanism, and give full play to the superiority and functions of the new generation of information technology to provide warning and monitoring for emergencies and emergencies, so as to enhance the ability of colleges and universities to deal with and resolve such accidents.

7. Conclusion

The use of modern information technology is the technical support for the construction of modernized internal governance system in colleges and universities institutions under the view of digital governance, and it is also an important driving force for the modernization of internal governance in colleges and universities institutions. Based on the idea of integration and coordination of digital governance, we establish the supervision and evaluation mechanism of multi-participation and common construction and governance through modern information technology, improve the construction of comprehensive information sharing and public platform, break the bottleneck of "information silo" in the development of colleges and universities, promote the synergy of departmental offices and transparency of governance, and promote the modernization of college governance by digital governance of colleges and universities.

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Social Media as Communication Tools for Anti-Corruption Campaign in Indonesia

Muslimin Machmud

Department of
Communication Studies
Universitas Muhammadiyah
Malang, Malang, Indonesia
machmudmus@umm.ac.id

Salahudin*

Government Studies,
Universitas Muhammadiyah
Malang,
Malang, Indonesia
salahudinmsi@umm.ac.id

Iradhad Taqwa Sihidi

Government Studies,
Universitas Muhammadiyah
Malang,
Malang, Indonesia
iradhad89@gmail.com

* Corresponding author

Abstract

Social media has proven to be quite effective in raising awareness and anti-corruption movements in society. This research aimed to analyze the use of social media Twitter as a means of the Corruption Eradication Commission (KPK) in conducting anti-corruption campaigns in Indonesia. This research employed a qualitative content analysis on the KPK's official Twitter account. The data were processed using the NVIVO 12 Plus software to answer research questions. This research revealed that the KPK's Twitter account is quite active in carrying out anti-corruption campaign activities, although in general it is not optimal. It can be seen from the low-intensity of communication and limited communication network so that it is considered as less collaborative. Improving the aforementioned problems is needed by KPK as it must also showed good performance so that public trust continues in high condition. This research contributes to affirming a new paradigm through social media in the corruption eradication movement, especially in countries with high levels of corruption such as Indonesia. However, this research has limitations in looking at all anti-corruption campaigns carried out by the KPK because it only used Twitter as the reference. Therefore, further research is suggested to analyze all KPK social media such as Youtube and Instagram.

Keywords: anti-corruption, social media, communication, public, campaign.

Introduction

The use of social media among the public is not a news. Social media has accompanied people as a 24 hours daily activity. Many activities are carried out through social media, one of which is interaction activities through social media. As an example, current social media users such as Twitter are conducting mutual re-tweet or like interactions, Instagram and Facebook with interacting commenting and giving likes on each desired post, or even TikTok and Youtube with interactions like and comments on video content that desired. These activities are ingrained for its users.

The facts about social media should be a consideration for anti-corruption activists to make a variety of content that invites the public to have an anti-corruption character. Without massive initiatives and movements to start being active on social media, it seems that the virtual world will remain devoid of education and anti-corruption campaigns. This image must not be allowed to happen. Logically, everyone must hate corruption and for that reason everyone should also care and participate in anti-corruption campaigns.

One of the anti-corruption institutions in Indonesia, namely the Corruption Eradication Commission (KPK) explained that they have the spirit to use social media as a tool for anti-corruption campaigns to the public. The steps taken are to provide education and enthusiasm for the community to take part and play an active role in eradicating and anti-corruption campaigns (Bahruri, 2021). He also stated that social media has changed

how people communicate as social media is not only for communicating, but also as a means to share information, including in terms of anti-corruption education.

Including the potential, Hakim, (2019) mentioned that there are still many social media such as Twitter, Instagram, Youtube, Facebook, and WhatsApp that have not been massively used to convey anti-corruption messages. This current campaign movement is more friendly to teenagers and children, and is considered acceptable by the community. Combining words with a good combination of images, ideas, and creativity will be able to produce eye-catching campaign materials. That way, more people will be inspired and moved to do the same. Simply put, anti-corruption expression can be started from the field that you like the most, for example creating anti-corruption messages in the form of songs, graffiti, memes, videos, short films, posters, murals and other more varied creative works. All can be packaged attractively and distributed across social media platforms.

Social media can also be used as a competition through social media to attract more young people who are starting to realize the importance of inculcating anti-corruption characters from an early age. This fact also reduces the negative stigma against the use of social media in the hands of children and adolescents. The role of parents is also very important to jointly assist the dissemination of information related to anti-corruption campaigns as an effort to minimize the spread of hoaxes among younger social media users. There are several factors that can be taken into consideration to further re-pass the anti-corruption campaign through social media. As with the age range of social media users, which are dominated by youth, even today children already have control over using social media. This factor certainly needs to be considered because the massification of campaigns on social media is one of the most effective methods for now to educate the younger generations.

Increasing creative content as an effort to educate users must be the main spirit in anti-corruption campaigns on social media. Even though the influence cannot be directly felt, it is certain that the awareness of the younger generation will emerge to realize the importance of having an anti-corruption character. These efforts show that social media has the potential to be used again as a tool for anti-corruption campaigns. Zhu et al., (2019) in their research can prove that social media has become the main media in carrying out anti-corruption campaigns in China. The decision was made because the public's participation in supporting the anti-corruption campaign can be used as a means for monitoring and controlling officials so as not to commit acts of corruption. As in Indonesia, Baharuddin et al., (2021) also explained that in Indonesia, along with the rapid use of social media by young people, it gave a positive fact that young people were also involved in discussing the topic of corruption cases which became the main news headlines on Twitter, so that it had an impact on the growth of awareness and interest of young people in anti-corruption discourse.

In other countries such as Guatemala, according to research results; Flores, (2019) shows how Guatemala with the massification of the anti-corruption movement uses the hashtag #RenunciaYa able to attract attention and quickly garnered up to 10,000 social media users who participated in the campaign. The campaign was also able to attract the participation of 15 additional organizations, making the anti-corruption campaign even stronger and able to result in boycotts and citizen strikes against businesses that refused to join the campaign. Next country is Nigeria. Ahmed et al., (2019) revealed that the presence of an independent media is considered an important element of the anti-corruption campaign. This condition is evidenced by the role of the media in Nigeria being able to carry out their role quite well because it is able to reduce corruption and its impact can also accelerate development. The role of the media in Nigeria is to raise public awareness about corruption, its causes, consequences and possible solutions.

Considering that the root of the problem, the occurrence of acts of corruption in the Indonesian government, is due to the loss of anti-corruption character in corruptors. One important effort that must be made is to create an anti-corruption generation that must be encouraged from an early age. For this reason, with the development of the internet and social media users among the current generation, campaign activities to promote the cultivation of anti-corruption characters must be more dynamic by utilizing social media as a campaign tool (Balimula et al., 2019). The role of the media as a tool to make the public aware of the conditions of corrupt acts by officials and as an effort to prevent corruption must be considered by various parties. (Natalia, 2019) mentioned that the presence of the media is increasingly considered important because it is able to become a watchdog of various reports related to corruption cases involving officials. The

importance of the media in efforts to eradicate corruption can be anticipated by increasing the promotion of anti-corruption campaigns through various types of social media that have developed in the community.

2. Literature Review

2.1 Social Media as a Tool for Anti-Corruption Campaign

Social media is a tool that is considered more effective to serve as one of the most important aspects in informing various important information and is considered easier to access. Yulianita et al., (2020) supporting campaign actions carried out through social media with their unique characteristics and characteristics can support the objectives of an anti-corruption campaign. By using social media as a campaign tool, as a consequence, there will be interactivity and participation so that it has relevance and connectedness for those social media users. In line with the statement, Bright et al., (2017) revealed that social media has routinely become part of political campaigns around the world. Thus, the anti-corruption campaign is part of a political campaign that is present in order to emphasize to the public about the dangers and efforts to prevent acts of corruption to the public..

In another point of view, Kurniawan et al., (2021) stated that social media is considered to have high effectiveness in conveying information to the public. This later became one of the ways for the anti-corruption agency in Indonesia, the Corruption Eradication Commission (KPK) to be used as a method in disseminating anti-corruption campaigns to the public. The campaign message conveyed was in the form of material regarding the substance of information from anti-corruption education, law enforcement, and the integrity of officials. In response, Lukito, (2020) supports by mentioning that every individual in society has a diverse pattern of media consumption. The diversity of patterns can then be used as a more nuanced campaign strategy in order to achieve the communication and message objectives.

The anti-corruption campaign carried out by the KPK through social media Facebook and Instagram in Yulianita et al., (2020b) shows that the provision of programs and content has an impact on respondents' awareness regarding the anti-corruption campaign provided by the KPK. The various characteristics and uniqueness possessed by each of these social media have features and markets that can be adjusted. A campaign that emphasizes more on the visual aspect is on Instagram. While on Facebook, content focuses on presenting information in audiovisual form. Karamat & Farooq, (2016) also mentioned that social media such as Facebook, Twitter, YouTube, and other social media sites have become innovations in political activism. Online networks have changed individual habits in accessing various information according to their wishes. Thus, the information that will be presented on social media, including the content of political activities, must be prepared and realized properly.

Schauseil, Zúñiga and Jackson (2019) emphasizes that social media can significantly increase the risk of political practice for those who commit acts of corruption, and raises critical awareness of civil society. Anti-corruption campaign practices on social media contain material related to the deterrent and detrimental effects of acts of corruption, besides that the anti-corruption campaign also offers access to information regarding how the current government is and provides an opportunity for the public to criticize the government to account for their promises and actions. Yamamoto & Morey (2019) also stated that the variety of campaign communications on social media is considered capable of influencing the political participation of the people. For example, on Facebook individuals have the opportunity to participate in campaigns according to their political expression. In relation to the anti-corruption campaign, the participation of individuals in supporting this campaign is able to show how their political expression is through their response to the anti-corruption campaign.

Z. Tang et al., (2019) stated that with the impact of the use of social media that affects the community to reduce the number of corruption cases in several countries, it has indeed been proven to be able to play its role well. The use of social media that is increasingly massive and getting bigger positively has a strong controlling impact on the supervision of corruption in a country. The level of social media use in a country can affect the perceived level of corruption control by considering several variables such as GDP per capita, population, press freedom, and political stability. Irawanto, (2019) revealed that social media is part of the socio-political landscape whose involvement in campaigning as

a means of communicating to the public has become an inseparable autonomous force. However, the future role of social media as a campaign communication tool in the contestation of democracy and political participation in Indonesia has not yet been determined.

2.2 Potential of Social Media as a Tool for Anti-Corruption Campaign

According to Boulianne, (2019) Social networking sites are popular tools for engaging citizens in a variety of activities, such as political campaigns, social movements and civic life. He pays attention to how social media exists to present information to other people, whether related to political issues or the current situation, which is considered to be able to increase their new knowledge horizons so that they have an interest in being involved in discussing civil and political issues. So he can state that there is a big impact from the use of social media for public participation in political expression. Flew & Iosifidis (2020) mentions that the existence of social media is an alternative communication site to stem the mainstream of public views. Thus, the use of social media as a new format of communication to the public and as a tool for carrying out social movement actions deserves to be taken into account.

Regarding the potential use of social media as an anti-corruption campaign tool, Prabowo et al., (2018) also added that the use of social media illustrates the potential and contribution of the community to the anti-corruption campaign to increase public awareness. The discussions that took place on social media also showed how strong public support was for the anti-corruption campaign to pressure the government not to commit acts of corruption in the future. The topic of discussion on social media also emphasizes that the risk of detecting and prosecuting acts of corruption must be unfriendly to the perpetrators of corruption so that corruption can be used as an irrational act. With the discussion topics being discussed on social media, (McGregor, 2019) mentioned that the activity shows how public opinion is expressed on social media. Social media is here to be an arena for user interaction that is built to capture their portrait in response to a topic.

Sulistyo, Ponco Budi and Azmawati (2016) also shows that the use of social media as a campaign tool is considered to have the potential to attract a large collective consciousness based on the same feelings of disappointment. Collectivity in the anti-corruption campaign struggle can be further strengthened by gathering large-scale support. For this reason, the use of social media which is considered easier, free, and open to anyone is expected to be able to realize an increasingly massive anti-corruption campaign and make it easier to mobilize the community. Ohme, (2019) mentioned that in some general election campaign activities, most of the young voters are influenced by the campaigns carried out on social media. Social media has proven to be the most important role in the general election campaign in bringing together youth groups who have a high tendency to play social media. Thus, the role of social media as a campaign tool also has high potential in increasing youth involvement in political participation.

In China, the potential use of social media as a campaign tool has become a subject of thought in the early 21st century (Tang, Ding and Xu, 2018). The Chinese government considers that social media, which is open, transparent, popular, timely, and widely distributed, can protect the public regarding participation in the anti-corruption campaign. From the point of view of the Chinese government, it also assesses the impact of using social media as a tool to control and monitor government activities, which can make officials subject to strict social control. So that social media is considered potential to be used as an anti-corruption campaign tool. It can also be said that campaign actions on social media have become a global phenomenon that is growing rapidly and has good judgment and support. Especially if there are main activist figures who play a role in producing and disseminating more political content, in this case it can also be linked to anti-corruption campaign content. Thus, thanks to these efforts, the communication process with the community has increased the visibility and public support for the anti-corruption campaign being promoted (Lobera and Portos, 2021).

Zhang, (2021) stated that 2008 was the beginning of the use of Chinese-made social media as a tool to conduct anti-corruption campaigns. Social media is considered as a new type or method in carrying out anti-corruption trends, along with the growing use of social media among Chinese people. The use of social media to expose officials who commit corruption leads to public opinion to prevent corruption. Kunst et al., (2019) also added that the campaign action on social media, which has become a global

phenomenon, has the potential to achieve social change. For this reason, campaign actions on social media as a communication tool to convey anti-corruption messages to the public have the potential to change the public's point of view into an anti-corruption generation that is able to assess and view disgraceful actions such as corruption committed by officials in Indonesia.

2.3 Previous Study on Social Media as a Tool for Anti-Corruption Campaign

Previous research related to the use of social media as an anti-corruption campaign tool has been promoted in 2008 in China. Zhu et al., (2019) also proves that social media has become the main tool for carrying out anti-corruption campaigns in China. This is because public participation to support anti-corruption campaigns can be used as a tool to monitor and control officials so as not to commit acts of corruption. The anti-corruption campaign on Chinese social media was assessed to significantly exceed the figure estimated by China's anti-corruption agency. This condition certainly shows that public participation to support anti-corruption campaigns on social media has an impact on future government. Statement from Gorodnichenko et al., (2021) said that the dissemination of information on Twitter was mostly completed within 1-2 hours. Strong interactions between users can form an echo chamber on social media.

Sulistyo, (2018) stated that the democratic and open-minded Indonesian political system in Indonesia is considered to be able to facilitate the realization of anti-corruption campaigns among the public through various online media communities, such as Facebook. Most people who have received information about the development of corruption cases in Indonesia are disappointed with the slow handling of cases. With these conditions, they are motivated to join the anti-corruption online community on Facebook. Also stated by Suwana, (2020) that public participation in movements or campaigns on social media strengthens community activism in response to ongoing phenomena, such as in the anti-corruption campaign that took place in 2015, participants enlivened the use of hashtags #SaveKPK dan #AkuKPK.

In Baharuddin et al., (2021) It was also explained that in Indonesia, along with the rapid use of social media among the public, especially young people, it gave a positive fact that young people were also involved in discussion topics regarding corruption cases that became news headlines on Twitter. The discourse of corruption that develops on the Twitter timeline has an impact on the growing awareness and interest of young people in anti-corruption discourse. The participation of young people as political activists in the realm of social media is considered to change the pattern of education regarding anti-corruption campaigns that have been rigid and conservative to become more flexible and modern. Ida et al., (2020) also supports the statement that the use of social media facilitates youth to participate in political activities and these activities increase their knowledge, provide opportunities to participate, and build capacity for political efficacy. It was concluded that youth were actively involved and accustomed to discussing political issues on social media to make the public aware.

Yusuf, (2019) explained, the implementation of the anti-corruption campaign on social media is expected to increase their caring response to the condition of corruption cases that still occur in Indonesia. This can be seen from the response from followers on the campaigners' social media. The more responses the campaigner receives, the messages conveyed through the content can be well mobilized, so that it can influence new insights for readers. Sahly et al., (2019) also emphasized that framing messages in topics or content is an important part of campaign strategy, especially campaigns carried out on social media. The statement certainly appeals to the content creators of the anti-corruption campaign to be more expressive and creative in conveying anti-corruption messages on social media.

In another countries such as Guatemala, based on research from Flores, (2019) shows how Guatemala with the massification of the anti-corruption movement uses the hashtag #RenunciaYa able to attract attention and quickly garnered up to 10,000 social media users who participated in the campaign. The campaign was also able to attract the participation of 15 additional organizations, making the anti-corruption campaign even stronger and able to result in boycotts and citizen strikes against businesses that refused to join the campaign. Regarding the use of social media, similar, in Hongkong based on (Agur and Frisch, 2019) also use social media as a tool to conceptualize digital activism in

terms of mobilizing, organizing and persuading messages to the public regarding the information on their protests. The findings show that the speed and scale of social media have strengthened the ability to mobilize and organize on the Internet. The existence of social media can also increase their motivation.

Different examples like Nigeria. Ahmed et al., (2019) revealed that the presence of an independent media is considered an important element of the anti-corruption campaign. This condition is evidenced by the role of the media in Nigeria being able to carry out their role quite well because it has succeeded in reducing corruption and its impact can also accelerate development. The role of the media in Nigeria is to raise public awareness about corruption, its causes, consequences and possible solutions. As such, Young et al., (2019) also stated that digital technologies such as social media have drastically changed the context and processes associated with collective action. Digital technology, and in particular applications such as social media, have played a key role in collective action, such as campaign actions or protests. Their growing availability has changed the resources, processes and outcomes of collective action and social movements. We have seen a change in the way different actors approach protest and resistance.

3. Research Method

This research employed a qualitative approach to content analysis that focuses on analyzing the content of social media Twitter managed by the Corruption Eradication Commission. Some experts are of the view that the qualitative approach to content analysis has strength in aspects of text exploration, communication meaning, and the flexibility of text meaning that can be developed during the research. The use of the content analysis approach in this research aimed to categorize and interpret texts according to the focus of this research, namely understanding communication in the form of anti-corruption campaigns carried out by the KPK. Through this approach, this research can explore and reveal KPK communications that are directly related to issues of handling and eradicating corruption, anti-corruption education and socialization, KPK communication networks, communication intensity, and text correlations related to anti-corruption campaigns.

The analysis of twitter social media content focused on one of the official KPK accounts aims to understand the text of the anti-corruption campaign carried out by the KPK on an ongoing basis from time to time, every hour, day, week, and year. Thus, this study obtains text data that can answer research questions, namely how does the KPK use Twitter social media as an anti-corruption campaign media? Text data on Twitter social media has strength in the dynamic aspect of data, namely data that is developed regularly and continuously so that this research obtains complete data and information to understand KPK's efforts to carry out anti-corruption campaigns. The steps for collecting twitter content data are done by: ensuring that the selected twitter account is an official twitter account owned and managed by the KPK; check and validate the official twitter account of the KPK; enter the KPK's twitter account on the twitter search engine through the researcher's official account; capture KPK's twitter content through the Ncapture for NVivo tools; and save the capture results in the data folder provided on the computer.

Data analysis in this research used NVivo 12 plus qualitative data analysis software. NVivo 12 plus is a software developed to analyze text data in the form of interview data, documents, and texts on online media and social media. One of the strengths of NVivo 12 plus is being able to capture text on online media and social media and being able to categorize text well. The stages of data analysis on twitter content with the nvivo 12 plus are: importing twitter account data on the NVivo 12 plus, opening twitter content, analyzing the intensity of KPK communication with the Chart feature, analyzing actor and hashtag correlation with the Cluster Analysis feature; and analyze the content of KPK communications with the Cloud Analysis feature. The stages of data analysis are directed and focused on collecting data that can answer this research question.

4. Data Analysis

Based on the Graph 1, the intensity of posts made by the official KPK account looks up and down every month. In the last one year, the most posts occurred in November 2020 with 138 tweets. While the fewest posts occurred in January 2021, with only 49 tweets.

Comparison between the number of posting intensity percentages with the most and the fewest if based on daily activity, in November 2020 the average tweet activity of the KPK official account posted four content or tweets in one day. Meanwhile, in January 2021, posting activity was only carried out with an average of one post per day.
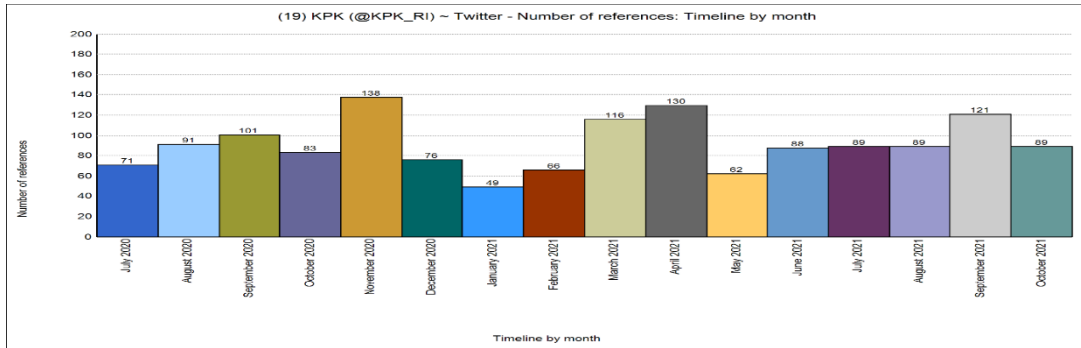
Graph 1. KPK Post Intensity

Then, as viewed from the graph, communication activity on social media shows no signs of increasing. This means that communication made on official KPK social media does not improve communication performance to the public. The graph shown also illustrates fluctuating communication patterns. This means that the communication carried out by the KPK does not describe the stability and consistent performance of its communication activities to the public. The description above also shows that the official KPK account cannot take advantage of the situation properly. The situation in question is a condition where the country of Indonesia is experiencing a pandemic and most people are very active in playing social media, especially Twitter.
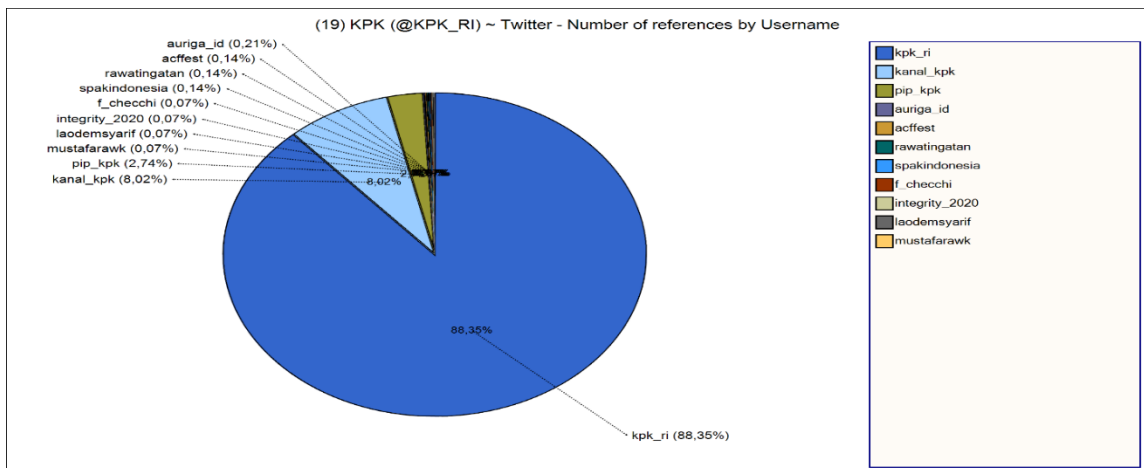
Graph 2. KPK communication with other actors

Based on the graph above, the KPK's communication with other actors looks quite far in comparison with other accounts. From the account search results, most of the accounts that communicate or are related to the official KPK account are accounts that are under the auspices of the KPK itself. An example is the @kanal_kpk account which is the official account for Radio & TV streaming belonging to the KPK. The account is part of the anti-corruption information & education media, which contains content containing audio and audiovisual facilities. Likewise with the official account @pip_kpk which is the official account of the KPK's public information service, @acffest is the official account of the KPK's film festival, @rawatingatan is the official account of the journalism academic section against corruption, and @spakindonesia belongs to the anti-corruption women's community belonging to the KPK.

The graph also illustrates how the official account of the KPK as the main medium of communication to the public, Twitter is only intensely related to several official accounts

belonging to the KPK and only important people within the KPK. Based on the graph, it is not shown how the KPK interacts in a two-way manner with the community. From the results of a manual search on the official KPK account, we also did not find any retaliatory activity against accounts belonging to the public. This condition seems very unfortunate considering that the KPK does not use the features on Twitter social media optimally to communicate with followers and other interacting users.
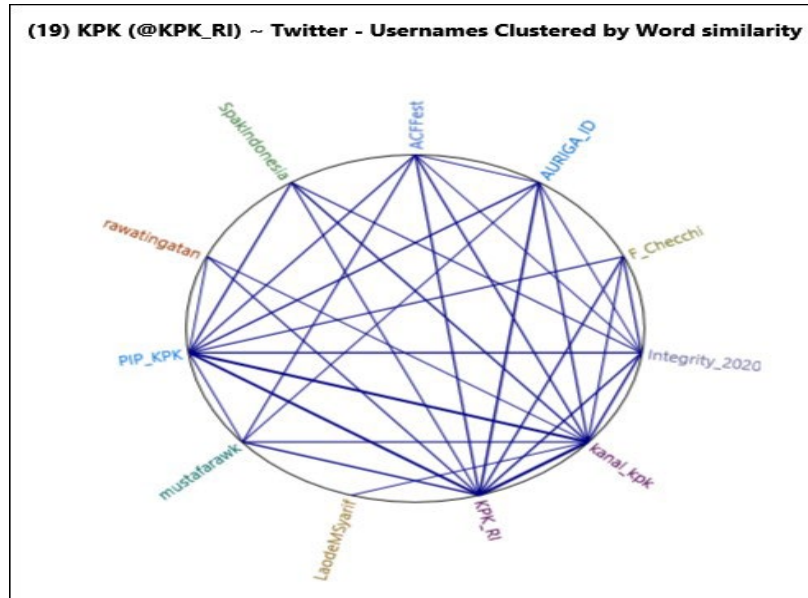
Diagram 1. Communication and Interaction between KPK and Other Actors

For communication relations based on the similarity of words, it appears that the thickest relationship lines are in the @kpk_ri, @pip_kpk, and @kanal_kpk accounts. If there is an account that has the most dominant thickness compared to the relationship line of other accounts, this condition indicates that the official KPK account has the highest communication intensity with the two accounts, considering that the two accounts are official accounts under the auspices of the KPK, not an unfavorable condition. normal. The concentration of communication seems centered on these accounts.
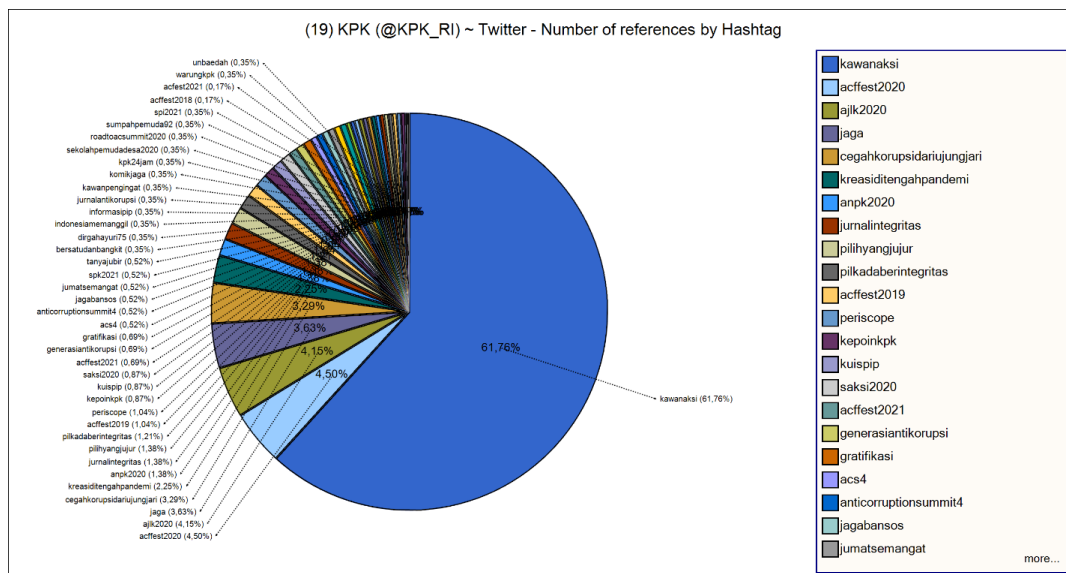
Graph 3.   Use of Hashtags as a KPK Communication Tool

The use of hashtags depicted shows that the KPK uses hashtags as a method to improve the performance of the tweets submitted. The use of hashtags is indeed quite important to simplify and expand information and show the main purpose or meaning of the delivery of the tweet. The most used hashtag is #kawanaksi. Based on the search results, the hashtag #kawanaksi is used as a greeting to followers of the official @kpk_ri account, other Twitter users or the target of the tweet. The second most common hashtag is #acffest2020. The hashtag exists to enliven the film festival organized by the KPK in November 2020. The film festival held includes several types of competitions, such as Comedy Fiction Films, Documentary Films, Animated Films, and Anti-Corruption Vlogs. Next up is the hashtag #ajlk2020. The hashtag exists as a form of participation in holding an intensive class that contains material on the issue of eradicating corruption.

If you pay attention, most of the hashtags used by the official KPK accounts show kpk messages and activities in the past year. As an example of using the hashtags #kawanaksi, #cegahkorupsidariujungjari, #kreasiditengahpandemi, #pilihyangjujur, #kepoinkpk, #gratifikasi dan #generasiantikorupsi. These hashtags contain messages and information presented by the KPK to their followers, as well as invitations to participate in enlivening various KPK campaigns and activities. Then on hashtags in order to support the implementation of KPK activities and enliven the events organized by the KPK, whether competitions or meetings, there are hashtags #acffest2020, #ajlk2020, #kreasiditengahpandemi, #anpk2020, #acffest2019, #saksi2020, #acffest2021, #acf4, #anticorruptiosummit4.
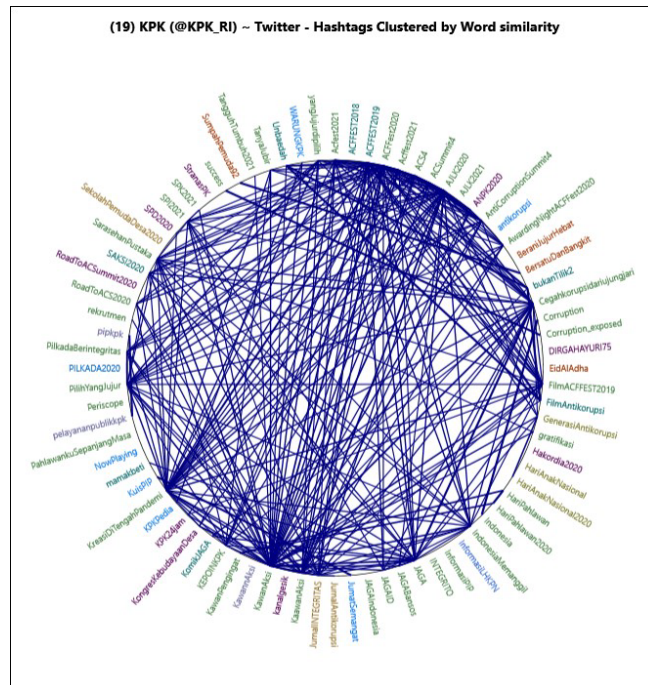
Diagram 2.The Relationship between Hashtag as a Means of Communication for the KPK

The diagram above shows how one hashtag is connected to another. As with the previous chart, the hashtag with the most dominant color indicates that it has the most association with other hashtags. For example in the hashtag #KawanAksi. The hashtag became dominant because it was used in most tweets that also included the use of other hashtags. For example, in the image below.
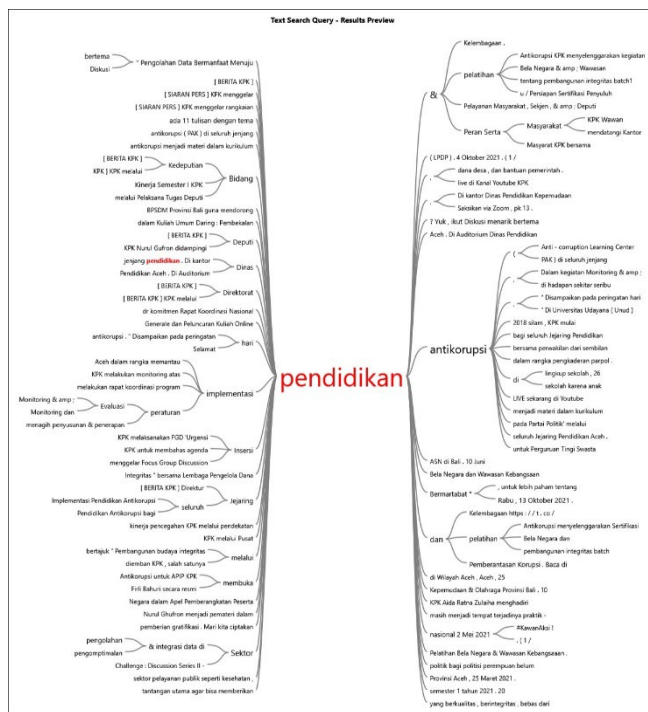
Figure 1. Example of KPK' Twitter content on anti-corruption education

From the figure above, it shows that the use of the hashtag #KawanAksi become dominant because of its frequent use in conjunction with other hashtags such as #kepoinkpk dan #acffest2021. The figure above is a visualization of the linkage diagram between hashtags in an account that is being studied. How these accounts link hashtags to each other in order to make it easier to search and show readers what topics are being brought up and discussed.

Figure 2. KPK Communication Content on Twitter account

Based on the image, it appears to contain a variety of words that are most often written in tweets on the @kpk_ri account. The word that has the largest size indicates that the word is often written and posted. The word 'KPK' illustrates that the official KPK account makes the word 'KPK' the most dominant word among the use of other words. Based on the search results on the @KPK_RI twitter account, the use of the word 'KPK' always appears in every tweet posted. This condition was followed by the words 'Corruption' and '#kawanaksi'.

The use of the word 'Corruption' as the main topic in every post on the official account of the KPK is not a strange thing, it must always be emphasized considering that social media is currently a new method of connecting with the public. Furthermore, the use of the word '#KawanAksi' is also a word that is quite dominant among other words. The word is used as part of the use of the hashtag feature on Twitter in order to connect one user to another. Remember, the use of the hashtag #kawanaksi is used as a greeting for followers of the @KPK_RI account and the general public who also read a post with a similar hashtag.

Figure 3. Anti-Corruption Education Content on KPK Twitter

The picture above shows that the use of the word education as a search topic has a variety of content which indirectly shows Twitter followers and users that the KPK is aggressively educating the public regarding the implementation of anti-corruption education. The contents also contain how the KPK reports news on "Pendidikan" that is educational activities to the public through discussions, public lectures with students, conducting training by holding intensive classes, designing anti-corruption education curricula, conducting monitoring and evaluation related to the implementation of anti-corruption education, as well as processing and optimizing data integration. Not only to the public, most of the educational content also targets government agencies in order to educate state civil servants as an effort to prevent corruption within government agencies. The picture above also shows how education is related to the formation and assessment of ASN performance which is then realized by the Integrity Zone assessment in government agencies. The various activities above are reported by Twitter accounts as news that can be accessed and known by the public at large, free, and unbounded.

Figure 4. Anti-Corruption Content on the KPK Twitter Account

Based on the results of the data from the image above, it shows that the KPK Twitter account shows various activities carried out by the KPK Institution as a form of education "Anti Korupsi" to the public through technical guidance, discussions,

conferences, and intensive classes. The various activities above were then reported back by the KPK through Twitter social media as a form of communication to its followers and other users who can access related posts. This condition shows how the KPK seeks to inform Twitter followers and users that the KPK has educative activities in the context of preventing corruption in the community.

5. Conclusion

What the KPK has done by using social media, especially Twitter to campaign for anti-corruption values and increasing public trust in institutions, shows the vital role and influence of social media in the fight against corruption. The advantages of Twitter as a medium for fighting corruption crimes cannot be separated from its wider reach and more efficient, making it easier for the KPK to internalize the anti-corruption spirit and protest movements in the community.

The KPK needs to understand that social media can raise the spirit of anti-corruption through attitudes and actions in society. This enthusiasm is important to fight against the systematic and massive character of Indonesia's corruption. Therefore, intensity is important so that the public continuously gets information about corruption in Indonesia so that critical awareness can be formed. This has been overlooked by the KPK as seen from the intensity of the use of social media which is insignificant and interactive, which only moves within or does not build a network with outside the KPK..

Currently, Indonesian people are increasingly absorbed in social media activities, especially Twitter. One of the main sources of public information is Twitter and several studies have shown the success of social movements due to Twitter intervention. Therefore, the KPK really needs to maximize the use of Twitter in organizational activities. First, updating the organization's activities as a form of accountability for the performance of the institution and also consolidating public support. Corruption is a complex discourse so that there will be a lot of information content that can be conveyed. Second, the KPK account widens the communication network with forces outside the institution. The benefit is that apart from eliminating the passive and exclusive impression that is not good in eradicating corruption, it also enlarges the KPK to obtain valuable information that is very likely to be useful in eradicating corruption.

More than that, the KPK needs to show a strong and courageous performance in dealing with corruption in Indonesia. Recently, the KPK's image has been eroded due to the revision of the KPK Law and the problematic integrity of employees and leaders. Without professional and reliable performance, it is difficult for the KPK to expect public education through Twitter to be effective because of the declining public trust in the KPK. This research is limited by the data source which only comes from Twitter. Even though the KPK also has other social media such as YouTube and Twitter as a means of conducting anti-corruption campaigns, the usage patterns may be different. Therefore, further research is necessary to conduct a comprehensive analysis of all these social media accounts owned by the KPK.

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Digital Transformation and Knowledge Sharing in Public Organizations

Du Van Nguyen

University of Economics Ho Chi Minh City
Ho Chi Minh City, Vietnam
dunv@ueh.edu.vn

Abstract

The aim of this research is to identify and measure the factors affecting knowledge sharing behavior in the digital transformation process of officials in public organizations. The sample size of 289 officials has been surveyed for this research. There are 6 hypotheses raised and the author used a linear regression model to test the hypotheses. The research results provided evidence for the effects of social trust, information system, working time, expected association, leadership to the knowledge sharing behavior. Beside contributing to knowledge sharing literature, this research proposed some recommendation management implications to promote knowledge sharing behavior of officials in public organizations.

Keywords: knowledge sharing, digital transformation, leadership, public services

Updating of the Permanent Voters List: Inaccuracy and Independency of Voter Data Ahead of the General Election and Pilkada

Alexander Yandra

Universitas Lancang Kuning
Indonesia
alexsy@unilak.ac.id

Adrian Faridhi

Universitas Lancang Kuning
Indonesia
alexsy@unilak.ac.id

Andrizal Andrizal

Universitas Lancang Kuning
Indonesia
alexsy@unilak.ac.id

Husni Setiawan

STISIP Imam Bonjol

* Corresponding author

Abstract

This study discusses the process of updating voter data by KPUD Riau, where there are 51,469 voters who do not meet the requirements (TMS) registered as permanent voters. On the other hand, there is still a lot of potential for novice voters who are 17 years old or already married, changing their original domicile and not being registered as voters. This phenomenon is a problem that has always been an evaluation material for every election organizer, even the KPU's performance has always been in the spotlight regarding this matter. This research was conducted using a qualitative method with a case study approach. Data were obtained by means of in-depth interviews with informants and collecting literature related to research issues. As a reference for analysis, this study uses the theory of democracy and the political rights of voters. The data is processed with an ethical-emic approach so that a complete and in-depth analysis is found. The main idea of this research is that the inaccuracy of voter data is a problem that hinders the process of updating voter data. In addition, the supply of voter data through the Disdukcapil makes the KPU less free in accessing population data which has implications for poor voter data updating.

Keywords: data updating, democracy, political rights

Panel 2: Digital Technology and Social Media in Public Affairs 2

Disability Considerations in Disaster Risk Information Dissemination in Bangladesh

Nabila Farhin

Department of Law, East West Univerity
Dhaka, Bangladesh
nabilafarhin@ewubd.edu
nabilfarhin@gmail.com

Abstract

Disaster risk information entails comprehensive information about risks and hazards, exposure of the affected groups, and their vulnerability. Dissemination of disaster information is crucial in the prevention, recovery and rehabilitation stages of Disaster Risk Management (DRM). Persons with Disabilities (PWD) are entitled to risk information during disasters in accessible formats (braille, text-to-speech, sign language, images, texts etc.) as per the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) 2006. In compliance with UNCRPD, Bangladesh enacted the Rights and Protection of Persons with Disability Act (RPPDA) 2013, which calls for PWDs' priority access to information about risks, natural disasters and emergencies. The National Plan for Disaster Management (2021-2025) also highlights disability-inclusive risk information dissemination. The qualitative research investigates whether the existing legislation is adequate to ensure disability access to disaster risk information. The paper first examines the PWD right to risk information guaranteed under international laws. Then it explores compliance of Bangladesh with international standards. Finally, it investigates PWD's accessibility to risk information during recent disasters in Bangladesh. The paper critically examines primary sources like international and national statutes, rules, regulations and guidelines. Secondary sources like authoritative journal articles, books and newspaper reports are contextually analysed. Even though the RPPDA guarantees PWD priority access to risk information, it depends on governmental actions during disasters. Their accessibility needs have not been highlighted in the disaster information dissemination platforms. The PWDs in Bangladesh are, therefore, systematically excluded from accessing disaster risk information.

Keywords: PWD, disaster risk information, Bangladesh

Introduction

The world is witnessing an alarming increase in disasters. Between 2015-2030, medium to large-scale disasters will have increased by 40% (United Nations, 2022). Disaster-related death rose to six times more in 2020 than the previous years due to the Covid-19 pandemic (United Nations, 2022). Disaster implies an incident (natural or man-made) which affects human and animal life, and external help is required to recover the loss (The Disaster Management Act (DM Act), 2012, Section 2(11)). Bangladesh is one of the most disaster-prone countries in the world (World Economic Forum, 2018), where cyclones and floods are the two most frequent disasters. Even during the pandemic, the country suffered the casualty of two cyclones and a devastating flood in 2020 (National Plan for Disaster Management, 2021-2025 or NPDM 21-25). Hence, effective disaster governance is crucial for the Government of Bangladesh (GoB).

The Covid-19 pandemic highlighted the importance of disaster resilience by leaving no one behind (United Nations, 2018, 2022). As disasters disproportionately affect persons with disabilities (PWD) (UNISDR, 2014), they are entitled to priority protection (United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), Article 11). All countries are obliged to adopt disability-inclusive Disaster Risk Reduction (DRR) and Disaster Risk Management (DRM) frameworks and protect their human rights during

disasters (UNCRPD, Article 9(1) and 11). In compliance, Bangladesh secured disability rights in disasters in the Rights of the Persons with Disabilities Act (RPPDA) 2006. The GoB follows a systematic approach to identify, assess and reduce disaster risks (DRR) and applies effective DRM strategies to strengthen the disaster resilience of PWD (Standing Order on Disasters (SOD), 2019). Different ministries under GoB collaborate in disability-integrated disaster governance.

The PWDs are entitled to risk information during disasters (UNCRPD, Article 9) for enhanced disaster resilience. Nonetheless, disability-adaptive risk information dissemination is sometimes overlooked in DRM (United Nations, 2022). Even during the Covid-19 pandemic, many PWD failed to access updated disease information and warnings (IASC, 2020; UN, 2020d; UNICEF, 2020; WHO, 2020). The DRM in Bangladesh highlights early warning and circulation of risk information in an accessible format (the DM Act, Section 2 (13)). The country has taken significant steps in resilient and risk-informed disaster governance in alignment with Sustainable Development Goals (SDGs). The research examines whether the legislation of Bangladesh is adequate for ensuring PWD's right to risk information. The paper provides a brief literature review of the evolution of disability rights and international safeguards of risk-information accessibility. Then it analyses the national laws and accessibility to adaptive disaster information in Bangladesh. Finally, it summarises the findings.

Research Objective

Disasters affect Bangladesh regularly, and PWDs are one of the most vulnerable groups in disasters. Bangladesh is liable for disability inclusion in disaster governance as a party to UNCRPD and Sendai Framework Disaster Risk Reduction 2015-2030 (Sendai Framework). Risk information and early warning circulation in adaptive format (braille, text-to-speech, sign language, captioning, images, texts etc.) are imperative to build PWD's disaster resilience. The RPPDA, DM Act and NPDM 21-25 mandate PWD's priority access to disaster risk information. The research investigates whether the existing legislation in Bangladesh is adequate to ensure disability access to disaster risk information. It followed a qualitative method and used primary and secondary data. The following part briefly analysis relevant national and international disaster and disability laws.

Literature Review

Evolution of the Human Rights of PWD

The medical model was the most significant early model in integrating disability in the social setting. It solely relied on impairment and failed to view PWD as a human with inherent dignity (Degener, 2016; Kayess & French, 2008; Schulze, 2010). It segregated disability from society by promoting specialised schemes and welfare programs for their rehabilitation (Schulze, 2010). The social model regards disability as a social construct and highlights removing physical and social barriers (Degener, 2016; Kayess & French, 2008). Unlike the medical model, it focuses on the social integration of disability rather than the impairment itself. Even though this model greatly influenced the UNCRPD, the Convention follows a human rights-based approach. Instead of replacing the previous models, the human rights model promotes transformative equality for PWD (Degener, 2016). It targets and mainstream disability needs, integrates them into society as dignified human beings, and safeguards their human rights (Degener, 2016; Schulze, 2010).

Following the human rights model, the Universal Declaration of Human Rights 1948 (UDHR), the International Covenant on Civil and Political Rights 1966 (ICCPR) and the International Covenant on Economic, Social and Cultural Rights 1966 (ICESCR) guarantee different kinds of disability rights. The Committee on Economic, Social and Cultural Rights (ESCR Committee) in the General Comment on Persons with Disabilities (General Comment No. 5) affirms that the PWD are equally entitled to the human rights and fundamental freedom guaranteed in the UDHR (para 34). The International Covenant on the Elimination of All Forms of Discrimination Against Women 1979 (CEDAW), the Convention Against Torture and Other Cruel, Inhuman and Degrading Treatment or Punishment 1984 (CAT), and the Convention on the Rights of the Child 1989 (CRC) also safeguard some specialised right of PWD. However, none of these documents provides a comprehensive standard for disability rights.

The UNCRPD was adopted in 2006 as a complete international guideline, which tailored human rights to disability needs instead of creating new rights (Degener, 2016; Jodoin et al., 2021; Kayess & French, 2008). It upholds the dignity of the PWD, safeguards their human rights, and promotes disability integration in all social spheres as part of the SDGs (preamble para (pp) (g) read with Article 3, 4 and 5). The PWDs are entitled to an accessible physical environment, transportation, healthcare, education, information and communication technologies (ICT) systems etc., based on universal design (UNCRPD, pp(v), Article 3 and 9) and a deviation by the member states amounts to disability-based discrimination.

Accessible Disaster Risk Information: A Human Right for PWD

Accessibility implies removing physical, communication, intellectual and social barriers for the PWD to ensure their full enjoyment of human rights (ESCR, General Comment no.15, Para 15; ICCPR, Article 25; UNCRPD, Article 2, 5 and 9). The states are liable to safeguard their accessibility rights, eliminate disability-based discrimination, and guarantee adequate legal protection (ICCPR, Article 2 and 26; ICESCR, Article 2; CEDAW, Article 2; CRC, Article 2; UNCRPD, Article 2, 5, 9 and 13). The state obligation regarding facilitating accessibility is unconditional (UNCRPD, Article 4 and 9 read with General Comment no.2, Para 25). In the Nyusti and Takács v. Hungary, the Committee on the Rights of Persons with Disabilities opined that both public and private services should meet the accessibility need, and any deviation constitutes disability-based discrimination under Article 5, 9 and 12 of the UNCRPD (Communication No. 1/2010, UN Doc CRPD/C/9/D/1/2010). Even when the service provider is a private entity, the state cannot deny its obligation to facilitate accessibility based on universal design. Bangladesh needs to guarantee PWD accessibility, and a deviation amounts to disability-based discrimination.

The individual states are primarily responsible for ensuring unrestricted and accessible information, communication and ICT systems in urban and rural areas (ESCR Committee, General Comment no. 14, Para 12; The Geneva Declaration of Principles, 2003, Para. 25; UNCRPD Article 4 and 9). However, the UNCRPD is the first international document to explicitly include disability accessibility to risk information in an understandable format as a human right (Article 9(10(b), 11 and 21). Adaptive risk information enhances the disaster resilience of PWD (Geneva Declaration of Principles, 2003; The Tunis Agenda for the Information Society, 2005). The risk information dissemination should be based on universal design, user-friendly, cost-effective, accessible, affordable, and adaptive (i.e. sign-language, braille, text-to-speech, captioning, images, colours etc.) (International Telecommunication Union, 2011; Geneva Declaration of Principles, 2003; The Tunis Agenda for the Information Society, 2005); UNCRPD, Article 9 and 11 read with General Comment no. 2).

Developing disaster-prone countries like Bangladesh needs adaptive risk-information circulation to increase disaster resilience. Bangladesh enacted RPPDA to safeguard disability rights in compliance with UNCRPD. Besides, it is also a party to several international, regional and specialised disaster guidelines, emphasising disability access to risk information. The following sections briefly discuss relevant national and international legislation securing the PWD right to risk information.

Disability and Disaster: International and Regional Guidelines

The Sendai Framework outlines sustainable and inclusive disaster governance to substantially reduce disaster risks by 2030 (Guiding Principle 4). Later, the Dhaka Declaration on Disability and Disaster Risk Management 2015 (Dhaka Declaration) and Dhaka Declaration 2015+1 laid down the plans to mainstream and target disability during disasters at the regional level in alignment with Sendai Framework. To speed up Sendai strategy in the disaster-prone Asia Pacific region, the Incheon Strategy to Make the Right Real for Persons with Disabilities in Asia and the Pacific 2012-2022 (Incheon Strategy), and Action Plan to Accelerate the Implementation of the Incheon Strategy 2017 was adopted. After 2022, the Jakarta Declaration on the Asian and Pacific Decade of Persons with Disabilities (2023-2032) (adopted on 21 October 2022) will come into force. The United Nations Office of Disaster Risk Reduction (UNDRR) coordinates the application of the Sendai plan at global, regional and local levels. Recently, the UNDRR Strategic Framework

2022-2025 (SF 22-25) was adopted to accelerate the Sendai implementation in coherence with SDGs to build a resilient post-pandemic world (UNDRR, 2021).

Many PWDs have limited ICT access due to their limited technical knowledge (International Telecommunication Union, 2011; UNDESA, 2020). Nonetheless, understanding disaster risk is crucial for PWD for informed decision-making. Therefore, their risk and disaster information accessibility needs to be substantially increased within 2030 (Sendai Framework, Priority Action 1, Goals 17 and 18, target (g); SF 22-25; UNCRPD, Article 9 and 11). The Dhaka Declaration and Dhaka Declaration 2015+1 also guarantee disability-integrated risk information dissemination based on universal design (Dhaka Declaration, Action 6; Dhaka Declaration 2015+1, Declaration 4). Besides, the Incheon Strategy emphasises enhanced access to information and communication by PWD in all stages of risk-informed governance (Goal 3, Target 3.C and Goal 7, Target 7.A and 7.B). All technologies, including traditional media (TV, radio, newspaper, print etc.), social media, big data, mobile phone networks etc., need to be utilised for early disaster warning, emergency communication, and climate forecasting (Sendai Framework, Priority 2, read with Article 34 and 36). Moreover, broadcasting agencies, ICT licensers, engineers and service providers must collaborate in the ICT accessibility standardisation process (International Telecommunication Union, 2011). The UNDRR assists developing countries like Bangladesh in establishing comprehensive risk databases, accessible risk information management and warning systems (Sendai Framework, Priority Action 1; SF 22-25, Strategic Objective 1). Bangladesh also needs the active participation of stakeholders, disability representation in decision-making, civil society engagement, international assistance and cooperation to circulate disability-adaptive risk information (Sendai Framework, Priority 1 and 2; SF 22-25, Element 1; UNCRPD, Article 32 and 33 read with General Comment no.2).

Disaggregated disability and disaster risk database is crucial to circulate disaster risk information effectively. It has regained importance during the Covid-19 pandemic. Early risk warnings, transparency in data management, and updated disease information in an accessible format were critical for effective pandemic management. Despite specific guidelines given by the United Nations (UN) and the World Health Organisation (WHO), the disease information has not been circulated via accessible and multiple formats in many countries (ESCAP, 2020; IASC, 2020; RCCE Action Plan Guidance COVID-19 Preparedness and Response, 2020; UN, 2020c, 2020b, 2020a; UNICEF, 2020; WHO, 2020). Therefore, PWD often endured disability-based discrimination while accessing information amid the pandemic. The situation in Bangladesh was not different. The following part examines the national laws securing PWD rights of accessible risk information in compliance with international standards. It also analysis the extent of implementation by the GoB.

Disability Right to Risk Information in Bangladesh

The Constitution of Bangladesh pledges equality and non-discrimination for PWD (Article 27 and 28), and as per constitutional obligation, the RPPDA was enacted. The GoB must facilitate disability accessibility and guarantee adequate social security measures (Article 15(d) and 21). The UNCRPD defines PWDs as persons with long-term physical, mental, intellectual or sensory impairments hindering their equal participation in society (Article 1). In compliance, the RPPDA defines disability as a prolonged and permanent impairment (physical, mental, intellectual, developmental or sensory) which hinders a person from equal social participation (Section 2(9)). The RPPDA provides an open-ended list including 11 kinds of disability (physical, mental, visual, speech, hearing, intellectual disability, autism, Down syndrome, multiple disabilities etc.) (from Section 3-14). Other impairments can be added by the National Cooperation Committee (Section 15). It provides special social-safety net programmes and special insurance schemes for all PWD groups (poor, PWD children, women, older persons etc.) (Schedule, Rule 11) as per constitutional obligation.

The RPPDA also provides a list of disability rights (Section 16), and the Schedule defines some of these rights. Unfortunately, the Act lacks adequate definitions of all listed disability rights, fails to provide an effective remedial mechanism and omits appropriate guidance for the GoB for progressive realisation. The Act declares to eliminate disability-based discrimination, penalises the offence, and ensures disability access to justice (Section 2(20), 16(b), 36, 37 and 38). However, Bangla Sign Language has not yet been

accepted in the judiciary of Bangladesh as a formal mode of communication (Mitsuhiko et al., 2014). Hence, their access to justice is being hindered due to information and communication inaccessibility.

Even though the RPPDA guarantees accessibility (Section 16(f) and Schedule, Rule 5), accessibility to information and communication has not been explicitly defined in the Act but in the Schedule (Schedule, Rule 4 and 6). It stresses disability priority protection during disasters and PWD representation in risk-informed governance (Schedule, Rule 13). The Schedule also lays down guidelines for the GoB for priority dissemination of disability-adaptive risk information during disasters. It emphasises early warning, access to ICT of all public and private services, and access to information and communication during and after-disaster recovery and rehabilitation (Schedule, Rule 4, 5, 6 and 13). Even though the duty of circulating disability-integrated risk information has been vested in the GoB, the Act omits adequate guidelines. Nonetheless, the NPDM 21-25 guides the GoB in this regard.

The NPDM 21-25 lays down a guideline for the GoB to implement Sendal Framework, Dhaka Declaration and Incheon Strategy in Bangladesh. Besides, the 8th Five-Year plan focuses on allocating resources to disability-inclusive DRM (Government of Bangladesh, 2020). The Plan of Action to Implement the Sendai Framework in Bangladesh also highlights disaster information and warning in accessible formats (MoDMR, 2018). Following the Sendai strategy, Bangladesh enacted the National Disaster Management Act 2012 (DM Act) and the Disaster Management Rules 2015. Both the Act and Rules emphasise on circulation of early warning, disaster risk information, weather forecast etc., by the GoB in accessible and understandable format (radio, TV channels and cable networks, news and print media etc.) (DM Act, Section 34; DM Rules, Rule 7, 10.3 and 11). Moreover, a deviation from transmitting accurate disaster information is an offence under the DM Act (section 42). A specialised fund was created for PWD welfare (the National Persons With Disabilities Development Foundation Act 2018, Sec 6 (15)). The GoB can utilise the fund to ensure disability accessibility to risk information. Besides, the SOD 2019 provides a detailed guideline to establish effective communication between the affected groups and the rescue team using appropriate modes and understandable formats (Appendix 14). Unfortunately, the Right to Information Act 2009 and the Right to Information Rule 2009 fail to emphasise disability but guarantee access to risk information for all citizens (Section 9(10).

The RPPDA, DM Act and rule, and NPDM 21-25 emphasise priority protection of PWD during disasters and highlight the importance of disability access to risk information. The Ministry of Social Welfare (MoSW) and the Ministry of Disaster Management and Relief (MoDMR) collaborate together for priority rescue and rehabilitation of PWD. The Ministry of Information (MoI) also publicises disaster information supplied by MoDMR (NPDM 21-25). The divisional, district, and local committees (both under the MoDMR and the MoSW) coordinate disability-accessible priority alerts, effective warning systems, disaster forecasts etc. (SOD 2019, Chapter 4). Unfortunately, the local committees under MoSW dealing with disability rights have no disability representation. PWD representation is crucial in risk-informed disaster governance. Therefore, the disaster committee under MoDMR has disability representation at all levels.

The importance of disaggregated disability and disaster databases has been highlighted in the relevant legislation. The RPPDA aims to create a national disability database and provide PWD ID cards (RPPDA, Section 31 read with Schedule, Rule 1). The MoSW has been collecting data with the help of national, district and Upazila/city (local) levels committees established under the RPPDA. An individual PWD can also apply to the local committees for registration and ID cards (RPPDA, Section 31(1) and Schedule, Rule 1). Even though the data collection started in 2013, the complete database is yet to form. A Disability Information System (DIS) application has been launched to make the data collection process faster, which is regulated under the Usage of PWD Data Policy 2021.

Both the DM Act and DM Rules warrant the establishment of a national disaster risk database. The NPDM 21-25 also stresses a comprehensive risk platform. Consequently, the GoB launched a web-based Disaster and Climate Risk Information Platform (DRIP) in February 2022 with the assistance of the National Resilience Programme (NRP) (The Daily Star, 2022). The DRIP website provides risk information on 11 natural disasters and risk maps (i.e. risk, exposure, vulnerability, climate change etc.) of 64 districts (Government of Bangladesh, 2022; The Business Standard, 2022; The Daily Star, 2022). Weather forecasting, temperature prediction and climate change information are also available on the website

(Government of Bangladesh, 2022; The Daily Star, 2022). Relevant ministries and agencies can access the website while formulating risk-informed disaster governance strategies (The Daily Star, 2022). Unfortunately, the adequate guideline for collaboration between DRIP and DIS is yet to come into force. Nonetheless, it is hoped that during disasters, the GoB will access the DIS and DRIP both to circulate priority risk information among PWD. Sadly enough, the DRIP website itself is not disability accessible. The interface only provides data for relevant agencies of the GoB to formulate disaster strategies and still cannot be utilised by mass people, let alone PWD.

The GoB has attempted to circulate disability-adaptive risk information during the Covid-19 pandemic. There was a voice warning about the Covid-19 hygene protocol whenever outgoing cellphone calls were made. The MoDMR formed a special task force for the priority protection of PWD (MoDMR, 2020a). The task force circulated specific guidelines to disseminate Covid-19 disease information via miking, sign language, images and other formats (MoDMR, 2020a). Special humanitarian aid was also distributed among the PWD (MoDMR, 2020b). Besides, a specialised hotline was created for PWD and their families (MoDMR, 2020a, 2020b). They could complain about mismanagement or inadequacy of governmental aid using the hotline (MoDMR, 2020b). However, no data regarding the number of PWD seeking assistance or being helped via the hotline could be found. The absence of disaggregated data shows their overlooked condition in disaster risk governance.

The Flood Forecasting and Warning Center (FFWC) under Bangladesh Water Development Board (BWDB) issues daily flood flash warnings during the flood seasons (Bangladesh Water Development Board, 2017). However, the website is not user-friendly for vulnerable groups of people, let alone PWD. Under the FFWC, Bangladesh has recently initiated a digital flood warning system that will alert prior to three days to three hours (Islam, 2022; The Dhaka Tribune, 2021). The initiative is still a pilot project and is currently operational in 14 districts (The Dhaka Tribune, 2021). Only android smartphone users can reap the benefit of the project (Islam, 2022; The Dhaka Tribune, 2021). However, the number of smartphone users living in remote areas is still relatively low, and the GoB is trying to use mobile phone network operators to issue toll-free SMS in this regard (Islam, 2022; The Dhaka Tribune, 2021). Nonetheless, the project is yet to develop fully because of its cost-consuming nature (Islam, 2022).

A significant number of PWD still cannot enjoy TV due to inaccessible content, information or devices worldwide (International Telecommunication Union, 2011). The PWD in Bangladesh sustains the same condition. The sign language of Bangladesh has still not been institutionalised, and the number of sign-language interpreters is still inadequate in Bangladesh (Siddiqua, 2014). The country has yet to develop a two-way automatic recognition system of Bangla language-to-Bangla sign language. Hence, the disaster information circulated on TV often fails to consider disability-need by using captioning, text-to-speech, sign language etc. due to inadequate resources and infrstructiral difficulty. Moreover, no disaggeragated regarding the disability accessibility of risk information can be found in Bangladesh. Despite several legal safeguards, the lack of data suggests that PWD accessibility to disaster risk information is not being adequately realised in Bangladesh.

Methods

The qualitative research investigates disability rights to disaster information and compliance by Bangladesh based on primary and secondary data. The paper first analyses their human rights to risk information secured under disaster and disability legislation. In doing so, the paper examines international soft laws and regional documents. Specialised Covid-19 disaster guidelines are also examined. Bangladesh needs to follow international guidance as a party to all significant disability and disaster legislation. The paper explores compliance of Bangladesh with international standards by analysing various primary sources like national and international statutes, rules, guidelines etc. Finally, it investigates the recent ICT-based risk information initiatives by the GoB and PWD's accessibility to risk information during disasters in Bangladesh. Secondary sources like authoritative journal articles, books and newspaper reports are contextually analysed.

Findings

The disability right to risk information is guaranteed in the UNCRPD, and a deviation results in disability-based discrimination. Effective use of risk data enhances the disaster resilience of the PWD. As a party to UNCRPD, Bangladesh is bound to ensure the PWD access to risk information. The relevant disability and disaster legislation in Bangladesh emphasises priority access to risk information of PWD during disasters. Even though the RPPDA safeguards non-discriminatory access to ICT and risk information, it is guaranteed in the Schedule. Therefore, their right to risk information entirely depends on the goodwill of the GoB. The Act also omits adequate guidelines for the GoB in this regard. Furthermore, the DM Act and DM rules vest the responsibility of disability-inclusive risk-information circulation on the GoB. From a collective reading of the legislation of Bangladesh, it is apparent that the GoB needs to realise disability access to disaster information in a systematic and progressive manner. PWD representation is also crucial in risk-informed disaster governance and ensuring their rights. Therefore, the disaster committee under MoDMR has disability representation at all levels. Unfortunately, the local committees under MoSW dealing with disability rights have no disability representation.

Bangladesh understands the importance of the disaggregate risk and disability database and has taken appropriate initiatives. The RPPDA and DM Act both warrant the establishment of a national disaster risk database. The NPDM 21-25 also stresses an integrated, user-friendly and accessible climate and disaster risk information platform for multi-sectoral and all-inclusive DRM. The GoB established two separate databases, one for disability (DIS) and another for disaster (DRIP), under the relevant ministries. However, the DIS is not yet completed, and the   DRIP is recently launched with room for improvement. DRIP provides risk data to the concerned ministries to formulate disaster plans and cannot be used by general people, let alone PWD. Unfortunately, these website interfaces omit disability accessibility needs. The flash flood bulletins by the FFWC are also not disability accessible. The recently launched digital flood warning system is a pilot project with limited coverage. However, only people with smartphones are getting alerts, and the digital notification is not disability-adaptive. The disaster information circulated on TV often fails to incorporate captioning, images, and sign language. During the pandemic, the GoB created a special task force and a specialised hotline for assisting PWD. Nonetheless, no disaggregated database can be found regarding the number of PWD who sought help or have been assisted. The absence of disability disaggregated data unveils the systematic discrimination sustained by the PWD in their access to risk information.

Conclusion

Effective risk-informed disaster governance is impossible without securing disability rights. Early warnings and risk information circulation are imperative to build PWD's disaster resilience. As a party to all major international guidelines regarding disaster and disability, Bangladesh is bound to circulate disability inclusive risk-information during disasters. The legislation of Bangladesh safeguards their right to risk information. The recent GoB initiatives also highlight disability-accessible information and circulation, especially in the post-pandemic time in alignment with SDG. However, Bangladesh is still struggling to secure their right to risk information. The disaster and disability databases are not yet complete, and the early disaster warning systems are not disability inclusive. Their accessibility needs have not been highlighted in the disaster information dissemination platforms. It can be concluded that disability access to risk information is still inadequate in Bangladesh.

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An Analysis on the Problems and Countermeasures of Multi-governance of Digital Government in China

Tao Liu*

College of Local Administration
Khon Kaen University, Khon Kaen, Thailand
tao.li@kkumail.com

School of Economics and Management
Ningde Normal University, Ningde, China
t0918@ndnu.edu.cn

Juan Shan

School of Economics
and Management
Ningde Normal University
Ningde, China
t0920@ndnu.edu.cn

* Corresponding author

Abstract

As a new model of government governance, digital government is gradually becoming an important means to enhance government governance capability. In the context of digital society, the environment, scene, and technical means of government governance are undergoing profound changes. These changes have forced the government to reform its digital governance. In 2017, digital China was elevated to a national strategy at the 19th National Congress. As an essential part of digital China, digital government is not only a necessary part of promoting the construction of digital China and achieving high-quality economic development, but it also is an essential driving force to promote the modernization of governance. Especially with the deepening of the "reform of decentralization, regulation, and service," the participation of multiple subjects in digital government governance has become the only way for China's digital government governance reform. However, due to the late start of digital government governance in China, building a new pattern of multi-subject digital government governance still faces many problems. This paper mainly analyzes the status quo and problems of the participation of multiple subjects in the governance of digital government in China, and based on the advanced experience of foreign multiple subjects in the governance of digital government, some countermeasures to improve the diversified governance of digital government in China will be put forward.

Key word: digital government, digital governance, multi-governance

Introduction

Since Albert Gore, former Vice President of the United States, first proposed the concept of digital earth in his speech in January 1998, the concepts of digital government, digital city, and digital community have emerged (Qiangqiang, 2021). Among them, digital government has become the main keynote of government management reform after the New Public Management Movement. Before 2000, the research on digital government governance mainly focused on transforming the government through digital technology to better serve citizens and enterprises. After 2000, with the rise of the post new public management trend of thought, the binary opposition between the governance subject and object gradually weakened. The research on digital government governance is committed to giving play to the initiative of enterprises, social organizations, and citizens to jointly govern, focusing on the cooperation between government and social organizations, giving full play to the technological innovation potential of enterprises, and emphasizing the interaction between government and the public (Jinwen, 2022).

From the discussion of government informatization construction to e-government research, to the expansion of big data and digital governance research, digital government research has become a research hotspot in Chinese academic circles. In particular, the

outbreak of COVID-19 in 2020 has made more and more people realize that digital government is more important than ever. In March 2021, the Fourteenth Five Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of the Vision Goals for 2035 proposed to widely apply digital technology to government management services, promote government governance process reengineering and model optimization, and constantly improve decision-making science and service efficiency. The importance of digital governance in promoting the modernization of government governance system and governance capacity has risen to the national level.

However, the long-standing pattern of strong government and weak society has made social subjects underdeveloped. How to build a new pattern of government-led, government-enterprise cooperation, and social participation with multi-subjects in digital government governance still faces many problems.

Literature Review

Research on Digital Government

The initial research on digital government mainly focused on the discussion of connotation and the promotion of the governance concept. Elmagarmid and Mciver (2001) elaborated on the digital transformation of the government and believed that the focus of the digital government system lied in the internal structure of the government and the relationship between the government and non-governmental departments. Frederickson (2003) advocated the reform of government governance in the digital era was not only to supplement the traditional administrative process, but also to transit to the full digital government process. Garcia, et al., (2017) believed that digital government should be able to use ICT to provide information and services.

In recent years, the research on digital government has roughly shown two directions. The first direction is to conduct research on the integration of digital government based on the summary of previous research. Luna-Reyes and Gil-Garcia (2014) reviewed the evolution of digital government and found that technology and methods, human resources integration, system evaluation, and goal setting were the decisive factors. Rose, et al., (2014) summarized the core elements of digital government operation as specialization, efficiency, service awareness, and public participation, and summarized the value orientation of digital government from the professional orientation, efficiency orientation, service orientation, and participation orientation. The second is to combine digital government with other topics. Katsonis and Botros (2015) focused on the issue of public political participation and pointed out that digital technology had promoted the reform of public administration and given citizens the right to participate in policy formulation. Kalbaska, et al., (2017) combined digital government with tourism and believed that digital governance promoted the communication between government and enterprises, non-profit organizations, citizens, tourists, and employees, and the development of the tourism was promoted.

Research on Multi-Governance Subjects of Digital Government

First, the research of government departments mainly involves the digital capabilities of government civil servants. Allen, et al., (2001) pointed out that digital government had put forward new requirements for the skills of civil servants, and civil servants must enhance their digital capabilities to adapt to various challenges. Tat-Kei and McCall (2016) conducted a survey of 65 cities in the United States and found that, similar to the past experience in e-government, the insufficient capacity of civil servants was one of the main reasons hindering the development of government big data. Liang (2020) conducted a questionnaire survey on more than 4400 civil servants in 112 cities in China. He pointed out that the information technology capabilities of civil servants were mainly affected by job characteristics and organizational factors. At present, the information technology capability of civil servants couldn't meet the requirements of digital government governance, so it was necessary to increase information technology training.

Second, research on enterprises' participation in digital government governance. Compared with the advanced technology of enterprises in providing online services and products, there is a huge delay in government technology. Therefore, as early as the early

1990s, the American government introduced the "outsourcing" adopted in the privatization process into the digital government governance, and entrusted the supply of information technology to professional information technology companies. Weiss and Backlund (1996) pointed out that no information provider could design modern information products that met the needs of all users. Enterprises had unique advantages in understanding user needs and meeting public needs, which was very important to meet user needs. Mergel (2019) pointed out that many US states had used the public-private partnerships to encourage government enterprise cooperation.

Third, research on social organizations' participation in digital government governance. Peters (2002) believes that it is the natural mission of NGOs to prevent, weaken or remedy the violation of the public interest by the government and the market. Qingyu (2008) pointed out that NGOs could detect and prevent social conflicts in time, acted as a bridge between the government and the public, and became an effective mechanism to resolve social conflicts.

Fourth, research on public participation in digital government governance. Torres, et al., (2006) analyzed 35 websites in some populous cities in the EU and found that citizens could easily find and download official information and communicate with public officials via email, but there was no breakthrough in promoting government citizen communication. Dawes (2010) made a summary assessment on the e-government process of American states and local governments. The results showed that although significant progress had been made in strengthening public services and improving government operation, the least progress had been made in strengthening democratic participation and administrative system reform. Mossberger, et al., (2013) found that the government was actively encouraging citizens to feedback and make contributions through a survey of 75 major cities in the United States. This encouragement mainly refered to obtaining opinions from citizens, but the efficiency of government's response was not optimistic. Yin, et al., (2021) pointed out that the stronger the citizens' willingness to interact, the higher the citizens' satisfaction.

Multi-Governance Status Quo of Digital Government in China

The development process of the Chinese government's use of modern computing technology can be divided into three stages. The first stage is the government informatization stage (1980-2002). At this stage, the information government was began to construct, and information technology was utilized as a tool to improve the internal efficiency of the government (Huang, 2020). The second stage is the e-government stage (2002-2017). At this stage, informatization was not only a tool to apply computing power, but also a means to improve working methods. The government centered development direction had gradually changed to the people centered development direction (Lulu, 2021). The third stage is the digital government stage (since 2018). With the introduction of the concept of digital China and the modernization of national governance, the driving role of data at this stage had expanded from government services to social management (Huang, 2020).

Although government departments are still the leading force of governance, their roles have changed from "managers" to "coordinators" and "supervisors" of multi-governance subjects. After years of practice, the participation of multi-subjects in digital government governance has made some achievements in China.

Innovations of government-enterprise cooperation are constantly emerging

In 2017, Guangdong Province became the first province in China to propose digital government reform. The digital government governance reform broke the previous governance pattern in which the government was a single governance subject. The Guangdong provincial government has made full use of Tencent's user traffic, the government industry experience and network infrastructure advantages of the three major operators, and Huawei to form a new "1+3+1" government-enterprise cooperation model. At present, 700 partners have provided core capabilities and technical support for Guangdong's digital government governance (Lei, 2020). In 2020, in order to precisely prevent and control the COVID-19 and facilitate the resumption of production, Alibaba, with its technical advantages, assisted the Zhejiang Provincial Government to create a

health code and enterprise code, which became a new paradigm for enterprises to participate in the innovation of digital government governance model (Daoxue, et al., 2021).

The grass-roots governance role of social organizations has been strengthened

In 2016, the Opinions on Reforming the Management System of Social Organizations to Promote the Healthy and Orderly Development of Social Organizations issued by the General Office of the CPC Central Committee and the State Council pointed out that community social organizations should be vigorously cultivated and developed by lowering the threshold of access to enhance service functions. In 2017 and 2020, the Ministry of Civil Affairs issued two documents to emphasize the cultivation of social organizations and guide them to participate in public affairs governance. In February 2022, the National Bureau of Rural Revitalization issued the Notice of the Ministry of Civil Affairs and the National Bureau of Rural Revitalization on Mobilizing and Guiding Social Organizations to Participate in Rural Revitalization, which pointed out that the government should strengthen cooperation and co-governance with social organizations, guide social organizations to focus on the poor masses and places where the current policies were not in place, give play to the characteristics of social organizations to make up for the vacancy of the government in grass-roots governance.

The channels of citizen participation have been expanding

With the progress of science and technology, the unblocked network channels such as online forums, MicroBlogs, and Blogs enable citizens to participate in the governance of public affairs at anytime and anywhere. The government also conducted citizen surveys through network technology and issues online questionnaires to collect public opinion, which saved the government cost while being efficient (Shanshan, 2020). In order to broaden the channels for citizens to participate in the governance of digital government, the new media communication platform was opened to ensure the cross regional and timeliness of democratic participation, which overcame the problems of deviation and unsmooth information transmission in the traditional government communication structure.

Problems existing in multi-governance of digital government in China

Inadequate role of government as the main body

The government needs to change the traditional governance mode, play the role of meta-governance, and achieve "limited but promising". However, the top level planning of the Chinese government is insufficient. The multi-governance practice of digital government only takes place in some regions where the governance reform is relatively developed. Many initiatives are still in the pilot stage, and there is a situation where the theoretical lag and the practice lead co-exist.

The boundary of government enterprise cooperation governance is unclear

First, the exit mechanism of government-enterprise cooperation is not smooth. While Tencent, Alibaba and other Internet giants provide strong digital technology support for digital government governance, they also put the government at a technological disadvantage in their talks. The unsmooth exit mechanism makes Internet enterprises have technical barriers, which form negative externalities.

Second, the problem of data security is becoming increasingly serious. The public-private cooperation in digital government governance also makes the boundaries between public data, social data, and personal data blurred. When the laws and regulations related to information security are not perfect, there is a great risk of information leakage and abuse.

The role of social organizations is unclear

The institutional inertia generated by the government's authoritative governance structure and the resource dependence caused by the government's strong support for social organizations make the role of social organizations participating in digital government governance unclear and lack independence. In particular, grass-roots governments often take social organizations as an extension of government departments to issue orders and formulate indicators. Many people will not regard social organizations as independent institutions, which hinders the main role of social organizations.

The field of public participation is narrow and the degree is insufficient

At present, the overall public participation rate is low and shows obvious regional differences. Generally speaking, the better the economic development, the higher the degree of public participation. In addition, public participation in public affairs mainly focus on environmental decision-making, community governance, and government service evaluation. Under the current system, the power of the public to participate in decision-making procedures is almost narrowly equivalent to the right to express opinions, which fails to really play the role of the public in influencing administrative decision-making (Dexin & Shijun, 2022).

Suggestions on Improving Multi governance of Digital Government

The government should improve the construction of multi-governance system of digital government

First, promote the construction of digital platforms. The construction of the data platform under the leadership of the government is conducive to realizing the sharing of digital resources, optimizing the way for all governance entities to participate in digital government governance, breaking the data barriers between multiple governance entities, and reducing the fairness of decision-making caused by data asymmetry and digital technology bias. It is necessary to strengthen the construction of data management mechanism, organize and integrate data with standardized operation standards, and promote the interaction of governance subjects with user oriented design (Xiaoying & Xiumei, 2015).

Second, the government should improve the construction of the data security legal guarantee system. Specifically, the data security usage protocol is clarified to improve the data security. The government further promote the promulgation of high-level laws and regulations on data property rights and data management (Yalin, 2021).

Third, the government should improve the digital competency of civil servants. It is necessary to establish a sound education and training system for civil servants. According to the specific job requirements and characteristics of different posts, the government should use modern information technology to innovate digital competency training forms, and cooperate with enterprises in digital talent training, It is committed to training compound talents who are proficient in information technology and familiar with government business to solve the problem of supply and demand mismatch in enterprises' participation in digital government governance.

The governance model of government-enterprise cooperation should be optimized

The participation of enterprises in digital government governance is essential to improve governance efficiency and service supply accuracy. In particular, during the COVID-19, the government's dependence on Internet technology enterprises increased, and large Internet platform enterprises gained some social management rights. The government led market-oriented operation mode of government-enterprise cooperation in the United States and the establishment of PPP management institutions in Canada can provide reference for Chinese government.

The role orientation of social organizations should be clarified

Clarifying the role orientation of social organizations is conducive to ensuring the independence and healthy development of social organizations in digital government governance. Therefore, the government should legislate to ensure the legal status of social organizations, and step up the introduction of regulations to deal with the registration

management of network social organizations and the normative requirements for social organizations to use digital platforms (Shouwen & Wanqiang, 2013).

Enhance citizens' willingness to participate in digital government governance

First, the government should guide citizens to recognize the necessity and importance of participating in digital government governance, mobilize citizens' enthusiasm to participate in digital government governance, and cultivate citizens' subjective consciousness, volunteerism, and social responsibility to participate in digital government governance (Lei, 2021).

Second, citizen participation channels should be expanded. The government can establish a pilot project for citizens to participate in digital government governance. Before the project is launched, it can establish a discovery mechanism to collect citizens' needs and suggestions through questionnaires, government social accounts, and website message boards, and generate feedback immediately. It can make scientific and detailed explanations for the modification and design of the project, enhance the credibility of the project, and stimulate citizens' enthusiasm for participation (Dan, 2019). During the implementation of the project, the major progress nodes were made public to citizens, so as to widely solicit opinions and strengthen the effectiveness of feedback and attract citizens to participate.

Conclusion

In recent years, the participation of multi-subjects in digital government governance in China has made some progress. The leader role of the government has become increasingly prominent, and the construction of the data security legal system and data platform has been improved. With the continuous emergence of government-enterprise cooperation and innovation practices, enterprises play an indispensable role in digital government governance. However, there are still many problems in Chinese multi-governance of digital government, such as the lack of government's leading role, the lack of strategic planning and policy specifications at the top-level design level, disorderly government-enterprise cooperation, poor enterprise exit mechanism, increasingly serious data security problems, strong dependence of social organizations on government departments, and limited scope and depth of public participation.

This paper believes that the multi-governance of digital government in China should be committed to promote platform construction, improve the data security legal system and the digital competency of civil servants, strengthen the government's leading ability, promote the market-oriented operation of government-enterprise cooperation governance to improve the service efficiency of digital government, clarify the role positioning of social organizations to better play the role of social organizations as independent subjects in digital government governance, and expand citizens' participation channels and willingness to participate.

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Does the community adopt mobile application-based public service? Lessons from Maros Villages, Indonesia

Suhardiman Syamsu*

Department of Government Science Universitas Hasanuddin Makassar, Indonesia suhardiman@unhas.ac.id

Muhammad Chaeroel Ansar

Department of Government Science Universitas Hasanuddin Makassar, Indonesia mchaeroel@unhas.ac.id

Saharuddin

Department of Government Science Universitas Hasanuddin Makassar, Indonesia saharmd16@gmail.com

* Corresponding author

Abstract

Public services are organized differently across countries. The service authority is given to government units, such as councils, provinces, and cities. In Indonesia, since 2014, the basic unit of government has been run by the village government and the use of information technology as an alternative means of effective and efficient public services. However, due to the emergence of new technologies and online platforms for delivering public services by village governments, there is little research to assess community willingness to adopt (WTA) these technologies for their needs. Here, we evaluate this WTA for the mobile application – Iron Desa to meet administrative needs in villages and determine related factors in Maros in the province of South Sulawesi, Indonesia, where 380 communities were interviewed using a purposive sampling method. This study assessed WTA through socio-demographic characteristics, ease of use (EOU), analysis of perceived usefulness (APU), innovation (API), Information Awareness (AIA), cost (APC), social influence (ASI) by using The Extended Technology Acceptance Model. We found that land area EOU, APU, and ASI had a positive correlation and were statistically significant at 1% ($p < 0.001$). However, perceived costs have a significant adverse effect on the community's WTA due to their concerns about overall expenses, such as fees for mobile data, transactions, and downloads. To promote mobile applications such as Iron Desa to the public, the government should develop policies that reduce the cost of technology adoption, which can result in people's welfare. However, to promote wider adoption outside the study area, a study of people's perceptions in different locations and after the application is introduced can provide the necessary information for better decision-making that benefits rural communities.

Keywords: public services, information technology, alternative model, iron Desa

Administration System of Kuki Tribes of Manipur in the Wake of Digital India

Manggouthang Haokip

IInd MA Political Science, Department of Social Science,
Lovely Professional University, Punjab, India
manggouhaokip211@gmail.com

ABSTRACT

The Kuki tribe is one of the major tribes in Manipur spreading beyond the boundaries of India into Myanmar and Bangladesh. The Kuki tribe of Manipur state of India practice Chieftain governance where the head of the village locally known as "Inpi Pu" is the sole administrative head with subordinates and committees known as "Semang Pachong" which translate subordinates of the Chief and Kuki Inpi as the apex body of the Kuki tribes. Tribal governance of the Kuki people since immemorial is known for its systematic and unique nature in its practices with slightly different governance systems among the sub-tribe of the Kuki people. The constant digitization in India plays a crucial role in governance of the kuki people and other tribes as a whole, bringing advancements into the customary laws passed down for generations.

The aim of this paper is to study the unique feature of Kuki tribe governance in the context of the Digitization Campaign of the Indian Government and how the changing world of globalization and technology is impacting tribal self-government.

The researchers methods are mainly based on derivative information, case studies, review of literature and interviews. From this study the researcher had a clearer picture of the governing system of the Kuki tribal population of Manipur, India and its relation with the state government.

Keywords: administration system, digital India, Kuki Tribe, Manipur

Panel 3: Local Governance and Sustainable Development

Legislative Incorporation and Dissolution of Regional Governance: The Case of Pahang Tenggara Development Authority, Malaysia

Wan Nazrul Helmy Wan Mohd Zain

Faculty of Industrial Management
Universiti Malaysia Pahang
Kuantan, Malaysia
nazruhelmy@ump.edu.my

Abstract

The aftermath of the May 13, 1969 racial riot in Malaysia saw the realignment of the Federal Government through the introduction of the New Economic Policy (NEP) that was embedded in the Second Malaysia Plan (1971-1975), focusing on poverty eradication, social reorganization and suppression of communist insurgency. Through NEP, seven regional development authorities, namely Pahang Tenggara Development Authority (DARA), Johor Tenggara Development Authority (KEJORA), Terengganu Tengah Development Authority (KETENGAH), Kelantan Selatan Development Authority (KESEDAR), Kedah Development Authority (KEDA), Penang Development Authority (PERDA) and Jengka Regional Development Authority (LKWJ) were established between 1972 and 1983 in the states of Pahang, Johor, Terengganu, Kelantan, Kedah and Pulau Pinang by the Federal Government under specific parliamentary legislations to regulate their structure, jurisdictions and operations. Despite the fact that the Federal Government and State Governments have their exclusive and concurrent powers clearly spelt out under the Malaysian Federal Constitution, the establishment of the aforementioned regional development authorities also underwent jurisdictional and bureaucratic conflicts between the two Governments which resulted in certain governance issues, particularly in the state of Pahang where DARA and LKWJ were located and thereafter dissolved under Acts 569 and 567 respectively in the year 1997. While the idea to revive DARA and LKWJ was mooted by the Federal Government through the Ministry of Rural Development in 2019, these two entities remain legally dormant as opposed to KEJORA, KETENGAH, KESEDAR, KEDA and PERDA that are still in existence. This paper specifically explores the legislative justifications, political considerations and other related factors behind the incorporation and dissolution of DARA that covered 1.01 million hectares of land, Malaysia's largest regional development authority during its establishment under Act 68 on March 30, 1972.

Keywords: regional governance, federal-state relations, statutory authority

Introduction

When the Federation of Malaysia was proclaimed as the world's youngest nation on September 16, 1963, the new country, which was a merger of the independent Federation of Malaya and the former British Crown Colonies of North Borneo (renamed Sabah), Sarawak and Singapore faced not only armed opposition from the neighboring Republic of Indonesia despite worldwide recognition of its nationhood, but also numerous domestic challenges. Out of these challenges, communist insurgency, political instability, rural development and socioeconomic disparity were the most pressing ones. Whilst the external threat from Indonesia's Ganyang Malaysia (Crush Malaysia) confrontation campaign was successfully neutralized through the signing of a peace treaty on August 11, 1966, the internal political instability continued to escalate especially between the Federal Government in Kuala Lumpur and the Singapore State Government. The increasing

differences of opinions between Tunku Abdul Rahman Putra al-Haj, the Federal Prime Minister, and Lee Kuan Yew, the Singapore Premier had resulted in the expulsion of the State of Singapore from the Federation of Malaysia on August 9, 1966. The problem did not end there. Despite winning Malaysia's first parliamentary general election on April 25, 1964, the Alliance Party-led federal government under Tunku Abdul Rahman Putra al-Haj's leadership was still facing mounting pressures from the communist subversive elements, poverty, racial and ethnic disparities and rural-urban imbalance. The grassroots' reactions and sentiments against the federal leadership was evident in Malaysia's second parliamentary election on May 10, 1969. In consequence, the Alliance Party lost its two-third majority in the federal parliament's House of Representatives (Dewan Rakyat); the country experienced its worst racial riot on May 13, 1969 which led to the nationwide Emergency Proclamation by the King on May 15, 1969; suspension of parliament; the transfer of executive powers to the National Operations Council (MAGERAN) under the directorship of Abdul Razak Hussein and finally, the resignation of Tunku Abdul Rahman from the federal premiership on September 22, 1970. The introduction of the New Economic Policy by the new federal Prime Minister, Abdul Razak Hussein on July 12, 1971 saw the establishment of various regional development authorities, to address three critical issues namely communist insurgency, poverty eradication and social reorganization in order to ensure that the May 13, 1969 tragedy would not repeat in future. As the first of these regional development authorities, Pahang Tenggara Development Authority (DARA) came into being on March 30, 1972 by virtue of Act 68 made by the Malaysian Parliament. Situated in Pahang, the largest state in Peninsular Malaysia, DARA's jurisdictional governance covered 1.01 million hectares of land, making it the country's largest regional development authority and it remained so even after six other regional development authorities were legislated by the Malaysian Parliament.

Research Objective

Alongside other regional development authorities namely Johor Tenggara Development Authority (KEJORA), Terengganu Tengah Development Authority (KETENGAH), Kelantan Selatan Development Authority (KESEDAR), Kedah Development Authority (KEDA), Penang Development Authority (PERDA) and Jengka Regional Development Authority (LKWJ) that were incorporated on March 30, 1972; April 12, 1973; March 2, 1978; May 28, 1981; June 1, 1983 and August 1, 1983 respectively, DARA maintained its status as a federal statutory body until its dissolution became effective on June 15, 1999 by virtue of Act 569. Therefore, it is important to examine the legislative justifications and to analyze the political considerations behind the incorporation and dissolution of DARA by the Malaysian Parliament. Thorough examination of the parliamentary Hansard provides insights over the intention of the legislators while deep analysis of the national policy-making direction from 1970 to 2000 provides significant answers over the political considerations by the federal government.

Literature Review

In ascertaining the critical factors in relation to the legislative justifications and the political considerations within the context of DARA's incorporation and dissolution, reference have been made to the relevant primary and secondary sources. The primary sources include conference proceedings, dissertations, government reports legislations, Malaysian Federal Constitution, maps, official records, parliamentary Hansard, photographs, research-based scholarly journal articles, speeches theses and treaties while the secondary sources comprise of books, edited works, journal articles, newspaper reports, political commentary, reviews of law and textbooks In this regard, five critical factors have been identified namely political will, socioeconomic development, the New Economic Policy, constitutional framework and legislative process.

Political Will

It is argued that political will is seen as a broad and complex concept that demands more scholarly attention and interpretation in order to clarify its vagueness (Transparency International, 2015:4; Raile et al, 2018:1). Despite that complexity, political will remains a powerful instrument in driving reforms and development particularly in

developing countries (Ugoani, 2017: 920; Baum et al, 2022: 949). Therefore, in order to put it in the context of this paper, it is most appropriate to summarize the concept as the commitment of the government to make specific decisions to implement specific actions for specific problems which is demonstrated in policy formulation or legislative intervention (Maya Mustika & Agus Satmoko, 2021; Grimes et al, 2021). This is most evident in Malaysia since its inception in 1963 where the political party that controlled the federal government had fully utilized its dominance in designing policies and legislations for its political advantage to earn popular support, especially in the general elections of 1974, 1978, 1982, 1986, 1990, 1995 and 1999. It was within these years that the New Economic Policy was introduced that resulted in the incorporation of DARA and later its dissolution. That political will was effectively and efficiently exercised by virtue of political stability, which enabled the National Front-led federal government, which had the two-third majority in the Parliament's House of Representatives to push its agenda without much hindrance from the Opposition (Abdillah Noh, 2016:9; Khoo, 2020:6).

Socioeconomic Development

The elements of society and economy in the context of development and growth may be taken singularly or collectively depending on the researched dimensions namely, economic growth, economic development, social development or socioeconomic development (Chojnicki: 2010:8-9); Litwinski, 2017:450-451). The concept is also associated with sustainable and economic growth, which "can drive progress, create decent jobs for all and improve living standards" (United Nations [UN]: 2020). As DARA was legislatively incorporated in early 1970s, the understanding about the concept of socioeconomic development during that period is crucial, both from the global and national contexts in the era when the Cold War was still on going and. Despite the existence of the Non-Aligned Movement (NAM) since 1961, countries, particularly the developing ones such as Malaysia and those categorized as underdeveloped were assessed based on their leadership inclination towards either the Western or Eastern Blocs when it came to channeling economic and technical assistance (Tunku Abdul Rahman, 1969:256-258). As the Cold War between the United States and the Soviet Union escalated, so was the demands for more developmental aids by the developing countries or G-77 as expressed at their first ministerial conference in Algeria in 1967 (Hynes & Scott, 2013). The period in which the incorporation and operations of DARA took place between 1971 and 1990, was within the United Nations' Second and Third Development Decades that concentrated on short-term economic policies due to tumultuous global economic climate throughout these decades (UN:2017). As a federal statutory instrument for rural socioeconomic development focusing specifically on the southeast region of Pahang, DARA was a new legislative invention with new roles in comparison to the more centralized and general functions of Federal Land Development Authority (FELDA) and Council of Trust for the Development of Indigenous People (MARA) which had been established in 1956 and 1966 respectively (Huby, 1982:39; Kalim Siddiqui, 2012:26; Hutchinson, 2016:5-6).

New Economic Policy

Initially introduced as an executive directive on March 18, 1970 and later tabled by Abdul Razak in the Malaysian Parliament on July 12, 1971, the New Economic Policy was an affirmative action towards national unity, targeting on poverty eradication and social reorganization across the country's plural society with special focus on the ethnic Malays and the *bumiputera* (local indigenous), which manifested the commitment of his premiership to redress the flaws of the previous administration under Tunku Abdul Rahman Putra Al-Haj (Jomo, 2004:iii; Lee, 2021: 6). The New Economic Policy stood as the guiding principle in the implementation of the Second Malaysia Plan and the succeeding Malaysia Plans for twenty years within the framework of the First Outline Perspective Plan (OPP1) until its replacement with the National Development Policy on June 17, 1991, hence the Second Outline Perspective Plan (OPP2) by the fourth Prime Minister, Dato' Seri Dr. Mahathir Mohamad (Rosniza et al, 2011:42; Lee, 2021:11). So strong was the momentum of the New Economic Policy the legislative incorporation of all seven regional authorities, with DARA as the pioneer, became effective within the frameworks of the Second, Third and Fourth Malaysia Plans between 1971 to 1985 (Faaland et al, 1991:93; Muhammad et al, 2018:270).

Constitutional Framework

With its federative nature, Malaysia is made of thirteen constituent states and three Federal Territories and the country's most supreme law, the Federal Constitution does not only spell out the separation of executive, legislative and judicative powers at the federal level, but also the division of powers between the federal and state governments by virtue of the Federal List, State List and Concurrent List under the constitution's Ninth Schedule (Rasyikah & Rafidah, 2018:118; Shad Saleem Faruqi, 2020:7). Within that framework, the Federal and State governments maintain exclusive powers in certain matters such as loans to and borrowing by the States, communications, transport and survey, which come under Federal Government's sphere while land matters, local governments and public works for State purposes fall under the respective State Governments; and it is this constitutional arrangements that sometimes caused administrative conflicts between both governments (Raja Nur Alaiani, 2012:126; Yeoh, 2020:7). While the matters concerning town and country planning, from which DARA and other regional development authorities originated come within the Federal and State Governments' purview under the Concurrent List of the Ninth Schedule to the Federal Constitution, conflicts and differences still arose from time to time, both administratively and legislatively, thus to certain extent, affected the efficacy of certain Federal Government's initiatives for the states (Marlyana et al, 2012: 769; Hussain et al, 2018: 126).

Legislative Process

As a federation, the legislative process in Malaysia must be understood from two key dimensions namely the federal and state levels, governed by the Federal Constitution from which the bicameral Parliament is created and the respective state constitutions from which the unicameral State Legislative Assemblies are established (Nachmany et al, 2015:2; Fong, 2020:2). Within these constitutional arrangements, the laws passed by the federal Parliament and assented upon by the King are known as Acts while those passed by the State Legislative Assemblies and assented upon by the state Rulers or Governors are referred to as Enactments (Ordinances in the case of the state of Sarawak); the federal law would prevail if any state law goes in conflict with it by virtue Article 75 of the Federal Constitution, thus further confining the state powers within the parameters of the Ninth Schedule (Noor 'Ashikin et al, 2019:28; Shad Saleem Faruqi, 2020:6). With regard to regional development in the context of town and country planning, which is concurrently shared by virtue of the Ninth Schedule of the Federal Constitution, the legal control is still vested on the Federal Government through the Town and Country Planning Act 1976 [Act 172] and Act 68 that established DARA, but in such a delicate setting, considerations and compromises were critical, for the control of land matters remain in state hands (Ismail Omar, 2002:11; Yeoh, 2019:5).

Methods

This study is qualitative in nature that employs archival research methods. Through archival research, primary sources in the forms of legislations, official and private records, correspondences, official reports, parliamentary Hansard, speeches, memoirs, theses and dissertations, as well as secondary sources in the forms of newspaper reports, journal articles, books and other related materials had been thoroughly examined.

Findings

The May 13, 1969 Tragedy and its aftermath was indeed a blessing in disguise to Abdul Razak's political career in particular and Malaysia's nation-building process in general. With the Emergency Proclamation in force and the directorship of MAGERAN under his absolute charge, a new design and direction for Malaysia's future were imminent, ready for implementation when he finally took over the federal premiership from Tunku Abdul Rahman Putra al-Haj in 1970. Guided by the five principles of the *Rukun Negara* that made up the national ideology, Tun Abdul Razak who had authored the New Economic Policy in 1970 as an executive directive took the advantage of mobilizing the strategic ideals therein through legislative support a year later. With the propaganda centered around the issue of national unity, in addition to grim memories from the May

13, 1969 Tragedy still fresh, the introduction and the ensuing mobilization of the New Economic Policy was generally smooth and well-received by both the backbenchers and even the cautious Opposition members in the Malaysian Parliament, for going against such a radical transformation initiative the country ever seen would be dubbed anti-national. This direction and political commitment was clearly justified to the House of Representatives by Abdul Razak (1971) after moving the Second Malaysia Plan:

> Sir, we now have the resources and the capacity with which to turn the social and economic problems facing us into opportunities for further growth and progress. Most important, we have a national consensus and commitment. This commitment is reflected in the resolutions of the former National Consultative Council and in the *Rukunegara*. It is also reflected in the good response of the private sector to the opportunities for investment. As I travel around the country, I find among all our people an understanding and a deep awareness that we can build a truly united, harmonious and progressive nation by assisting all Malaysians in economically weak positions and promoting the participation of Malays and other indigenous people in modern sector economic activities. The basic approach to the Second Malaysia Plan and future development plans is to help build national unity through development, in which we will progress not as individuals alone, but even more so as a united nation. I am sure that every true Malaysian will rise to the occasion to meet the challenge, share the opportunities and shoulder the responsibilities. (p. 2631)

The House of Representatives was also told that in realizing the aforementioned aspirations, the socioeconomic gap between the urban and rural populations should be properly addressed, hence the government intended to urbanize less developed areas by providing sufficient infrastructures to propel industry and growth. Abdul Razak further added:

> Sir, in a moment, I will outline some of the specific steps being taken to bring about better economic balance. I wish to emphasise at this point that the next five years are crucial for achievement of this most important aspect of our development objectives. The Second Malaysia Plan period is crucial, not because economic balance is capable of being achieved in so short a time as five years, but because the new policies and the new institutions which we require to get things moving in the right directions must be created and made to work now. The Government's determination to accelerate the process of eradication of poverty and to promote the participation of Malays and other indigenous people in the modern economic sectors must be expressed in concrete actions now if national unity is to be achieved. (p. 2635)

It was against this political backdrop, and the fact that part of the proposed region covered Abdul Razak's parliamentary constituency of Pekan that the Pahang Tenggara Development Authority Bill was tabled in the House of Representatives by the Minister of Primary Industries, Abdul Taib Mahmud on February 10, 1972. Eight major reasons were laid down by Abdul Taib Mahmud (1972) before the House of Representatives in justifying the Federal Government's decision to establish DARA namely:

- The proposed Pahang Tenggara Area had gone through thorough feasibility study by a government-appointed Canadian consultant firm, which found that out the 2.4 million acres of land allocated, 1.3 million acres had high potentials for agricultural development;
- The proposed Pahang Tenggara Area was still thinly populated and centered around the small mining town of Ibam, thus a huge portion of virgin jungle would need to be cleared for new settlements and agricultural purposes, but measures would be taken to preserve the unexplored jungle;
- The Federal Government had outlined a 20-year Master Plan for the development of Pahang Tenggara Area based on the feasibility study and recommendations by the appointed Canadian consultant firm, which will be implemented throughout the Second and Third Malaysia Plans;

- The Federal Government had allocated RM2.5 billion for the Pahang Tenggara project, and RM750 million from that amount would be disbursed in the Second Malaysia Plan for infrastructure development and opening new settlements, thus providing ample opportunities to improve and uplift the settlers' socioeconomic status;
- The Federal Government would apply the Integrated Planning approach to develop new townships within the Pahang Tenggara Area to become agricultural, industrial and commercial hub in order to propel seven chief potential industries therein namely agriculture, tourism, timber, mining, construction, services and small and medium enterprises, thus providing employment and income-generation opportunities for the settlers;
- The Federal Government targeted by 1990, the Pahang Tenggara Area would be home for 555,000 to 650,000 people with 38 townships, complete with modern amenities and connected standard road infrastructure;
- The Federal Government also realized the importance of consulting the state government as the proposed Pahang Tenggara Area covered almost one-third of the state of Pahang covering Pekan, Rompin and Temerloh districts at that time, thus the governance of the area through DARA through Section 5(1) of Act 68 would consist of a Chairman, two senior Federal Government peperesentatives, three Pahang State Government representatives who would be appointed by the Prime Minister himself;
- The Federal Government and Pahang State Government were always in mutual consultation to develop this huge area (larger than the states of Malacca and Negeri Sembilan combined), and not only that the State Government had agreed upon the name of Pahang Tenggara Area, but necessary modifications to the related state enactments were also undertaken by Pahang State Legislative Assembly to facilitate and smoothen the project, both administratively and legislatively. (pp. 7515-7519)

With that political commitments clearly deliberated, explained and justified, the aforementioned Bill was later passed by both the House of Representatives and the Senate, obtained the King's assent on March 23, 1972 and published in the Federal Government's gazette in March 30, 1972 as Pahang Tenggara Development Authority Act 1972 [Act 68]. Section 4(1) of Act 68 provided for the three primary functions of DARA as follows:

- to develop, stimulate, facilitate and initiate economic and social development in Pahang Tenggara Area;
- to develop, stimulate, facilitate and initiate residential, agricultural, industrial and commercial zones in Pahang Tenggara Area;
- to regulate and coordinate the implementation of the aforementioned activities in Pahang Tenggara Area.

While the governance of DARA as a federal statutory authority had been placed under the purview of the Ministry of Rural and Regional Development, the fact it operated within the geopolitical parameters of the state of Pahang also required active involvement by state representatives and this was legislated under section 5(1), which provides for the governance membership as follows:

- a Chairman;
- a Deputy Chairman;
- a representative from the Ministry in charge of rural and regional development;
- a representative from the Treasury of the Ministry of Finance;
- a representative from the Economic Planning Unit of the Prime Minister's Department;
- three representatives from the State Government;
- four members, who in the opinion of the Minister in-charge, are suitable in contributing to the functions and roles of DARA;
- General Manager.

With this governance structure, DARA was able to carry out its thirteen legislative functions, power and roles in accordance to the political mandate from the Federal

Government as provided under section 4(2) of Act 68 which include commercial and industrial activities; initiation of pilot studies on potential areas to be developed or redeveloped; collaboration with the Federal or State Governments, or any public authority, company, corporation, body or individual; development and coordination of activities by the Federal or State Governments; public authority; any company, corporation, body or individual; establishing commercial entities under full- or quasi-control of DARA, or independently operated; providing financial or general assistance to any public authority, company, corporation, body or individual; acquiring, guaranteeing or disposing of stocks and shares; demanding detailed report from government departments or private agencies intending to carry out any development initiatives in Pahang Tenggara Area; appointing agents or establishing other bodies to perform its functions; levying suitable fees or charges for the operation of its powers and functions; receiving any commission or payment which had been agreed upon as the consideration of any service provided; regulating the development of Pahang Tenggara Area and performing any legally justified actions in accordance to its legislated functions and powers.

The demise of DARA's political architect, Abdul Razak on January 14, 1976 shocked the country to its core for his dedicated services towards achieving national unity through systematic rural and regional development, guided by the New Economic Policy. Despite that fact, the domestic political stability and smooth leadership transition to Hussein Onn as the new Prime Minister had provided the political continuity to the agenda that had been earlier engineered by Abdul Razak. The masterplan for DARA thus went uninterrupted throughout the remaining phase in the Second Malaysia Plan, 1971-1975; the Third Malaysia Plan, 1976-1980; the Fourth Malaysia Plan, 1981-1985 and the Fifth Malaysia Plan, 1986-1990. Nevertheless, it is worth noting that another leadership change took place at the federal level in 1981 when Hussein Onn resigned on July 16, and succeeded by the unconventional and progressive Dato' Seri Dr. Mahathir Mohamed. It was during the first decade of Dr. Mahathir's premiership that radical change and modification took place in the design of Federal Government's directions and policies for by virtue of the conclusion of New Economic Policy's era in 1990. Malaysia's experience in facing the economic recession throughout 1980s demanded a different approach in administrative arrangements and budgetary planning by the Federal Government. One of the drastic measures taken by Dr. Mahathir's leadership was the introduction of the Privatization Policy in 1983 that sought to enhance national economy, reduce government expenditure, minimize government's interference in economy and allow market power to determine economic activities.

With government's budgetary allocations on management expenditures now prioritized only to non-income generating departments, other federal agencies and statutory bodies, which had been legislatively permitted to generate their own revenues through fees levying or commercial activities were expected to be self-sustained or even privatized under the Privatization Policy (Suliahti Hashim, 2016:24). This new approach had been incorporated within the framework of the National Development Policy (DPN) and reflected through the Sixth Malaysia Plan, 1991-1995 and the Seventh Malaysia Plan, 1996-2000, the decade that saw the dissolution of DARA. That political will was expressed in the Sixth Malaysia Plan blueprint, which outlined the eight chief dimensions of DPN namely, optimum balance in economic growth and wealth distribution; balancing the development of major economic sectors; reducing and eliminating socioeconomic disparities; promoting and strengthening national integration by narrowing the urban-rural economic gap; generating a progressive society with high living standards; developing human resource with high discipline and productivity; placing science and technology as the main pillar of socioeconomic development and paying serious attention to environmental and ecological sustainability in economic development (Economic Planning Unit [EPU], 1991:7). Under these circumstances, DARA's transformation from a fully-funded federal statutory body to a private entity seemed imminent. The need for such transformation under Dr. Mahathir's Malaysia Incorporated and Privatization Policies was justified in the Seventh Malaysia Plan's blueprint in which the efficacy of public sector, paradigm shift in socioeconomic development and the synergy between the public and private sectors became the Federal Government's top priorities (EPU, 1996:501).

Hence, Pahang Tenggara Development Authority (Dissolution) Bill was tabled in the House of Representatives on April 21, 1997 by Douglas Unggah Embas, the Parliamentary Secretary for the Ministry of Rural Development. In his introduction of the Bill, Unggah Embas emphasized that the Cabinet meeting on October 16, 1996 concluded

that the functions, roles and responsibilities of DARA would be taken over by the related Federal agencies, State Government and private bodies upon its dissolution. While reiterating the Federal Government's commitment to continue channeling development funds for Pahang Tenggara Area through existing Federal and State regulations, three key factors were laid down by Unggah Embas (1996) to justify those political considerations; firstly, most of the major development projects in the original masterplan had been completed, thus leaving little room for DARA to continue its role in Pahang Tenggara Area; secondly, the capability of Pahang State Government to develop the area by taking over the role previously played by DARA; and thirdly, the readiness of the public sector to participate more effectively in the development of Pahang Tenggara Area (pp. 24-25). With the Barisan Nasional-led Federal Government having two-third majority in the Malaysian Parliament, the Bill was conveniently passed without hassle, obtained the King's assent on June 18, 1997 and published as Act 569 in the Federal Government's gazette on June 30, 1997. Thus the end of 25-year Federal Government's legislative control of the region and full governance arrangements were returned back to Pahang State Government under Bera, Maran, Pekan and Rompin district administrations.

Conclusion and Discussion

The post-dissolution status quo was maintained under successive Federal Government administrations under Prime Ministers Abdullah Ahmad Badawi (2003-2009) and Najib Razak (2009-2018). It is worth noting that during Abdullah Ahmad Badawi's premiership, regional development was modified through the formation of Economic Corridors with designated regions nationwide, namely the East Coast Economic Region covering the states of Kelantan, Pahang, Terengganu and Johor's Mersing district; Iskandar Malaysia, covering the southern part of the state of Johor; the Northern Corridor Economic Region, covering the states of Kedah, Perak, Penang and Perlis; and in the Borneo states, the Sabah Development Corridor and Sarawak Corridor of Renewable Energy. With better Federal-State coordination through these Economic Corridors, the state of Pahang in particular is benefitting from the projects initiated under the East Coast Economic Region which are not focusing on a single area as DARA did previously, but driven and prioritized according to statewide local needs in a more dynamic and less-stringent arrangements (Athukorala & Narayanan, 2017:5).

The idea to revive DARA was mooted during the short-lived Pakatan Harapan-led Federal Government under Dr. Mahathir Mohamad from 2018 to 2020 where the Ministry of Rural Development had commissioned an feasibility study to that effect by a panel of consultants from the International Islamic University Malaysia in accordance to the Ministry's directive dated July 15, 2019. The study however found that given the current circumstances at that time, it was administratively, economically, financially, politically and socially not feasible to revive DARA after 22 years of its dissolution since development projects in former Pahang Tenggara Area were still continued under various Federal and State Governments' agencies and private bodies, hence the revival of DARA would be counter-productive and overlapping with the existing initiatives.

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Research on Collaborative Governance Law of Yunnan National Park Community Based on COP15 "Kunming Declaration"

Xin Zhang*

College of
Local Administration
Khon Kaen University
Khon Kaen, Thailand
Tourism College,
Kunming University
Kunming, PR. China
25335525@qq.com

Chuanchen Bi

College of Graduate
Study in Management
Khon Kaen University
Khon Kaen, Thailand
chuabi@kku.ac.th

Chang Liu

Tourism College,
Kunming University
Kunming, PR. China
Hol324kg@sina.com

* Corresponding author

Abstract

On October 13, 2021, the first phase meeting of the 15th United Nations Convention on Biological Diversity (COP15) Conference of the Parties adopted the Kunming Declaration, which reflects the principles of the environmental law, that is, giving priority to protection, focusing on prevention, comprehensive control, public participation and damage liability. It advocates to promote the construction of global ecological civilization by legal means, strives to promote the construction of a fair, reasonable and mutually beneficial global environmental governance system. Under this background, the construction of the national park management system will effectively protect the authenticity and integrity of the most important and representative natural ecosystem of human society. In the meanwhile, the local community is not only the center of obtaining and sharing, but also the preserver of biodiversity, as well as the right holders related to genetic resources. National park community collaborative governance takes the promotion of biodiversity conservation cause as the main goal, effectively protects the protected species and their diversity in the protection zone through collaborative governance, and seeks for methods to improve the living standard of villagers in and around the nature reserve, and realizes the simultaneous development of ecological protection and community development. This paper arranges relevant laws of collaborative governance of the Yunnan National Park Community in the context of the Kunming Declaration: It believes that the Declaration proposes to establish a government governance mode that is dominated by the country, with the participation of enterprises, social organizations and the public. Moreover, it discusses problems from the perspective of land ownership, power and responsibility distribution, social participation mechanism, etc., and puts forward prospects of problems that need to be resolved in the aspects of government, legislation, and the public.

Keywords: Kunming Declaration; national park; community; collaborative governance; ecological environment governance system; legislation

I. Introduction

"National park" has long been thought as "the unprecedented and best idea proposed by the United States". Since the first national park of the world appeared when the United States Congress reserved the area of Yellowstone as a public park (or a place for people's entertainment) in 1872, the national park, as an important form of protected zone, has been recognized by the international community as an effective way to manage

natural heritages. It not only greatly increased the total number of natural protected areas in the world, but also made them vary in types and distribution patterns, which effectively guaranteed the ecological protection of natural space and the entertainment demand of people in the natural environment. Combining closely with the basic conditions of various countries in the world, "national park" constantly explores and develops richer connotations and practice activities.

The United States integrates the spirit of wilderness into national parks, and regards them as "the bible of nature". In terms of European countries, most national parks adopt the mode of multi-party collaboration and shared governance of the region, reflecting the cultural characteristics of Europe, such as agreement management and power balance. Although the national parks in China are constructed late, they bear heavy responsibilities and missions. The national parks, nourished by Chinese civilization, are important carriers that integrate oriental wisdom and reveal the situation of a great power.

II. The Guiding Value of Kunming Declaration on the Establishment of National Park Collaborative Governance System

On October 12, 2021, Xi Jinping, the Chairman of China, delivered a speech at the Leadership Summit of the 15th Convention on Biological Diversity Conference of the Parties, announcing that the first batch of national parks has been officially established. During COP15, the introduction of Kunming Declaration (hereinafter referred to as the Declaration) and a series of policies made the recognition of national parks turn from the former level of national recognition and pilot construction to an international level, and stricter requirements were also added in the recognition standards. The Declaration mainly includes contents of four aspects: Firstly, top-level design and supporting safeguard measures should be properly carried out. The formulation of the global biodiversity framework after 2020 should be promoted. The value of biodiversity should be shown, which should be taken as the mainstream in the aspects of national policies, regulations, planning, strategic capabilities, etc., and basic guarantee and supporting conditions should be given to various countries' work of promoting biodiversity conservation. Secondly, the environmental legal framework should be optimized and access and benefit sharing of genetic resources should be fixed from the perspective of ecosystem, species and genes. Thirdly, feasible solutions and countermeasures should be proposed based on the driving factors that lead to the loss of biodiversity. Fourthly, stakeholders' participation should be highlighted, and relevant departments and stakeholders should be encouraged to make contributions and promote synergies between multilateral environmental treaties and international processes. (Zhao, Y.M, 2021)

Under the above-mentioned background, with the process of carrying out relevant legislative work at the national level, various control regulations of national parks, which is being actively drafted by the country should also be adjusted in terms of the existing legislative idea, and should be changed towards an optimized, perfect and harmonious national park community collaborative governance.

III. Limitations of the National Park Policy under the Kunming Declaration

The national parks from all over the world, turning from the most innovative idea put forward by the United States to a commonly used mode by the world, combine the core concept of "integrating protection and utilization" with the actual situation of various countries, and obtain three general government governance models: central government governance, central and local governments collaborative governance and local governance. Seeing from the whole world, the mode of central government governance has the most far-reaching influence, which is the prototype of national park governance mode. Any other governance modes are originated from this mode. The distinct characteristic of this mode lies in its obvious "nationality" and "public feature" and the integration of these factors to a high degree, with a view of the scientific and reasonable planning of the national park, as well as the protection and management of the national park, the franchise of communities in the national park area and relevant legal responsibilities. However, according to the guiding value of the Declaration, besides showing above characteristics, there are still some questions needing to be resolved in the

collaborative governance of national park community in Yunnan, China, which can be summarized as follows:

1. Management subjects at the national level for managing national parks should be established, and special laws on national parks should also be made.

The national park is a public open area at the national level, which should be set up with the approval of the country and managed by the country to protect a large area of natural ecosystem that can represent the country. "National representativeness" is one of the admittance conditions of constructing national parks. It is also the important manifestation of the constructing purpose of national parks. However, "national representativeness" doesn't merely refer to the natural ecosystems stands for the country, or species resources only existed in China. It should conform to the overall and long-term interests of the country during the process of construction and management, and should be dominantly set up and managed by the country.

From the basic aspect involved by the Kunming Declaration, the objects protected by national parks are natural heritage and biodiversity, which are extremely precious and non-renewable resources. Due to the characteristic of non-renewable, the strictest protection and management, which belong to the area within the red line of ecological protection, should be conducted(Wang,Y.M,2017) . Therefore, the subject of national park legislation and protection should be the country. Even local administrative regulations should have the ability, basis and conditions to integrate the relevant management agencies of national parks(Shen, S.W,2019) , thus meeting the requirements of the basic aspect of the Declaration.

To make a general survey of the whole world, every country enacted laws and regulations of national parks at the national level, and set up a specialized management organization to manage national parks. Taking Yunnan, China, where the author is located, as an example, national park pilots are set up based on natural reserves in Yunnan. In order to ensure that there are laws to abide by for the pilot work, Regulation on the Administration of National Parks in Yunnan Province (hereinafter referred to as the "Regulation") was promulgated to clarify the management organization of natural reserves and rationalize management mechanism. This Regulation is a local regulation that is enacted earlier than the legislation of national park laws at the national level. For related policies about national parks in China, this Regulation is pioneering and can be regarded as a milestone. However, it can be found after reading the Regulation carefully that the legislative background of laws in Yunnan Province is similar to that of Germany, there is a lack of higher-level laws, and the legislation conflicts with Article 73 of the Chinese Legislative Law. In addition, from the current national park management regulations of Yunnan Province, it can be seen that the local government has the right to approve the establishment of national parks, while the reviewing right belongs to its subordinate forestry department, which is not in accordance with the guiding value of formulating appropriate top-level design and establishing a national park legal system at the national level mentioned in the Declaration. Moreover, there is no special department that can specially manage the provincial national parks in Yunnan. The present circumstance in which Yunnan forestry department is taken as the main management department of national parks also exposes the problem of "multiparty management", which means there is no unified law to rely on. It is obvious that such a problem is unavoidable under the background of no corresponding laws of national parks in today's China. However, the inaccurate elaboration in Article 1 of the Regulation still requires to be adjusted.

2. Inadequate demonstration capacity of local collaborative governance policies on national parks

The fourth aspect of the Declaration states that it is necessary to promote synergies between multilateral environmental conventions and international processes. In the process of implementing the Convention on Biological Diversity, China also strictly implements and complies with Sustainable Development Goals 2030 of the United Nations, United Nations Framework Convention on Climate Change and a series of other international conventions in the aspect of natural environment. Therefore, it will certainly comprehensively adopt various state acts such as laws, administration, culture, science

and technology, etc. to promote the realization of the global goals set in multiple international conventions. China will use the effective mechanisms and policy tools combining the modes of "top-down" and "bottom-up" to improve the capacity of biodiversity governance and collaborative governance with local communities(Zhang,H.Y. Zhang,Q.& Hu,X.J,2020). Therefore, the local collaborative governance policy of national parks should be presented in the form of formal legislation. Only in this way can the demonstrative and guiding abilities be shown, and then the above-mentioned goal can be achieved. As a consequence, it can be seen that as a local administrative regulation before the establishment of the national park law at the national level, the Regulation has pioneering significance, but there is still a gap between it and the Declaration when it comes to the demonstrative ability, and its implementation in Yunnan also shows an unsustainable momentum.

Furthermore, the General Scheme of the Establishment of a National Park System, which was issued in September 2017 in China, Guidance Opinions on the Establishment of a Natural Reserve System with National Parks as the Subject, passed in 2019 in China, both empowered the country with the approval authority and establishment right of national parks, and explicitly stipulated that the boundaries of national parks must be clear and definite. The regions being divided into national parks should involve national representative natural ecosystems. Protection should be taken as the main measure, reasonable use as the supplementary measure to manage national parks, thus fianlly reflecting the global value, symbolism and identity of national parks. These two documents both indicate that the main purpose of setting up national parks is to protect. Reasonable use is in the second place.

However, in order to develop the economy, many local governments tend to take economic benefits in the first place, and ignore the protection of the ecological environment in many cases. Nevertheless, ecological environment governance is a long-term behavior which can only be maintained by manpower and financial resources with a large amount. Therefore, when there is a conflict between economic benefits and ecological benefits, local governments often tend to choose the former to reach the goals and standards of economic development. Even in the case of considering and implementing environmental governance policies, they also hope to use the lowest governance costs to gain the greatest economic benefits. However, the characteristics of publicity and vague boundary also bring the situation of unclear rights in the process of local governments' environmental governance. Therefore, a stable and unified coordination mechanism with higher rank and greater demonstration ability is required by local governments to coordinate the interest disputes between local governments and participants, and finally achieve the ultimate goal of governance.

Nevertheless, the legislative principles stipulated in Article 4 of the Regulation refer to scientific planning, strict protection, appropriate utilization and shared development, which are placed in parallel order, not reflecting the value order of taking protection in the first place and reasonable utilization in the second place. The 13th Article in the Regulation stipulates that national parks are classified strictly protected areas, ecological conservation areas, recreation and demonstration areas and traditional utilization areas based on their functions. The Article also gives a concept for each area. In the meanwhile, it also explains human activities in different areas to a certain extent. However, the regional division mentioned in the Regulation is only used for geographical division, which remains vague in stipulating specific protection measures, and has no definite guidance and restriction on local governments' activities. In addition, the Regulation doesn't clearly determine and guide the living space and living style of residents in the community. In case of contradiction between strict protection and ordinary living in the community occurring during the process of strict protection of the national park, it is impossible to provide relief approaches and various assistance for local community, which will lead to antipathy of local residents in the community towards the protection of the national park, and will even never realize the collaborative effort from top to bottom or the strict protection of national parks. Therefore, from the perspective of demonstration ability, it is also hard for the Regulation to achieve, and the Regulation also doesn't reflect, the extremely high degree of protection of national parks in the aspect of legislative purpose(Wang,Y.M,2017). It is because that there is a lack of explicit provision about the rights of local governments in national park protection in the Regulation, hence the Regulation can provide relatively good demonstration value for local governments in the aspect of national park governance.

3. The imperfect basic system of the Regulation on the Administration of National Parks in Yunnan Province in terms of community collaborative governance

The fourth aspect of the Declaration indicates that to build and protect national parks, it is inevitable to mobilize many stakeholders to participate in the process, equilibrate and preserve the interests and rights of all parties to reach the goal of ensuring the stability of a system. On this basis, the legislative protection and management of national parks require the active participation of the broad masses. Besides, relatively perfect and rational ecological compensation system should be established to guarantee and promote the participation of the public. The public participation system should include franchise system, community coordination system and volunteer system, as well as complete legal accountability system.

After reading through the Regulation, it can be found that the Regulation has no complementary stipulation of public participation system. The ecological compensation system is not clear enough, and the legal accountability system rarely refers to issues about civil liability. Take the community coordination system and ecological compensation system as an example, how to deal with collectively owned lands, which are more or less included in many areas of national park systems in China, and how to equilibrate the benefits of enterprises and original community residents on collectively owned lands has become a problem must be faced in the process of national park system construction. In the context of comprehensive poverty alleviation and rural revitalization in China, the concept of high degree protection of national parks is bound to make enterprises and original community residents in the parks waive certain economic interests and land ownership. On the one hand, from the perspective of enterprises, although for the purpose of protecting the environment, the government may ask the enterprises to update their production equipment, conduct technology innovation and reform production process, the enterprises generally take shareholders' profits as the profit target. If the work of environmental protection takes a large amount of funds, the operating cost of enterprises will be increased, which leads to the situation of enterprises' ignorance of their social responsibilities with the aim of reducing costs and obtaining greater benefits. On the other hand, from the perspective of local residents, if local residents are allowed to own the housing land use right and to exercise the usufruct on collective-owned lands in the national park, it will bring trouble and conflict to the unified management and protection of the national park, and cause damage to local residents' benefits, which will further induce local residents' antipathy towards national park protection policy and do harm to the implementation of the national park protection policy. In case of solving the problem of collective land acquisition in the area of national parks through the way of land grant with the purpose of reflecting the commonweal nature and particularity of national parks, it is inevitable to take into account of the heavy financial burden of the government brought by land requisition, which is also infeasible (Zheng,W.J, 2019).

IV. Suggestions for Improvement of Yunnan National Park Legislation under the Kunming Declaration

1. The competent department of national parks should be clarified, and the comprehensive and targeted national park laws and policies should be formulated as soon as possible.

In recent years, many Chinese government departments and scholars tried hard to attempt to build up a unified and specialized law for national parks, and the introduction of the Declaration recognized this goal in the dimensions of altitude and force. However, before the official promulgation of the law, the embarrassing problems of hard legislation, wrong logic and legislation beyond duly authority in the process of optimizing and completing the system of Yunnan national park laws and regulations still exist. Therefore, only let the country be the subject of the policy legislation and take charge of the formulation of high rank and comprehensive laws can the benefits of all parties be effectively coordinated. However, in order to enact comprehensive national park specialized policies and laws as early as possible, and make the formulation of targeted national park administrative laws and regulations of various local governments have a

legal basis and be logical, it is unescapable to set up a specialized national park management organization with a top-down systematic structure to manage national park affairs of the whole country in a unified way. After determining the above two points, the optimization and improvement of law and regulation system of Yunnan national parks have legitimacy and a correct direction.

2. Revision of current policies and laws, implementation of "one park, one law", and the improvement of the demonstration capacity of national park community collaborative governance.

According to the guiding direction of the Declaration and the 3th and the 4th provisions of Interim Measures for National Park Administration of China, Chinese should stick to the principle of "protection first, scientific management, rational utilization, and multi-participation" On this basis, the legislation of national parks should reflect the value order of giving priority to "protection" and realizing "reasonable use" in the following step. Priority protection can be regarded as the value of justice, and reasonable use refers to the value of efficiency. On this premise, in the process of optimizing and improving the collaborative governance system of national parks, Yunnan Province should take the value of justice of national park protection into account in priority. It not only conforms to the guiding target of the Declaration, but also in accordance with the value law orientation of the ecological environment. Furthermore, national parks' value of justice should also involve the requirement of the value of efficiency. However, the premise of allowing full play to the efficiency value of national park protection is that the process should start on the basis of scientifically delimiting the geographical boundaries and human behavior boundaries. Only in this way can the conflict between national parks and surrounding community development be weakened and resolved, the national needs and scientific research requirements can be met within a reasonable and lawful scope, and certain support can be provided for local community development and national park protection from the perspective of economics. Actually, different national parks have their own characteristics and protection objects, whose construction and management rely more on the implementation of local governments. Therefore, the mode of "one park, one law" should be adopted in the process of local legislation to authorize local governments to formulate local collaborative governance policies according to the characteristics of the regions, and the process of equilibrating the justice value and efficiency value of national park protection should be combined with the reality, thus obtaining strong demonstration capacity of the collaborative governance policy.

3. Improve the fundamental system of the Regulation for the National Parks in Yunnan Province

As for the problems such as public participation system, ecological compensation system and legal accountability system in the Regulation, Yunnan Province should supplement and clarify in the process of optimizing and improving the national park law and regulation system.

(1) Public participation system. Throughout other countries, the volunteer system and donation system are the main constituent parts of the public participation system. The volunteer system can effectively solve the problems of human resources in the management process of national parks. The donation system is one of the effective channels to solve the problems of funds. Therefore, in the policies and laws of collaborative governance, it is necessary to set out corresponding procedures and methods of encouraging the public and community residents in the park to participate in. For example, signing a collaborative management agreement with local community residents can equilibrate the rights and interests of stakeholders to the greatest extent and realize the balance between protection and utilization, as well as social stability in the national park area.

(2) Ecological compensation system. The ecological compensation system in national park regulation for local community residents is relatively complex, which should be considered in the following two aspects according to the author's idea: The first aspect refers to the community residents in the core protection zone of national parks. At present, most core zones of national parks are primitive, with few traces of human activities. Therefore, policies of emigration and local resettlement should be adopted for a small

number of community residents in those zones. This part of collectively owned land can be nationalized in the way of expropriation. As for the compensation of the residents, the methods of leasing and land replacement can be adopted. Due to the small number of residents, the problem and be solved in the way of common bearing the cost by the central and local finance. The second aspect lies in the contradiction between community residents' rights and interests, such as collectively-owned land ownership and usufruct, and public policies. When there is no conflict between the two parties, the protected zone easement system can be used to equilibrate the equities of both parties. For example, easement contracts can be signed with the party with the land ownership or the using right. Items such as geographic and behavioral boundaries, the distribution of relevant appendices' value, the payment of the corresponding consideration, etc. should be clarified in the contracts (Wang,Y.M,2017). Definitely, such a method can also be used to protect the traditional cultural activities of community residents in the national park. In the meanwhile, it is available to consider of authorizing national parks to participate in carbon trading and gain economic benefits as the carbon sink party, and compensating community residents from the perspective of ecology.

(3) Issues about accountability. There are only stipulations about administrative and criminal liabilities of the destroyers in the Regulation, while civil liabilities and other liabilities are not involved. From the logical perspective, restricted legal liabilities should involve liabilities in three aspects of civil, administrative and criminal liabilities. Only administrative and criminal liabilities can't make national parks receive the protection with the strictest regulations. Therefore, Yunnan Province should supplement the part of civil liability and other liabilities during the process of optimizing and improving the legal and regulation system of national parks, which can better reflect the comprehensive characteristic of national parks.

V. Conclusion

Under the background of the COP15 Kunming Declaration, further promotion of optimization and improvement of relevant policies and regulations on national parks in Yunnan Province is very consistent and policy guidance of the national park system reform, which is also clear and urgent. It is also an important part of the ecological civilization system reform, which should be considered from the perspective of integrity, systematisms and sharing, It is expected that this paper can make a practical contribution to the legislation of national parks in Yunnan Province.

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Foregrounding Questions of Equity and Sustainability in the Co-production and Decentralisation of Water Governance in Kerala.

Lavanya Suresh*

Dept. of Humanities and Social Sciences,
BITS - Pilani, Hyderabad Campus
Hyderabad, India
lavanya@hyderabad.bits-pilani.ac.in

Vinay Sankar

Dept. of Humanities and Social Sciences,
BITS - Pilani, Hyderabad Campus
Hyderabad, India
p20170422@hyderabad.bits-pilani.ac.in

* Corresponding author

Abstract

The People's Plan Campaign (PPC) that took place in 1996 in Kerala, India and 2021 marked 25 years of its completion. It was an experiment in democratic decentralisation and had a far reaching impact on public policy in the state. Given the 25 year anniversary, it behoves us to look back and understand the outcomes of this intervention. This paper looks at the principals of the PCC and evaluates its impact on natural resource governance using Elinor Ostrom's concept of Co-production (Ostrom, 1996). Co-production is where local communities and citizens are engaged in the process of producing goods and services, which alters their perceptions and connections with a resource. It envisions decentralisation and citizens' participation in a polycentric governance system. This paper will trace the historical evolution of policy positions and narratives on rural waters in Kerala's local plan documents using the co-production lens to answer the questions of sustainability and equitable access. A content analysis of plan documents from two years, 1996-97 (the inaugural year of the People's Plan Campaign in Kerala) and 2018-19 is done for Ananganadi and Ongallur panchayats in Palakkad district, Kerala. This comparative analysis shows us conflicting and contradictory narratives on water and land use policy in the GP Plan documents. In improving access to water, despite being decentralised, the priorities are often biased towards extending commodified pipe water and providing irrigation for water intensive commercial crops such as banana and maintaining rubber plantations. Yet at the same time the plan documents highlights the issue of increasing water scarcity, need for village ponds and improvement of irrigation facilities. From a social justice perspective, commodification narratives impact the most vulnerable communities and their (in)access to water and we see that while two decades separate the two plan documents the questions of social justice and sustainability remain unaddressed. This leads to inadequate and insecure access to water for marginalised communities like the Dalit Bahujans.

Keywords: equity, sustainability, co-production, water governance, Panchayat, decentralised planning

Public Services Development in Local Government in Indonesia: Evidence from District High Court Ogan Ilir, South Sumatera

Raegen Harahap

Universitas Islam Negeri Raden Fatah Palembang, Indonesia
raegenharahap_uin@radenfatah.ac.id

Marthen Tandi

Deputy for District High Court, Ogan Ilir Regency, Indonesia
marthentandi@gmail.com

* Corresponding author

Abstract

Covid-19 been the fact that, not only shake up political, social, and economic, but also created new relationships, networks, and opportunities as well as challenges to the governance systems to forced, recognize, accept and more structure to provide public service relies upon technological progress. This paper aims to investigate and analysis the development public service system by adoptive collaborative governance under technological reforms in local government, particularly in District High Court, Ogan Ilir Regency. To analyse this object, it uses qualitative methods by acquiring and collecting data from dept-interview, observation and documentation. Based upon this analysis, the paper divided into the key aspect, the assessment the "journey" preparedness, the public service mechanism co-produce public value by building collaborative capabilities with OJIN (Ojek Online Indralaya), the challenges public services for public traffic violation developed and worked effectively. To this end, public service development in District High Court Ogan Ilir regency, despite developed by technological progress and interdependent networks system between private and non-organization, at the same time, still more require attention, human resources threats within the public service development for achieving maximum public service office government.

Keywords: public service, collaborative government, local government, technological progress, district high court, Ogan Ilir Regency

Panel 4: Governing in the Disruptive Era: Cases from China

Embeddedness and Integration: How Does the New Subjects Participate in the Eco-environmental Governance System?

Ran Chen*

School of Government,
Yunnan University, China
chenran@ynu.edu.cn;

Jieyu Li

School of Government,
Renmin University of China, China
2022101079@ruc.com

* Corresponding author

Abstract

China has attached great importance to strengthening eco-environmental protection in recent years, and it has been practiced in top-down and bottom-up approaches. With the adjustment of national strategy and the change of environment, certain deviations and drawbacks have been exposed in conventional top-down approach, while the emerging approach from bottom to top, which was originally weak, can act flexibly and provide professional guidance because of the rising status of multiple subjects. Many researches, though, focus on the combination of the two approaches, it is still inadequate about how the two approaches interact systematically and operate sustainably. Therefore, this paper, based on the case study of green peacock protection, one of the top ten biodiversity cases in the world, combines the political system theory and embeddedness theory to construct a dynamic framework of new subjects embedding into ecological governance system, analyzing how the two governance approaches interact and the two sub-systems with diversified subjects integrate to form a stably operating ecological governance system. It provides a practical perspective to understand the constructing process of ecological governance system facing the change of environment. This paper find that the "outer sub-system", represented by Environmental NGOs, transformed social resources into political resources through various actions such as ideological cognition, cultural indoctrination and policy making participation, embedded and coupled with the "inner sub-system" which mainly consist of the direct stakeholders. The newly constituted governance system corrects and compensates the deviation of conventional administrative approach in policy making and implementation. Meanwhile, this paper probes into the operating mechanism, operating conditions and influencing factors of the system, enriches the connotation of the framework, and provides an analytical thought for ecological governance. Besides, this paper tries to create a widely applicable analysis method to discuss the operation logic of various subjects embedded in other political systems.

Keywords: eco-environmental governance; political system; embeddedness theory; NGO.

Introduction

In recent years, strengthening the eco-environment and biodiversity protection has been one of the priorities of China's development strategy by amending laws, innovating mechanisms and protecting relevant subjects' rights. Meanwhile, with the continuous practice of "Good Governance", China's NGOs are developing vigorously, and the governance system has been established that the government plays the leading role with enterprises, NGOs and the public participating. At present, the eco-environment protection in China has undergone a historic turning point and an overarching change facing crucial progress and breakthroughs. There are still many shackles that, from the

conventional governance logic, the value trade-off between economic development and eco-environment protection has not been completely reversed and local governments are not active enough in eco-environment protection. From the modern governance logic, the power of NGOs whose rights have not been fully protected are still relatively weak (Zhu,2021). Therefore, it is urgent to break through the constraints and coordinate the two governance logics, so as to achieve multi-subject governance on environmental issues.

Based on the theory of multi-subject governance, there are two types of governance logic in eco-environmental protection in China. (Wu & Guo, 2021) The first is top-down approach from the conventional administrative logic, which mainly realizes the transmission of ecological policies from the central government to the local government. The central government proposes the policies and the local government implements them, during which the governance system is centered on local government and direct interest groups. In this logic, the central government promotes the local governments' action by strengthening the basic system construction and campaign-style governance. (Zhou & Lian, 2011) However, the former is subject to highly fragmented and segmentary system in conventional bureaucracy (Ran, 2015), while the latter, which relies on authoritative obedience, is subject to the perceptions of local officials (Zhang & Man, 2021). Moreover, the unreasonable structure and method of ecological policy incentive (Ran, 2013) often result in policy invalidity. Meanwhile, local government, relevant departments and their surrounding interest groups often neglect environmental protection due to economic development. (LIEBERTHAL K, 1997) The vagueness of the policies (W.P.Alford, 1998) and the difficulty of environmental accountability (Heberer & Senz, 2011) give local governments room for manoeuvre. Therefore, under the conventional administrative logic, the effect of eco-environmental governance lies in the local government and the surrounding interest groups that control the local resources, and the execution power and ability of the local government largely determines the governance efficiency (Richard E, 1995).

The second is bottom-up approach from the modern administrative logic, which operates from the civil society constituted by environmental NGOs, the public, experts, scholars and media to the government. The rise and generation of this logic, on the one hand, comes from the awakening of citizens' environmental awareness and rights (Andrew Dobson, 2003), on the other hand, the increase in the number of NGOs and other subjects, and the promotion of their status in the national governance system (Liu&Man, 2022). NGOs have become one of the most influential forces due to their organizational and non-governmental nature (Yu, Wang, Sun&Li, 2019). It often presents a governance pattern with NGOs as the core and other subjects surrounding it to provide public opinion support. In the early stage, the social power can only embed the governance system informally and sporadically (Peter, 2001), lacking stable institutional environment and resource support. With the changes in the macro field of eco-environmental protection, this logic intervenes in the conventional governance logic via a more abundant embedding context: firstly using and creating a wide range of public opinions (Hu, 2014), especially from the network, to raise environmental issues. Secondly, leveraging expertise to provide information to the public, and acting as a platform for government-private interaction to mediate environmental conflicts (Zhang, 2018). Thirdly, with the help of public interest litigation to formally participate in the implementation of policies, to actively seek further coupling with conventional governance logic. Thus, the actions and capacity of NGOs, the awareness of the public, the attention of the media and the theoretical support of experts and scholars all affect the efficiency of governance.

As multiple subjects play more and more diverse and important roles in social governance, many scholars begin to pay attention to how to correct or fill policy deviations with the help of emerging governance logic. Social organizations and academic groups with relatively flexible actions can connect various subjects (Cui, 2021) in multiple ways to actively participate in eco-environmental governance (LEE.E.W, 2015). In addition to expand the scale of participation, they also bring social resources (Liu&Man, 2022), which can reduce administrative costs of ecological governance, and meanwile creates formal and informal pressure for local governments to respond. A wide range of researches, based on different perspectives, discussed the interaction and adaptation between the specific subjects in the two logics. However, few literatures focus on the dynamic process of two governance systems generating benign interaction. This paper aims to construct a theoretical framework based on the political system theory and embeddedness theory

through a classic case in China, so as to modernize the capabilities of eco-environmental governance.

A dynamic framework: New subjects embedding into ecological governance system

The flow model of political system suggests that what is happening in the environment affects the political system through the kinds of inputs (demands and support) or influences that flow into the system. Through its structures and processes, the system then acts on these intakes in such a way that they are converted into outputs. These are the authoritative decisions and their implementation. The outputs return to the systems in the environment, or, in many cases, they may return directly to the system itself through the feedback-loop. (David Easton, 1957) Political life seeks to unravel the processes through which a political system is able to cope with the various stresses imposed upon it. And according to this analysis the political system is a goal-setting, goal-modifying, and self-transforming system (Zhang&Shi, 2019).

From the practice of ecological governance in China, the governance philosophy of 'GDP First' has made local governments deliberately ignore ecological protection. In unitary system, the requirements of the central and superior governments are transmitted down through the bureaucratic system, and the local governments are promoted to accelerate economic and social development by target assessment. And peer competition between horizontal governments will also take GDP as the core, so that economic development have been dominating for a long time. The top-down approach determines the action of the system, including participants, goal setting, decision-making process, as well as the cultural factors such as value ordering and governance philosophy. These elements interact to form a system with the concept that local economic development takes precedence over environmental protection, a series of policy measures implemented thereby.

With the ecological problems getting more complex and social structure diversified, local governments have to attach importance to ecological protection when social subjects give feedback to relevant departments, or news media report those problems. NGOs, experts, citizens and media embed into the system, generating impact on the original system, so the governance pattern changes and cultural elements are embedded accordingly. Through vibration and integration, a new stable and sustainable ecological governance system will be constructed.

This paper, based on the theory of political system, creates a dynamic framework to explain the construction process of ecological governance system with new subjects embedding. As some scholars criticized that the theory of political system had no explanation for the processes of social change given and the concept of sub-systems are not mentioned, this paper integrates embeddedness theory to identify the sub-systems and their interactions in China's ecological governance system with stresses from social change. (Fig. 1)
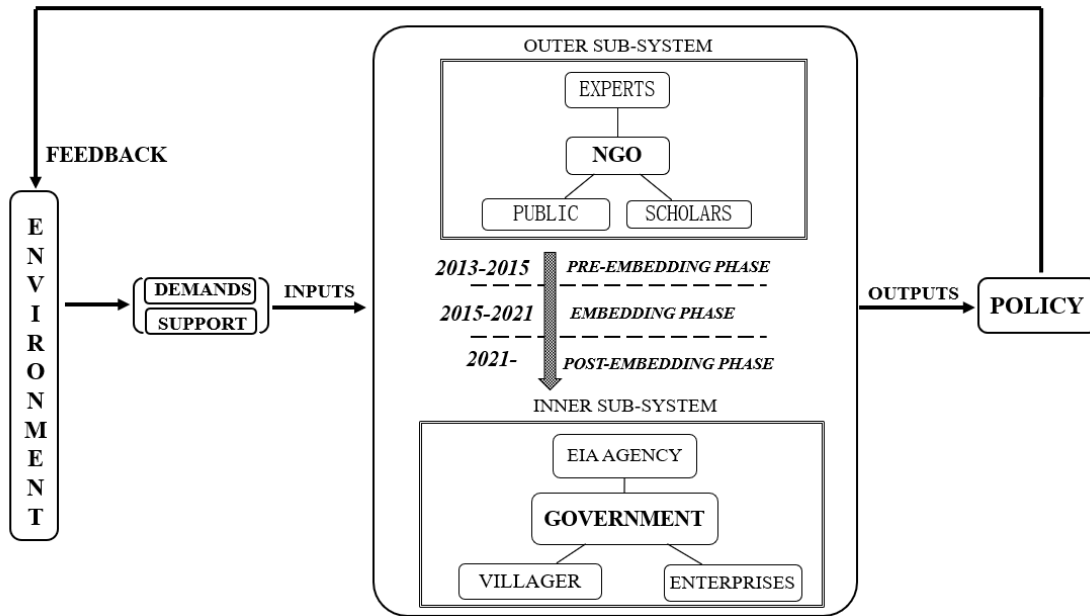
Figure 1. Analytical Framework of New Subjects Embedding into Ecological Governance System

Two levels of the framework

This framework applies the analytical ideas of political system theory at the macro level to analyze the driving source and evolving mechanism of the system, and refers to the perspective of embeddedness theory at the micro level to elaborate the functions and roles of the embedding subjects.

Two sub-systems of the framework

The two sub-systems in this framework are composed of different subjects and operates differently on the basis of their own value identification. One is the 'Inner Sub-system' which is the conventional system taking government as the core, consisting of enterprises and direct interest groups. It gives priority to economic development. The other is the 'Outer Sub-system' centered on NGOs, including experts, scholars, media and the public, which places considerable value on eco-environmental governance.

Two statuses of the framework

It is a dynamic process that the new subjects are embedded in the local ecological governance system, which results in the detached status before two subsystems interacting and the coupling status while one subsystems embedding into the other. Therefore, the embedding conditions, stages and modes should be analyzed, so as to present the transforming process of 'original stability — problems appearing — new subjects embedding — system vibrating — restore stability — sustainable development'.

Case Study: Green Peacocks VS Hydropower Station

Case Description

In March of 2017, a Chinese environmental NGO found green peacocks, one of China's most endangered species, in a field survey near Yuan River of Yunnan province, and found that a hydropower station was constructed nearby. If the station was put into operation, the habitat of the green peacock would be submerged. Three environmental NGOs—Friends of Nature, Wild China and Nature Conservation Center, filed a lawsuit against the construction company and EIA authorities. At the same time, they published an article 'Who's Killing the Green Peacock? The Last Green Peacocks' Entire Habitat in

China is Disappearing' on the Internet, sparking widespread public concern and discussion. On March 20th, 2020, the Intermediate People's Court made the judgment: the station construction is ordered to stop until the company complete the environmental impact assessment as required by the Ministry of Ecology and Environment and put on records. Subsequent measures shall be decided by relevant administrative departments in accordance with the specific circumstances. In Feb. of 2022, this case was selected as one of the top ten cases in 2021 to promote law-based governance in the New Era of China. As the first preventive public interest litigation for ecological governance and biodiversity protection, this case has received unprecedented attention. multi-dimensional subjects including local government and departments, environmental NGOs, media, experts, scholars, lawyers, cultural organizations, surrounding villagers, netizens participated, fulfilling respective functions and jointly promoting the decision-making agenda.

Case analysis

The changes of system environment drives the case to go through three phases, which are respectively pre-embedding phase, embedding phase and post-embedding phase. In the three phases, demands and supports from the national strategy, institutional requirements and various subjects are also constantly changing, leading to dynamic adjustment of the subjects involved in policy-making process and ultimately forming different policy outputs. (Table 1)

Table 1. Periodical Change of Ecological Governance System in the Case

Period (year)	Status	System Environment	Demands & Supports	Outputs	Subjects	Governance Approach
2013-2015	Subsystem detached System remains stable	Economic development is prior to environment protection	Local economic development and livelihood improvement	Project approved	Inner system: local government, enterprise, villager, EIA agency	top-down
2015-2021	Subsystem interacting System conflicts emerge	Status of environment protection enhancing	National Strategy for Ecological Construction Request of institution, NGOs, scholars and public	Project suspended	Outer sub-system: NGO, public, media, scholar	bottom-up
2021-	Subsystem integrating System stability recovers	Environment protection is prior to economic development	Social consensus of environment protection	Policy of environment governance issued and implemented	Inner sub-system & Outer sub-system	top-down & bottom-up

Pre-embedding Phase: Original system operates without new subjects.

In the past years, China's economic has been developing speedily, but it was inevitably at the expense of the environment. The eco-environmental protection system did not served the anticipated functions. China has already introduced EIA system in 1979, but it did not issue environmental regulations for construction projects until 1997. And the emission reduction targets set during the 10th Five-year Plan period have largely failed. At this stage, the political system of ecological governance was restricted and inadequate, and local governments gave priority to economic development over environmental protection in policy making. Besides, multiple governance had not been widely recognized and practiced. Social subjects lack the right to speak in all kinds of governance and the lack of normative systems and formal approaches makes social subjects unable to transform social resources into political resources. There was no sufficient institutional guarantee for NGOs to participate in policy making. And there was a general lack of media attention to environmental issues, and the public lacked a certain sense of responsibility and knowledge of environmental protection. Social citizens' demands for environmental interests is loose and cannot be conducted through formal

procedures. The subjects in 'Outer Sub-system' was powerless to embed, and stayed separated from the 'Inner Sub-system' and unable to influence the behavior and decision-making of the stakeholders. The conventional system with stakeholders as the core maintained its own operating mechanism.

The County, where the hydropower project is located, lags behind in economic development. It is poor in industry and its economic development is mainly investment-driven. Due to the lack of water, villagers living downstream have to grow drought-resistant crops, such as flue-cured tobacco, for a meager income. The construction of hydropower stations can not only bring a large amount of compensation, but also help improve local climate for crop cultivation and improve villagers' livelihood. Under a series of national strategies such as poverty alleviation, local governments' policy orientation are determined by hierarchical pressure and peer competition, and take local economic development as the main basis. With a total investment of more than 3 billion yuan, the construction of the hydropower station was quickly approved on the basis of the EIA report, and the agreements of relocation and compensation were conducted. In system of that time, the deployment of national poverty alleviation strategy and the local poverty situation constituted the system environment, which generated the demand and support for economic development and improvement of villager livelihood, and fed into the decision-making system composed mainly by local government, construction company, EIA agency and villagers, and drove the output of approving the project construction.

Embedding Phase: Original system's failure motivates new system and modify outputs

When the changes in the values of ecological governance lead to changes in the original pattern of political, economic and social interests, there will be dilemmas and conflicts in the field of ecological governance. The conventional ecological governance of local government, which plays a decisive role in the effect of environmental policy governance, will encounter automatic failure. (Xu, 2012) Therefore, as the system environment changes, the deviation between the output of pre-embedding phase and new environment will emerges and be reflected as conflicts.

Changes of system environment

In 2012, ecological civilization construction has been incorporated into the Five-sphere Integrated Plan and become a core plan for national development on the 18th National Congress of the Communist Party of China. 'Lucid waters and lush mountains are invaluable assets' proposed by President Xi Jinpin signified that China's environmental protection strategy policy transformed from environmental friendly to ecological civilization. The importance of environmental protection has been increasing, and gradually equaled with economic development. The system environment has changed greatly. However, due to policy inertia, the implementation and transmission of policies from national to local requires a certain amount of system reserve capacity, so there will be a certain lag time when the top-level strategic design at the national level is transformed into specific policy actions, which triggers conflicts and original system's the system fails to meet demands. Meanwhile, national governance system has entered a new stage. In Nov. 2013, the third Plenary Session of the 18th CPC Central Committee was held, at which the concept of social governance was officially used, and all social parties was encouraged to participate in diversified governance. In 2014, the Ministry of Environmental Protection issued the Guidelines on Promoting Public Participation in Environmental Protection to ensure the healthy development of public participation in ecological and environmental governance. In Jan. 2015, new Environmental Protection Law specifies that social organizations have the right to file public interest lawsuits on environmental protection. This was a landmark for the change of value orientation of policy making and for the improvement of the status of ngos. With the dual guarantee of value orientation and institutional foundation, the system begun to enter embedding phase. In 2017, the Ministry of Environmental Protection issued the Guiding Opinions on Strengthening the Guiding Development and Standardized Management of Environmental Social Organizations, which is a normative document specifically aimed at the participation of environmental social organizations in ecological governance. In 2018, the Ministry of Ecology and Environment deliberated and adopted the Measures on Public Participation

in Environmental Protection, which further detailed the principles, contents and channels of public participation in environmental protection.

The change of the system environment motivates the original system to adjust its operation logic, and also enables the 'outer sub-system' to embed into the 'inner sub-system' with emerging subjects.

Changes of demand and support

The past model of economic development at the expense of the environment exerted negative influence to citizen's life, and when the damage to environment is close to the upper limit of environmental carrying capacity, the public's awareness of environmental protection was constantly enhanced. Meanwhile, some social organizations and scholars concerned about the hydropower project began to question the EIA report. The social needs of environmental protection becomes the new demand of the system.

The facts that NGOs was provided with the qualification of plaintiff in environmental public interest litigation, and the vigorous supervision and rectification of various environmental pollution incidents consist of strong institutional support.

Changes of political system

Due to the promotion of demand and support, the 'Outer Sub-system' begin to intervene in the process of decision making and policy making, which affects the concept and behavior of the 'Inner Sub-system' and produces effect.

In terms of cognitive transmission and aggregation of social resources, 'Outer Sub-system' firstly expands its power and scale with the help of we-media. They provide a platform for extensive attention and equal discussion by publishing articles, hosting discussions on network to create and further magnify environmental protection issues, attracting a wider range of groups to join the sub-system. Meanwhile, it attracts the attention of opinion leaders such as various science bloggers, biological bloggers and celebrities, so as to promote the wide spread of the topic. After online and offline publicity, public service activities were carried out, such as "Green Peacock Protection Concert" and "Green Camp for College students", to conduct field research. These activities provide opportunities for people to translate their cognition into action and personally participate in, thus forming a good social demonstration effect. Sencondly, 'Outer Sub-system' actively constructs new identity to differentiate "Inner Sub-system" and reduce the power gap between the two parties. NGOs, experts and volunteers go to surrounding villages to conduct publicity, education and training, in which they inspire local people's emotional identity sorrowfully and softheartedly, shifting their cognition from "we didn't know the green peacock was on the verge of extinction" to "this is our own home and we should protect it." And 'Outer Sub-system' also attracts political attention by actively communicating with the local government repeatedly, reiterating the significance of protecting the green peacock habitat and expressing their demands, so as to psychologically and behaviorly influence policy makers and implementors.

In terms of resource conversion and decision-making participation, 'Outer Sub-system' transforms its accumulated social resources into political resources to really influence the results of policy making. The laws and regulations such as Guidelines on Promoting Public Participation in Environmental Protection, the Law on Environmental Protection, Guidelines on Strengthening the Guiding development and Standardized management of Environmental Social Organizations, Guidelines of Public participation in Environmental Protection provides channels and mechanisms for 'Outer Sub-system' to convert resources. The use of these political resources is embodied in behavior embedding of the subsystem in policy making process. The "urgent advice letter" sent to Environmental Protection Administration by NGOs is a mark that causes the attention of the superior departments, modifying the issue into the policy agenda. After that, 'Outer Sub-system' continues to speed up the decision-making agenda with the help of laws and institutions, including expressing opinions in public hearings, filing public interest lawsuits, and submitting proposals through the Chinese People's Political Consultative Conference. On the other hand, in order to correct the policy deviation, Friends of Nature requests the publication of the full Environmental Impact Report of the Project and the Report on the Adjustment of the Scope of the Nature Reserve. It also conducts a more comprehensive

and in-depth environmental assessment of the hydropower project and provides detailed reports, which improves the legitimacy of their demands. In August 2017, after the court ordered the suspension of construction of the hydropower station, a new governing system has been established, led by Forestry and Grassland Bureau of Yunnan Province, managed by local Forestry and Grassland Bureau and Nature Reserve Administration. And research institutes are responsible to provide specialized knowledge, NGOs assumes the coordinating and joint functions, absorbing local villagers to form community patrol teams in villages and towns where green peacocks are concentrated. This joint establishment of multi-governance system has greatly reduced policy ambiguity and conflict that experts, scholars and volunteers can provide professional guidance to the local government and the people of the protected areas, and supervise and evaluate the protection effect in the long term to avoid policy deviations such as selective and mechanical implementation of policies. A series of strategies have made the opinions of 'Outer Sub-system' a factor that the local government must consider carefully when it continues to formulate policies. Large-scale social organizations help citizens and other forces from scattered to unified, greatly enhancing the subject's right to speak and participate.

The continuous embedding of 'Outer Sub-system' drives the establishment of information transmission mechanism and the expansion of transmission power, which makes the political system perceive this input and lead to new decision-making output. The governance system began to correct the shortcomings of the conventional ecological governance approach, and continued to optimize the policy effects. On May 2018, the People's Government of Yunnan Province issued the Regulations on the Adjustment and Management of Local Nature Reserves in Yunnan Province and the Ecological Protection Red Line of Yunnan Province, in which the habitats of 26 rare species, including the green peacock, were included in the ecological protection red line. On Nov., Opinions on Supporting Supervisory Organs in Carrying out Public Interest Litigation Tools to Promote the Construction of Ecological Civilization and legal System in Yunnan was issued, signifying the further development of NGOs public interest litigation system in policy making system. This is enough to show that the deep embedding of 'Outer Sub-system' greatly reduces the cost of policy debugging, shorts the policy lag period, and improves the operating efficiency of the system.

Post-embedding Phase: Two sub-systems integrate and construct a new stable system.

The original system circulation has been broken after adapting to system environment by resolving conflicts and correcting deviations, and consequently an entirely new systems have been constructed with new operation mechanism. The outcome of the case has indicated that the deep integration and inter-embedding of the two subsystems have been realized and a government-led governance system with diverse participation and effective interaction of NGOs, enterprises, research institutions, media and citizens has been formally established.

In 2021, it is reported on Communique of the Sixth Plenary Session of the 19th CPC Central Committee that our country has made unprecedented efforts to promote ecological progress and made major strides in building a beautiful China. Despite a complex and grim external environment and downward pressure on the economy, China's determination to give priority to ecology and green development remains firm. In The World Environmental Justice Conference held in Kunming in May 2021, the green peacock habitat protection case was selected by the Conference as one of the top ten biodiversity cases in the world, and as the only case in China's judicial field was selected to the 15th Conference of the Parties to the Convention on Biological Diversity exhibition. In January 2022, the green peacock habitat protection case was selected as one of the top ten cases in 2021 to promote the rule of law process. The classic case of China's ecological governance, not only broke the developing approach of 'damage first and heal later', more as a new approach plays a decisive role in promoting the sustainable development of ecological governance and provides a practical perspective for exploring the development and construction of a new political system of ecological governance in the future. After a period of policy transmission and sustained environmental impact on the system, the policy making system, which has passed the lag period and is embedded by 'Outer Sub-system', will maintain the new operating mechanism of prioritizing environmental protection for a long time until the next major adjustment of the environment.

With the deepening of ecological civilization construction, the view of environmental protection will be more widely recognized in the whole society, and the public's pursuit of a better life will also trigger increasing demand for environmental protection. In current ecological governance system, the internal debugging and institutional reform of the system have enhanced the status of NGOs and other social subjects, enriched the power of decision-making and policy implementation, improved the governance capacity, and will better meet the new demand of the public. Those new requirements may cause conflicts and vibration to the system, but comparatively milder than those in the previous stage, which will provide driving force for policy making and modification in the next stage rather than large-scale reconstruction. The system has formed a stable and continuous cyclic pattern.

Findings: The operation mechanism of ecological governance system

Structure and functions of subjects

Ecological governance has its particularity that it involves extensive social background and values, so it is one-sided to just follow the conventional administrative logic in ecological governance. A well-functioning ecological governance system should be composed of two sub-systems, and realize deep integration through smooth cooperation mechanism operating from both top-down and bottom-up approaches, give full play to their respective functions, and improve the overall system efficiency.

'Inner-subsystem', including local government as the core and many other stakeholders, achieves decision-making objectives through institutionalized governance decision-making process, and practices ecological governance according to the central strategic orientation. 'Outer sub-system' is centered on environmental NGOs and other social organizations, including experts, scholars, mass media, citizens. It reflects the concern of ecological governance by flexible action, professional background and full mastery and use of social resources, so as to correct and remedy the possible deviation in the conventional administrative approach.

Interaction and coordination between sub-systems

The main function of 'outer sub-system' is to correct the failure and drawbacks of 'inner sub-system', and it is realized through the continuous interaction and collaboration of the two subsystems via the following process.

When the environment is input into system, the top-down approach with a solid foundation and high degree of specification begins to operate. In combination with the design of ecological governance of central government, local governments from 'Inner Sub-system' initially make policies, considering their development goals, value orientation, political resources and the appeal of other stakeholders. However, due to the deficiency and failure of the conventional administrative approach, as well as the Inadequate governance capacity of the local government, there will be deficiencies in the initial decision-making or conception. And The stably embedded 'Outer Sub-system' starts to operate out of institutional requirements and spontaneous motivation. Under the mobilization of NGOs, each subject turns the social resources they have into political resources, and creates communication platforms from formal and informal channels, so as to flexibly transmit their opinions to 'Inner Sub-system'. Through public hearings, public interest litigation, public opinion leading and knowledge promotion, they exert diffuse influences and transmit policy initiatives to larger groups, which brings pressure to prompt 'Inner Sub-system' to modify the initial policy, so as to minimize the deviation, forming a systematic virtuous cycle. Sometimes 'Outer Sub-system' starts embedding if local government has less political resources and attach enough importance to social subjects.

Conditions and influencing factors of system's virtuous cycle

The vitality of the system lies in the sustainable dynamic adjustment. It is significant to meet the following conditions to achieve long-term virtuous cycle.

Firstly, the priority of ecological governance in the overall value orientation should be firmly established in system environment. Apart from the overall strategic plan at the

national level, the most important factors are the cultural environment inside and outside the political system,   such as the value orientation of top-level design, the publicity of the importance of ecological governance, and the recognition of the importance of ecological environment by local government officials.

Secondly, two sub-systems' interaction needs stable and continuous opportunities and channels to ensure that the interaction is effective, so as to really affect decision making. It needs to be supported by force and based on capacity. The former mainly includes whether the discourse power of social subjects is guaranteed by explicit laws, regulations and institutions and whether the transmission mechanism of public opinion is reasonable and smooth. And The latter includes professional knowledge,   expressing skills and the amount of social resources of NGOs and other social forces. Besides, local government's understanding of the importance of multiple governance will also affect how difficult it is for the 'Outer Sub-system' to function.

Thirdly, policy deviations should be minimized in the output. It is mainly affected by the compatibility of the two sub-systems, the executive ability of the whole ecological governance political system, resources owned by the system including the transformed social resources, decision-makers' ability to screen various opinions and the flexibility of the executive staff.

Finally, a comprehensive and accurate feedback loop should be established. Through the feedback mechanism, the subjects can evaluate and summarize the effect and deviation of the output policy, and input to system environment, so as to form dynamic adjustment. So it is necessary to ensure the comprehensive and accurate transmission of system information, which include whether a good environmental information disclosure system is established to transmit information from top to bottom, whether there is an open platform for public to present information from bottom to top, and whether the rumors can be timely responded and clarified through official authorities and science popularization.

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The Path and Practice of Digital Governance to Drive Modernization of Urban Governance Capacity

Guocai Wang

School of Tourism, Kunming University, Kunming, China
College of Local Administration, Khon Kaen University, Khon Kaen, Thailand
1226wgc@163.com

Abstract

The international environment is complex and changing, and it is important to accelerate the modernization of urban governance capacity. With the booming of new generation information technology, digital governance has an increasing impact on urban governance. Based on digital governance theory and taking Kunming as the research object, we clarify the implementation path of urban governance modernization, discover the practical effectiveness of digital governance on urban governance modernization in the Chinese context, and provide theoretical support and practical reference for accelerating urban governance modernization.

Keywords: Digital Governance, Urban Governance, Kunming, Modernization Of Governance Capability

Introduction

Big data, cloud computing, Internet of Things, blockchain, artificial intelligence and other new generation information technologies are having a huge impact on the production, life and space of human society, and human beings are about to enter a brand new era and society. The outbreak of the new crown epidemic in early 2020 has also accelerated the process of informationization in many industries, especially as cities have begun to use information technology for urban governance. If the health code turns yellow or red, it will be segregated according to Hangzhou government requirements. Subsequently, China's Yunnan Province also implemented a province-wide system of scanning codes to enter public places and manage the trajectory of people entering and leaving public places(Shi,2020). The health code has become the biggest highlight of the digital anti-epidemic, and the emergence of the health code is also an unconventional move to break through many systems in this special period, and a comprehensive test of the urban governance system and governance capacity, directly affecting the modernization process of national and urban governance(Fang & Yan,2020).

From the current development situation in China, digital technology has brought huge challenges to traditional governance concepts, governance models and practices while reshaping social forms, economic operation models and bringing various conveniences to people's lives(Chen, 2019).The change of urban governance modernization is forced by urban development problems and deepened by continuous problem solving. Urban governance needs to follow the law of urban development and adopt corresponding measures under the framework of national system, and urban governance modernization is an important element of national governance system and governance modernization. In the process of promoting the modernization of urban governance capacity, based on the modernization of governmental governance capacity, urban development goals are determined based on meeting the growing needs of the people, urban development tasks are determined oriented by people's satisfaction, and improving the capacity and level of urban governance modernization means empowering the city through information technology and intelligence to make urban operation more efficient. The integration of artificial intelligence, big data, cloud computing innovation, to promote the construction of intelligent government should make full use of the Internet

+ intelligent government platform, need to be adapted to local conditions according to our local urban management and the needs of the people to promote the intelligence of government management(Dong, Zhou et al.,2022).

Digital governance is a product of the times, and with the booming of a new generation of information technology, which utilizes advanced management models, digital governance achieves efficient, accurate and agile management of cities. Digital governance has received great attention and importance from governments at all levels. However, it should be noted that digital governance is a technical issue as well as a smallpox issue, but it cannot be simply understood as the superposition of digital and governance, but the integration and reengineering between the two. In the process of promoting digital governance, digital is only a means, and governance is the end.

The rest of the paper is structured as follows. The second part focuses on the research objectives of the paper, the third part reviews the literature related to the theoretical and conceptual connotations of digital governance and modernization of urban governance, the fourth part details the research object and digital collection and research methods, in the fifth part the research results and realization exploration are discussed, and the sixth part con-cludes this paper.

Research Objective

The goal of digital governance is to modernize the urban governance system and governance capacity and better realize people's aspiration for a better life. Digital governance is not data governance, but a combined form of technology, organization and society, which includes the comprehensive governance of economic and social resources. Digital governance drives the modernization level of urban governance, the core of which is the value concept of people-centered, how the new generation of information technology is applied to urban governance, and the effective integration of government, enterprise and social data in the process of digital city governance to maximize the value of data resources. Through this practical case of Kunming to clarify the implementation path of urban governance modernization and discover the The practical effectiveness of digital governance on the modernization of urban governance is clarified through this practical case of Kunming, and the practical reference is provided to accelerate the modernization of urban governance.

Literature Review

Digital governance is a means, and modernization of governance capacity is the goal of behavior. The rapid development of the former governance technology has brought more possibilities for urban governance, but we cannot overemphasize the "technology-only" view of data and technology on the driving role of urban governance. The ideal state of digital urban governance is to promote the scientific improvement of urban governance system and the significant improvement of governance capacity through the high integration of governance concept and digital technology (Xu& Liu ,2006).

Concepts and core issues of digital governance

Digital governance, also called e-governance, is a concept that arose after e-commerce and e-government, and is a new and advanced governance model in the digital age. There are broad and narrow interpretations of digital governance. In the broad sense, digital governance is not a simple application of information and communication technology (ICT) in the field of public affairs, but a form of social and political organization and its activities associated with the way political and social power is organized and utilized, which includes the integrated governance of economic and social resources and involves a range of activities on how to influence the government, the legislature, and the public management process; in the narrow sense, the Digital governance is a governance model that uses information technology in the interaction between the government and civil society, the government and the economy and society represented by enterprises, and in the internal operations of the government, to ease government administration, simplify the process of public affairs, and increase its democratization(Huang& Chen, 2019). Digital governance also refers to the participation, interaction and cooperation of

the government, citizens and other subjects through the use of information technology, and the construction of an open and pluralistic social governance system that integrates information technology and the participation of multiple subjects, which is mainly reflected in the following: modern state governance can better improve its own effectiveness in the process of public management and public services through the introduction of information technology, and the state's management technology and governance means are becoming more and more "digital", "networked" and "technological". At the same time, the management technology and means of governance are becoming more and more "digital", "networked" and "technological"(Wang & Xiao, 2007). The main impact of the digitalization process has been through organizational and cultural changes within the government sector coupled with external shifts in the behavior of civil society activists. In the era of digital government, enabling individuals or businesses to use electronic methods to increasingly co-produce most personal products leaves government agencies with the task of providing a facilitative framework(Ren & Liu, 2021). The core of government function transformation is to deal with the relationship between government and society, enterprises and market, which reflects the requirements of service-oriented government construction. Therefore, digital governance is a new governance model that combines technology and governance, with government, society and enterprises as the main subjects of governance. The core of digital governance is to use digital technology to change the organizational structure and process management, solve the problems of information silos and information cocoons among various subjects, and promote efficient interaction between the government and other subjects, so as to improve the government's governance capacity and enhance the government's credibility(Tan, 2008).

Digital Governance Theory and Modernization of Urban Governance

Digital governance theory is a new quasi-paradigm of public management theory spawned by the combination of governance theory assembly and Internet digital technology, which is represented by British scholar Pachinko Dunleavy. The theory advocates the important role of information technology and information systems in public sector reform, so as to build a flat management mechanism in the public sector, promote the sharing of power operation, and gradually realize the good governance of returning power to society and to the people. The process, the guiding theory of digital governance approach is digital governance theory(Han & Ma,2016). The localized development of digital governance theory by domestic and foreign scholars; the exploration of the practical field helps to overcome the problems of public sector reform and legal aspects and management ideas and technical methods, apply theories to guide practice, promote the construction of flat management mechanism of institutional reform, improve government management performance and realize good governance(Li,2021).

The connotation of urban governance capacity

With the gradual integration of urban political theory and urban governance theory, the study of cities has shifted from an urban political theory of who rules to an urban governance theory of how to rule(Ye & Xie, 2021). The connotation of governance modernization includes diversification of governance subjects, modernization of governance means, institutionalization, scientificization, standardization and proceduralization of governance system, and other aspects. To realize the transformation of urban governance from human-intensive to human-computer interaction, from empirical judgment to data analysis, and from passive disposal to active discovery.

Study on the path of modernization of urban governance

Urban governance capacity and urban governance system complement each other, and high or low urban governance capacity affects the operation of urban governance system(Xu & Yang,2021). The scientific, refined and intelligent path of urban governance modernization; scientific is the core concept of urban governance modernization, based on and respecting the scientific laws of urban development, and governing the city through scientific concepts and methods; refined is the management

point of urban governance modernization, urban governance refinement is to integrate the concept of refinement into urban governance, and to make urban governance work precise, accurate, fine, realistic and in place; intelligent is the technical means of urban governance modernization, and to effectively integrate new generation information technology such as big data, Internet of Things, cloud computing and artificial intelligence as a means to collect information in a comprehensive and efficient manner. The intelligent is the technical means of urban governance modernization, to big data, Internet of things, cloud computing, artificial intelligence and other new generation of information technology as a means of all-round efficient collection of information, on the basis of a large amount of data, effective integration, analysis of data, to provide support for the formulation of urban governance policies, efficient implementation, the formation of intelligent governance system(Wang,2020).

Modernization of urban governance is an eternal topic and a very important area of modern civilization. To promote the modernization of urban governance under the new situation, we must base on the actual development of the city and the needs of the people, and constantly improve the scientific, refined and intelligent level of urban governance, so that the people have a greater sense of access, happiness and security(Zhu,2020).

Based on this, through the existing literature, it is found that modernized urban governance capacity must possess international vision, scientific decision-making, market-oriented operation, digital application, humanistic management, rule of law supervision, and instant innovation. Exploring the realization path of digital governance-driven urban governance capacity modernization and exploring the practice of digital governance-driven urban governance modernization.

Methods

This paper selects the case of digital governance-driven urban governance modernization in Kunming as the research object mainly for two reasons. First, Kunming is a provincial capital city located in the southwest border area, known as the "Spring City", and has been awarded as the national health city, national garden city, national civilized city, top ten spring cities in the world, and the best ecological livable city in China, etc. It is the open gateway to South and Southeast Asia in Yunnan Province, and is doing its best to promote Kunming as a regional smart city radiating South and Southeast Asia. Kunming is a regional international smart city radiating to South and Southeast Asia. Kunming has also made a lot of attempts in urban governance, accumulated some experience in reform and exploration, and also achieved stage results, forming the Kunming case with distinctive characteristics. Second, from the perspective of the convenience of case acquisition, Kunming has the advantage of geographic proximity to the investigator, and the investigator can gain an in-depth understanding of the process and practice of digitally promoting the modernization of urban governance in Kunming. The researcher collected a large amount of information and data through in-depth interviews with relevant government departments in Kunming. There are three main sources of data: 1) Combing relevant literature through literature research method, a large amount of research literature involving digital urban governance was collected, and by organizing and summarizing these theories and studies, an in-depth analysis of digital urban governance in Kunming City was conducted. 2) Authoritative official information. The information needed for this paper is comprehensively and meticulously grasped through government portals, official WeChat public numbers, and authoritative news reports. 3) In-depth interviews about the relevant personnel responsible for implementing digital governance in Kunming, mainly at the municipal level, departmental level, and district level, which lasted for an hour on average, to further supplement the detailed content of the textual information and verify the practice of specific measures. Kunming relies on a cell phone platform to open up a network of government services, one machine for processing, no meeting approval, etc., to "facilitate" the people with smart government; the interviews are themed around the promotion of related work and open-ended interviews are conducted for different practitioners.

Findings

Exploring the path of digital governance to drive modernization of urban governance capacity

Provinces and cities across the country have issued a series of policies to promote the transformation of urban governance system with the application of digital technology, such as Zhejiang Province issued the "Zhejiang Province deepen the "most run once" reform to promote the digital transformation of the government's overall plan" to promote digital technology and government performance of a comprehensive and deep integration. Shanghai's "Opinions on the National Promotion of Shanghai's Urban Digital Transformation" and Beijing's "Regulations on the Immediate Handling of Complaints" have emerged across China, with many practical experiences of digital governance in mega-cities, such as Guangdong's "Whole Government", Shanghai's "One Network for All" and Hangzhou's "One Network for All". The government service mechanisms, such as Guangdong's "Whole Government", Shanghai's "One Network for All" and Hangzhou's "Most Run Once" to promote the digitization of public services, Hangzhou's "City Brain", Shanghai's The study also focuses on the "city brain" in Hangzhou, the "one network management" in Shanghai, and other urban operation systems, and the "whistle blowing" mechanism in Beijing. This study takes people's needs as the guide, takes problem solving as the orientation, relies on digital governance to realize the modernization of urban governance, that is, through the transformation of urban governance concept and improvement of digital technology, integrates departmental business processes, promotes collaborative governance of multiple subjects, allows citizens to run less and data to run more, through the practical exploration of data governance to modernize urban governance system and urban governance capacity, clarifies the implementation path of urban governance The modernization of the implementation of the path to promote a sustainable development of the economy, resources, environment and culture in harmony with each other city. Therefore, the first thing is to modernize urban governance is the concept of governance first, with modern governance technology, innovative digital transformation mechanism of urban governance, and enhance modern governance capacity.

A Practical Exploration of Digital Governance to Drive Modernization of Urban Governance Capacity

Kunming is the capital of Yunnan Province and one of the central cities in the southwest region. Located at the intersection of China-ASEAN Free Trade Area, Lan-Me Cooperation Region and Pan-Pearl River Delta Economic Circle, and an important gateway for China to South and Southeast Asia, Kunming is taking advantage of its unique location and striving to build a vibrant and fashionable, international and modern open spring city. Kunming continues to improve digital infrastructure integration of data sharing resources, accelerate the construction of digital government, Kunming has also achieved milestones and accumulated some practical experience, forming a typical case with Kunming characteristics. From the two dimensions of people's needs and problem solving, create a city governance system, people-centered service concept, practice first, technology empowerment, people demand-oriented and city problem-oriented to create a new urban governance system. It makes technology and governance highly integrated and promotes the modernization of urban governance capacity.

"I Kunming" Digital Empowerment of Urban Governance

In order to accelerate the widespread application of digital technology in public services, urban governance, rural revitalization and other fields in Yunnan Province, to comprehensively improve the level of public services and services for the convenience of the people, with the "Office Pass" as the link, with the purpose of facilitating the people and benefiting the people, and with the goal of enabling the citizens to enjoy the city's life services with one APP, we are actively working to help Kunming City build iKunming" is based on the construction of Kunming Smart City and the construction of new life scenes. iKunming" is based on the construction of Kunming's smart city and builds new scenes of life, in the planning and construction of the "Discover Good Life" section, from "Letter in

Kunming", "Play in Kunming", "Walk in Kunming" "Love in Kunming" 4 aspects of the integration of the people's needs, fully around the purpose of the people's convenience, people's benefit, and actively build a "people-centric" new service model, so that the people's business life services as convenient as online shopping; for the public to create a comprehensive, convenient The construction of "iKunming" can effectively improve the quality and efficiency of public services.

City brain makes cities smarter

City Brain is an open intelligent operation platform built based on cloud computing, big data, Internet of Things and other new generation information technology to support the digital transformation of economy, society and government, and is an important infrastructure and comprehensive application tool for the construction of digital Guandu. Guandu District is one of the core districts of the main city of Kunming, Yunnan Province, and has been ranked among the top 50 of China's top 100 districts for five consecutive years. With the goal of improving the modernization level of urban governance capacity, Guandu District of Kunming City is guided by adhering to the simultaneous promotion of "four lines" of digital economy, digital government, digital society and digital city, driven by new technologies and new concepts, and taking the "city brain" general platform To build a new type of intelligent urban area, to realize the supply of artificial intelligence service capability, to make a breakthrough in the perception, analysis and decision-making capability of urban operation, to build a number of city brain highlight applications, to support urban management, sanitation, water affairs, comprehensive governance, emergency command, etc., to form a demonstration effect, Guandu The city brain performs intelligent analysis, early warning, disposal and other applications on urban events and risks. One screen knows Guandu, one network manages the whole city, and the command height is one map. Taking the painful and difficult points in the center of urban governance as a breakthrough, the first phase of urban brain in Kunming Guandu District realizes the analysis and integration of data and information linkage mastery in all key areas of the district. It supports the perception, discovery, pushing and disposal of urban management events, realizes point rotation, alarm pushing and alarm closing, so that the city brain "can think". In the social governance service section, the city brain can complete the visualization supervision and command system after cleaning the relevant data collected, so as to realize the "one map" management of "people, places, things, situations, things and organizations" six elements of comprehensive governance management. Guandu District "city brain" is in Kunming held in the United Nations Convention on Biological Diversity, the fifteenth meeting of the Conference of the Parties (COP15) in the first phase of the meeting security work, through a large screen, to achieve a comprehensive grasp of the activities around people, places, things, things, organizations and centralized scheduling, for the global The conference was held in the same way as it was held in the past, providing intelligent security support. Service convenient and efficient new system of urban governance, enhance the people's sense of access, happiness and sense of security.

Realization of government services "a network to do", "on the palm of the hand to do"

To further crack the problem of inconvenience to the masses and unfamiliarity with the process, analyze and integrate the needs of the masses, and launch a list of "natural person life cycle" matters, the masses can quickly locate the life cycle according to their needs. To find all the services corresponding to the stage they want to know, to achieve full coverage of the natural person's government affairs, to maximize the time and cost of the masses, to provide convenient guidelines for the masses to do business, to fully experience the "one-stop" government services, the province's government services platform is more easy to use, easy to use, government services The "one network to do" and standardization, standardization, facilitation level continues to improve; high-frequency people's livelihood government services to achieve the "palm of the hand to do", enhance the satisfaction of the masses.

Conclusion and Discussion

Faced with the rapid development of digital technology, digital transformation of urban governance is an important trend to promote the modernization of urban governance. In this paper, we analyze the practice of digital city governance modernization in Kunming, and find that the modernization of city governance takes "people as the center" as the basic concept, and is oriented to meet people's aspiration for a better life, and digital governance accelerates the transformation of city governance concept, drives the construction of governance system, improves service quality and service efficiency, and uses digital transformation of city as an important means to meet people's aspiration for a better life. The digital transformation of the city is an important means to meet the people's aspiration for a better life. The digitalization of urban governance cannot be achieved without the support of data and technology. The innovation of governance system is the key to promote the modernization of urban governance capacity, so that digital governance corresponds to the demand. Kunming is driven by new technology and new ideas, insisting on the urban governance system of multi-faceted governance and intelligent centralized display, and the integration of digital elements and governance elements, thus enhancing the modernization of urban governance capacity and promoting the development of Kunming's digital economy.

Cities are places where people live centrally and are important carriers of modernization. To promote the modernization of the national governance system and governance capacity, we must pay attention to the modernization of the urban governance system and governance capacity. In the context of economic globalization and urbanization, without fine governance, cities will not function well and new "urban diseases" will be created. Therefore, reasonable policy guidance and scientific governance programs are needed to promote the modernization of urban governance with "refinement of governance" as the focus, which is in line with the actual development of Chinese cities. First of all, the digital government system for major emergencies still has shortcomings; secondly, in the process of preventing and controlling the new crown disease, we should strive to explore new ways of modernizing the governance of mega cities, in line with the basic laws of urban development in the world today.

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Research on Digital Governance Model of Rural Revitalization under the Post-epidemic Situation

Xiaoyuan Peng

Faculty of Teacher Education, Kunming University
Public Administration College of Local Administration, Khon Kaen University
Kunming, People's Republic of China
pxy1028@126.com

Abstract

Given the post-epidemic circumstances, the prosperity of China is greatly attributed to the revitalization of rural areas of the country. And rural governance is an important cornerstone for rural revitalization. With the acceleration of modern digital technology and the rapid development of digital economy, the digitalization and wisdom of rural governance will become an inevitable trend. At present, a large scale of exploration of the digital governance in rural areas has been in progress and has obtained certain experience, in spite of the fact that there exist myriads of obstacles. From the perspective of rural revitalization under post-epidemic backgrounded, the article makes an analysis of the current situation of post-epidemic rural digital governance, and of present obstacles and reasons why they come into existence, making an attempt to propose some applicable and feasible solutions to the case, and explore the new model of rural digital wisdom, which is believed of great realistic significance.

Keywords: post-epidemic era, rural revitalization, digital governance model

Introduction

It was in May 2019 that the General Offices of the Central Committee of the Communist Party of China and the General Office of the State Council jointly issued Outline of Digital Rural Development Strategy, in which some important instructions has been made to implement digital governance in rural areas, demanding that the development of rural digital governance should "keep up with the trend of the times, practice national digital rural strategic planning, focus on digitization of rural governance, build rural digital control system, and effectively integrate digital technologies with rural governance practices to empower rural governance with intelligence." Rural digital governance is an important policy proposed by the state and a "brand new political idea" for future rural governance reform, which is characterized by digital information technology in rural governance.

The COVID-19 outbreak in 2020 dealt a heavy blow to all countries in the world, and the traditional prevention and control mechanisms were greatly tested. China's leadership actively deployed the prevention and control mechanism and blocked the devastating impact of the epidemic on the economy through the adoption of new digital technologies such as big data, 5G and the Internet of Things. The impact of the epidemic has spawned a variety of new technologies in the intelligent era, bringing new opportunities for the construction of digital countryside. Digitization of rural areas can help rural modernization level to a higher level and researches on digital countryside construction are of great significance for promoting rural revitalization and development strategy (Wu Chengzhong,2019).

Research Objective

As a world power, the contribution of China's rise to mankind should not only repeat the Western industrial civilization, but must be based on Chinese characteristics of ecological civilization and return to sustainable development of agricultural civilization.

Chinese civilization belongs to the civilization dominated by agricultural economy, and the carrier of agricultural economy is the countryside. Rural areas are characterized by low carbon, low consumption, mutual assistance and maximization of happiness. With the advantage of renewable energy, the future countryside will be self-sufficient in new energy (Wen Tiejun Liang Shaoxiong Liu Liang,2020.2).

Rural governance is an important cornerstone for rural revitalization. With the rise of digital technology and the development of digital economy, the digitization and intellectualization of rural governance will become an inevitable trend. Based on the current situation, this paper analyzes the current situation of rural digital governance in the post-epidemic era, analyzes the predicament and reasons of the current rural digital governance, and then explores the new mode of rural digital governance.

Literature Review

1. Research on Digital Governance of Domestic Rural Revitalization

In recent years, rural digital governance has been one of the hot research issues in China, which has been discussed by domestic scholars. The researches are mainly manifested in the meaning, function, problems and purpose of rural digital governance. At present, digital rural governance in China is at an initial stage, facing many difficulties in popularizing and developing digital rural governance. The analysis of digital transformation and innovation path of rural governance is helpful to accelerate the realization of the development goal of modernization of rural governance.

2. Researches on Digital Rural Governance Abroad

The process of rural digitization in Western countries started earlier, and the relevant researches also started earlier. The researches were mainly carried out from the aspects of rural digital governance objectives, applications and functions, and has achieved relatively rich results.

Throughout the above studies, it can be found that the current researches on rural digital governance is scattered, and a relatively systematic governance system has not been formed. At the same time, the research perspectives are mostly focused on economy and rural industry management, and the problems of rural digital governance are not deeply discussed, especially after the COVID-19 pandemic. Therefore, from the perspective of rural revitalization under the background of the post-epidemic situation, this study explores a new model of rural digital governance from the perspective of agriculture, rural areas and farmers, which is believed to be of strong practical significance.

Methods

With the purpose of better completing the research on rural digital governance model, this paper is about to adapt the following research methods:

1. Literature Research Method

Search the theoretical results and literature related to this research, and sort out and analyze these literature to form an analysis framework suitable for this paper.

2. Field Interview Method

Through field research, relevant villagers, government staff and poverty alleviation cadres were interviewed to further understand the current situation of rural digital governance.

3. Case Study Method

Through field research and relevant data review, Wenlin Village of Kunming City, the poverty alleviation site of Faculty of Teacher Education of Kunming University, was selected as the research object to provide relevant data support for this research.

Findings

1. Current Situation of Rural Digital Governance

By the end of 2022, China will continue to build digital infrastructure in rural areas, with 5G networks covering key townships and some key administrative villages, and the Internet penetration rate in rural areas exceeding 60 percent. At present, there are various forms of rural digital governance across the country, such as Internet plus Party Building, Internet plus Supervision, Internet plus Government Services, Smart Party Building, Smart Village, Village Cloud, Mass Public Security Prevention and Control Project, E-country, Digital Agriculture, Rural E-commerce and so on. The current rural digital governance mode mainly uses digital technology to promote the digital transformation of agriculture and rural areas. Digital transformation of the administrative organization behavior system of rural governance are widely employed to reconstruct the operational scientific and technological facilities and technical rules of the administrative system, and to improve the efficiency of the administrative system.

2. The Current Predicament of Digital Governance and the Reasons for Its Existence

Although rural digital infrastructure and rural digital governance system have witnessed great improvement, farmers' digital literacy and skills have been effectively improved, and the pilot construction of digital villages has achieved initial results, yet the truth of the matter is that real digital governance still exists theoretically or in digital rural pilot areas, due to the following circumstances, which are very common in vast rural areas, e.g. hollowing out of rural areas; Unbalanced population ratios: mostly 60-years-olds and above, fewer young and the fewest children because of the low birth rate, there appeared a weird phenomenon in a rural school where only a teacher with all his four students attend the national flag-rising ceremony. For most of the villages, the digital governance is merely reflected in the village committee members using WeChat to send mass notifications, document data digitization and other primary levels of rural digital governance.

3. New Mode of Rural Digital Governance

Based on the current predicament and causes of rural digital governance, this part will explore the suitable digital governance model for post-epidemic rural revitalization from three aspects: agriculture, rural areas and farmers.

As the old saying goes, 'small chaos avoid the city, big chaos avoid the country'. During the epidemic, cities, roads and villages have been closed all over the country. Rural areas have surplus food and do not panic. Its advantages are becoming more prominent here. The way to achieve rural revitalization through digital governance under the post-epidemic situation can be constructed from the following aspects:

First of all, the establishment of digital ecological agriculture can be carried out from the following aspects:

1) Give full play to local advantages, develop local advantageous industries, formulate corresponding policies to restrict industrial development, and form an advantageous industrial chain. Internet plus mode can be adopted to sell agricultural products;

2) Digital management is adopted in the process of planting agricultural products. Agricultural information such as farmland reclamation, selection of good varieties, soil moisture, sowing time, used fertilizers, records of diseases and pests, and growth records are stored on the computer. Through collection and analysis of farmland data, unmanned aerial vehicles (UAVs), field Internet of Things (IOT), field weather stations, and satellite remote sensing technology are used to provide decision-making basis for farmland scientific management and agricultural harvest. Through the realization of scientific and precise control, improve the quality of agricultural products, while preventing the excessive use of pesticides and other pollution of agricultural products, land, etc. Achieve stable food production, protect production capacity, conserve biodiversity, provide healthy food, stabilize food supply, and recycle urban and rural residues.

3) Use "ecological footprint" to measure ecological improvement with the help of digital platform; Use the "food footprint" to encourage citizens to pay attention to sustainable agriculture. Substitution of imported chemical inputs with locally produced organisms; Use biological insecticides and natural enemies to control pests; Choose varieties that are resistant to pests; Pest control through crop rotations and cover crops; Restore the past use of animal power farming methods and other ways to create green organic production.

4) Establish the platform of Community Supported Agriculture (CSA) so that consumers and farmers can support each other and share benefits and risks in agricultural production. Under the CSA platform, farmers and consumers have established a good trust relationship, which not only protects the ecological environment and promotes the sustainable development of agriculture, but also ensures food safety by shortening the distance between consumers and producers and solving the problem of food safety traceability. Thanks to the implementation of benefit sharing, the benefits of consumers and producers have been increased, which is especially convenient for the life of community people under the epidemic, and also provides a stable economic source for rural farmers (Wen Tiejun Tang Zhenghua Liu Yahui,2021.11).

Secondly, we should establish a digital environment-friendly countryside and study the integration of planting and raising. On the one hand, animals can eat weeds, saving weed control labor and herbicide; on the other hand, animal feces can provide nutrients for plants, and livestock feces can be converted into organic fertilizer for crops for recycling. In addition, a variety of plants can be combined, such as tomatoes planted in the middle of the corn than a single type of tomato yield higher. Realize the integration of farming and animal husbandry, can also carry out planting and animal husbandry projects, and on this basis to develop after the outbreak of the rural tourism, with the aid of digital implementation "personalization", let visitors to rural experience three slow, slow, slow, slow city life) four wash (gastric lavage, wash your heart lung, wash the blood,) life.

Finally, cultivate new farmers under digital governance. The cultivation of new farmers can be carried out from the following three aspects.

1) Based on farmers' cooperative organizations, farmers' self-management and self-service abilities should be enhanced by comprehensive methods and diversified ways of social participation, and the negotiation status of farmers' organizations should be improved to protect agricultural rights and interests, so as to form good urban-rural integration and interaction.

2) Legislate lifelong education, set up community colleges in villages, and carry out various kinds of community education with the help of digital technology, so as to help the majority of Chinese people get lifelong education services. In addition to the current state staff going to rural poverty alleviation, student associations should also be encouraged to support farmers in the countryside, guide citizens to go to the countryside, and guide returning farmers to find jobs and start businesses in their hometown. Digital technology can also be used to launch financial assistance programs for poor families and students (Liu Lulin,2019.8).

3. Cultivate local agricultural digital technicians, collect agricultural production cases, analyze digital needs, organize and implement agricultural digital solutions with the help of agricultural digital technicians, and provide on-site guidance and technical training for the majority of farmers, so as to realize rural digital governance.

Conclusion and Discussion

This research takes exploring rural digital governance model as the theme, follows the idea of combining theoretical research and case study, and finally settles on "model construction of rural digital governance". Through research and analysis, in view of the present rural digital existing problems and difficulties in the process of governance, analyze the reasons and the current situation of governance, put forward the perfect rural digital governance mode, from a multidimensional perspective such as agriculture, rural areas and farmers of strengthen rural digital management in comprehensive analysis, power management modernization in the countryside.

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The Practical Paradoxes of "Digital Going to the Countryside" and the Generation of Governance Logic

Fang Liu

Teachers Education College, Kunming University, Kunming, Yunnan, China
College of Local Administration, Khon Kaen University, Khon Kaen, Thailand
Swliufang@126.com

Abstract

With the construction of "Digital China" and the promotion of rural revitalization strategy, digital technology has promoted the modernization of rural governance, but there are also many challenges. From the perspective of social technology, this paper reflects on the paradoxes of digital technology in the practice of embedding rural cultural context, and explores the practical logic of rural grass-roots digital governance. The data sources of this paper are "the press conference data of Yunnan Digital Decade" in China and the field survey data of a Bai nationality village in Yunnan.The survey data shows that the practical paradoxes of "digital countryside" mainly reflects four dimensions : the governance subject - digital empowerment or technology burden,governance value - local human feelings or instrumental rationality, governance structure - local system or bureaucracy+technology,governance space - physical space or network space. "Legitimacy" has become the logic center for grass-roots governments to solve the paradox of policy practice and presents three different aspects: political legitimacy, legitimacy of public administration , and legitimacy of daily life world.The above three have different positions and functions in governance practical logic. political legitimacy is the preferred principle and basic position of grass-roots governments . The legitimacy of public administration and the legitimacy of daily life world are often intertwined. Accurate weighing and making choices test the political wisdom of grass-roots cadres, which not only determines the effect and impact of policy implementation, but also has a significant impact on the career fate of individual grass-roots cadres.The author believes that the "legitimacy" in governance practice logic can truly achieve the value position of "taking the people as the center", and constantly establish and improve the socialist democratic rule of law and rural grass-roots democratic system, so as to solve the practical paradoxes of digital rural policy.

Keywords: digitization, digital rural, digital governance, empowerment

Introduction

With the construction of "Digital China" and the promotion of the rural revitalization strategy, especially in the context of the achievements that digital technology injected strong impetus into China's economy during the epidemic, "digital going to the countryside" has been carried out in full swing, and big data, cloud computing, the Internet of Things and other digital technologies have been embedded in the countryside. Digital technology enables rural society to transform and innovate rural production mode, lifestyle and governance mode. The precision of rural governance and the modernization of governance capacity have been continuously promoted.

Digital technology is a double-edged sword, facing many challenges and development variables in the practice of the transformation of the complex, diverse and changing rural society. It has become the research mission and academic path of relevant scholars to explore the internal relationship and logical characteristics between the environment, process, consequences and innovation of technological practice in specific rural fields. In general, China's domestic research on digital governance is mainly focused on macro theoretical elaboration, while there are few practical studies, qualitative and quantitative empirical studies, especially the lack of fresh and typical case studies. At

present, the theoretical perspectives of the academic achievements of governance practice reflection include "embedding theory(XiaolongWu2022)", "modernization theory(S.N.Eisenstadt1966；Bo Huang2021；Feiwei Shen and Fang Du2022）", "system-technology- life theory(Ying Xiao2014；Bo Ding2022）", "state- social relationship theory(James C. Scott1998;Cuijun Ma2015)", which play an important role in the formation of this research idea.

John Clarke analyzes governance in the digital age from the perspective of technology and social technology. New technologies provide technological solutions to various government problems and governance challenges, but underestimate the social and political effects and organizational consequences of digital governance. The so-called perspective of social technology is to take these consequences as the core of planning electronic governance(Leslie Budd and Lisa Harris2009).Policy implementation is a common problem encountered by modern national governance,It is the concomitant phenomenon of modern state construction and the logical generation of modern state construction. The country needs to face up to the local differences to achieve governance goals through policies. Local differences not only refer to differences in political, economic and environmental conditions, but also include differences in the way cultures and local people understand problems. The analysis of differences requires "in-depth description" research methods(Yijun Ma2015). Based on the inspiration of the above ideas, the author intend to reflect on the paradoxes of digital technology in the practice of embedding rural cultural context and explore the practical logic of grass-roots governments and village committees in implementing digital governance.The data of this paper comes from "the press conference data of Yunnan Digital Decade" in China and the field survey data of a Bai nationality village called "Dao (Pseudonym)"in Yunnan.This Bai village is located on the east bank of Erhai Lake. It is a land and water transportation distribution center and trade center connecting the surrounding areas. With rich folk customs, it is one of the areas where the local culture of Bai people in Erhai Lake area is well preserved. In recent years, along with tourism development and the embedding of digital technology, the village has been developing and changing constantly. The author conducts fieldwork from January to February and from July to September in 2022. The author mainly uses the participatory observation method and case interview method to collect data,

The Practical Paradoxes of "Digital Going to the Countryside"

The survey data shows that the practical paradoxes of "digital countryside" mainly reflects four dimensions:the governance subject - digital empowerment or technology burden,Governance value - local human feelings or instrumental rationality,Governance structure - local system or bureaucratic +technology,Governance space - physical space or network space.

Governance Subject: Digital Empowerment or Technology Burden

By December 2021, China's existing administrative villages have fully realized "broadband access to villages", and the Internet penetration rate in rural areas is 57.6%. By the end of 2022, the 5G network will cover key administrative villages, and the Internet penetration rate in rural areas will exceed 60%. From 2016 to 2021, Yunnan's digital village construction has made remarkable achievements. The provincial administrative villages have historically been connected to optical broadband networks, with access capacity generally reaching 200Mbps. The administrative villages have achieved full coverage of 4G networks, and the natural villages have more than 95% coverage of 4G networks. The construction of rural digital infrastructure continued to advance, gradually narrowing the digital gap between urban and rural areas, so that urban and rural residents can equally share digital welfare.The empowerment of digital subject is mainly divided into two aspects: individual and organization.

First, individual empowerment. Through improving information quality, enhancing interaction ability and ensuring access to resources, rural residents' personal technology empowerment can be realized(Feiwei Shen2020） . According to statistics, the number of rural Internet users has reached 284 million, accounting for 27.5% of China's internet users, and 55.7% of the total population living in rural areas.According to statistics.It has organized nearly 500,000 returned migrant workers, college students, poor

households, etc. to carry out e-commerce popularization and skills training in Yunnan Province. Rural e-commerce talents have been cultivated, villagers' digital literacy has been greatly improved, which has greatly promoted the transformation of villagers' production, employment and lifestyle. In particular, the villagers with high education level have relatively strong learning ability, and those who have gone out and seen the world are more likely to have an advantage in digital use ability and enjoy digital welfare. The most important driving force behind their adoption of digital technology is "convenience". In addition to the external skills "blood transfusion" from the government, individual empowerment also plays an important role in promoting cultural feedback within the family. For example, the younger generation actively uses smart phones, online shopping, online consumption and digital convenience services, and actively buys smart phones for older parents. The young people teach elder to use various convenience apps hand in hand, imperceptibly establishing their attempts and trust in online shopping and digital convenience services.

The second is organizational empowerment, that is, to realize the technological empowerment of various organizations by optimizing government organization management services, market organization allocation supply and social organization public services (Shen Feiwei2020). The village set up "Internet plus Party Affairs", "Internet plus Government Affairs" and other information technologies to inject organizational construction in multiple forms, WeChat, QQ and other interactive communication software technologies and digital platforms or smart APPs for the convenience and benefit of the people, and carried out information collection of poor archived households, health and epidemic prevention, vaccination and other information, and timely followed up and handled various village "micro affairs"; Or carry out information disclosure and policy publicity on village affairs, or pay social insurance, medical insurance, water and electricity charges through mobile phone software. Digital technology links government governance to the daily life world of rural residents, making governance transparent and standardized, and enhancing the governance ability and governance effect of grass-roots public power subjects; At present, it has built 112 county-level e-commerce service centers, 1154 township level e-commerce service stations, 7278 village level service outlets in Yunnan province . Each center (station) integrates quality control, brand, certification, incubation, training and other services, promotes the development of e-commerce clusters, and improves the service system of agricultural products entering the city; 103 county-level e-commerce logistics distribution centers, 1373 township express outlets and 7356 administrative villages have been built. Yunnan's rural online retail sales reached 73.286 billion yuan, with an average annual growth of 50.74%; The online retail sales of agricultural products reached 35.824 billion yuan, with an average annual growth of 56.32%. It can be seen that digital technology governance has promoted the traditional single grass-roots government governance system to gradually transform into a pattern of sharing and co-governance among multiple subjects of rural governance, including village committees, villagers, township enterprises, and rural non-governmental organizations, greatly promoting the modernization of rural economy and society.

However, the survey shows that while digital empowerment is taking place, digital governance also brings technological pressure. First, the digital divide. The elderly and the poor and the widowed and the left behind elderly are often isolated or excluded from digital technology.Because they are lack of smart phones, weak ability to use various digital platforms and application software, and lack of learning opportunities to improve their digital literacy.The new digital technology makes them "unable to keep up with the times and do nothing".Although individuals with relatively high technical literacy enjoy technological advantages and benefits, they have to shoulder the burden of using digital technologies from the unable relatives and friends, such as APP installation and required questionnaire, online information collection and application work. Second, digital governance is "suspended". In the competition of various technical governance, the middle-aged and elderly grass-roots cadres who are familiar with the village order and have good interpersonal skills tend to be weak and gradually excluded from the power structure of village governance. The overall villagers lack digital literacy, and the actual effect of social participation and power expression is greatly reduced . The pressure type institutional system and the embedding of digital technology are easy to breed formalism and data fraud of governance.And the real village development cannot be accurately mastered, which also inhibits the internal development momentum of the village.

Governance Value: Local Human Feelings or Instrumental Rationality

In traditional rural governance, village rules and local customs are mainly followed. With the extension of state power in local society, national laws and regulations also shape the value and norms of local order. However,the characteristics of acquaintances in the local society are still deeply rooted. The "human relationship" and "trust" formed on the basis of Mr. Fei Xiaotong's "difference order pattern"show different levels due to interpersonal closeness and distance. The local villagers' trust in the government is reflected in their recognition of the village cadres or clerks as the "specific person" and their emphasis on the relationship between grass-roots clerks and villagers.On the contrary, the value standard of digital technology governance is "instrumental rationality" of "seeing things but not people". In addition, the current digital technology privacy and security guarantees, policies, laws and regulations are not perfect. Therefore, the cold digital technology has entered into a field full of strong local flavor and human feelings, which seems to encounter difficulties everywhere. For example,the author often hear villagers' concerns,"I don't know who paid for the mobile phone, but who to look for when there is a problem?""Things on computers can be easily tampered with, but people can't be changed".

During the public health epidemic prevention and control during the COVID-19 epidemic, rural grass-roots cadres checked the health code and travel code to check the situation of close contact with patients. However, in the inspection, Grass-roots cadres still follow the handling principle of acquaintance society, and only inspect the migrant population and unfamiliar population. The definition of familiarity by grassroots cadres is very interesting. "If you can speak the local national language fluently, you will be regarded as an insider, and you will be friendly and inclusive in the inspection and easy to get through or even avoid inspection.

Of course, online governance makes it easier for individuals to be included in the village's ethical order. For example, in the public affairs such as the repair of temples or road in the village, Outgoing villagers of online groups will also actively participate in "donation" to win the recognition of "making contributions to the village collective even though they are not in the village".And the act of participating in contributions not only makes outgoing villagers dignified and praised, but also makes the family members who stay in the village proud.

Governance Structure: Local System or Bureaucracy+Technology

The traditional rural political structure is a governance structure with villages, clans (family groups) and households as the core (Prasenjit Duara1988) .And the author believes that the implementation of the household contract responsibility system highlights the governance model of taking families as units. The governance reform brought about by the "digital countryside" has changed the traditional governance structure. It is a set of technical tools that are jointly promoted by bureaucratic and information based means and are comprehensively used with the bureaucratic governance system as the fulcrum, that is, "a large number of technical activities involved in achieving specific goals, such as methods, steps and degrees(Landon Winner1977) ".With the hierarchical authority of digital technology devices, in coordination with the operation mechanism of clear administrative objectives and responsibilities, multiple quantitative indicators and strict standards, the bureaucracy+technology governance structure has eliminated the governance hierarchy unit in the traditional governance structure, but has extended the control of the state power to each individual in the village itself from top to bottom. It can be seen that the governance object of bureaucracy+technology is every atomized individual and individual fragmented affairs in the special working group, and the governance structure created is the relationship structure with "community -special project group - individual " as the core. Of course, The author found it is different from "the research on rural governance model in the Internet era is a composite group relationship structure with the 'group' as the core "(Ming Chen and Yiqiang Liu2019).Their understanding is still within the scope of "collective", maintaining the internal concept of collectivism, but the author emphasizes that the combination of digital technology and bureaucracy has extended national governance to villages, groups and individuals, especially to the precise governance of individuals. The core and foothold of the

governance structure is every living individual, Individualism are highlighted in bureaucracy+technology governance.

To prevent errors and omissions in villagers' data collection, the government department requires each individual to go to the site for handling within a limited time by queuing, filling in paper forms, taking photos, entering electronic information and a series of procedures. The above work requirements highlight the complexity and burden of bureaucratic governance and digital technology embedding, especially increasing the digital use cost and technology pressure of the elderly or patients and their families. Of course, it can also be seen that the governance model of clan household as the basic unit has been transformed into the emphasis on each individual, which has effectively promoted the precision of governance. However, in the process of governance transformation, the governance subject has shown the experience of not understanding and adapting to conflicts. How to effectively deal with the challenges that grass-roots government has to face.

Governance Space: Physical Space or Network Space.

The digital technology governance space not only retains the offline material space characterized by regions, but also reconstructs the complex and changing network space. Villager groups were established through WeChat, so that the village and its order were reconstructed online. The collective ownership of hometown and villagers' identity awareness of "leaving the village" villagers were strengthened, and the convenient workflow of "sending a notice on WeChat" when villagers participated in village affairs in a mobile state was restored, so that villagers from other places could participate in and support the development of public utilities such as road building, temple building and drainage in the village. Of course, digital technology has eliminated the boundary between the public and private fields of the "present" villagers, such as the use of WeChat friends circle, breaking the separation of individual production and living space, and showing individual daily actions and cognitive emotions in the public view. In the process of public onlooking and response such as praise, silence, shielding, cancellation of attention or blackmailing, new self-awareness and behavior shaping are realized. By means of digital technology such as Tiktok live broadcast, WeChat friend circle display, etc., agricultural products, ethnic embroidery products, etc. will be traded in the local market in the form of "fairs", etc., and will be expanded to a wider range for online trading, and the local display of folk customs, architectural landscapes, and activities will be expanded to a larger space for performance. It can be seen that cyberspace has broken through the category of village community, the governance object is no longer limited to the villagers who stay in the village and go out, but has been faced with a wider infinite space and anonymous network participants who are ready to join. With the vast space for governance and the complexity of the population, the main body of governance is no longer just the grass-roots government, village committees and staff, but the coordination of more extensive and more high-level governance departments and personnel. In addition, the time-space breakthrough brought by the new space of the network is infinite under the natural state of technological operation, and the variable technological consequences can not wait to require the governance space to form layers and divisions, so as to be able to regulate and obtain relatively satisfactory results in governance.

Practical Logic of Rural Grass-roots Governance

In the face of the above four practical paradoxes encountered by the digital technology to the countryside, how to break the governance bottleneck has become a major issue faced by the grass-roots. The survey found that "legitimacy" constitutes the logic center of digital rural grass-roots governance practice, and presents three different aspects: political legitimacy, legitimacy of public administration and legitimacy of daily life world.

Political Legitimacy

The political legitimacy of governance is manifested in the transformation and development of digital rural governance, which always adheres to the path of socialism with Chinese characteristics, and gives full play to the core role of the CPC in social

governance. When there is a practical dilemma in grass-roots technology governance, take political legitimacy as the first principle and basic position. In terms of practical value, follow the value standpoint of the CPC of "taking the people as the center".On the practical path, ensure the implementation of "the Party's mass line" of the CPC.In terms of practical subjects, the digital governance should be "led by Party building", with Party members and organizations as the leaders and models of technology promotion.

Legitimacy of Public Administration

The legitimacy of public administration reflects the task pressing mechanism and responsibility standardization of policy implementation, and reflects the effectiveness of administrative implementation of grass-roots governments and villagers' committees.Digital governance policies are implemented in rural areas from top to bottom.The grass-roots government will not violate the basic principles of the policy, try its best to implement the policy "without distortion",complete policy implementation indicators, so as to avoid accountability and pursuit of political achievements.

Of course, we can't ignore the phenomenon of administrative surface legalization - "collusion of grassroots governments".The grass-roots government changes various constraints of the policy in the default state of the superior government or the village committee in the acquiescence of the township government, ostensibly achieves the policy objectives, and adopts various strategies to deal with the policy decrees and supervision and inspection from the superior government to deal with the inspection. "Collusion of grassroots governments"is due to the institutional environment in which the grass-roots government is located, and it is an endogenous phenomenon of China's political system. (Xueguang Zhou 2009)

Legitimacy of Daily Life World

The legitimacy of daily life world is reflected in the "local differences" in policy practice. Just like James C.Scott's observation of the political actions of farmers in a village in Malaysia from the perspective of "daily politics" also brought vigilance to the implementation of technology policy. That is, farmers generally do not express their dissatisfaction with the policy, nor directly express their demand for the policy. However, the accumulated, insipid and continuous non cooperation of the people will dissolve the policy, let alone achieve the policy objectives(James C.Scott's1985). Therefore, facing up to the conflict experience brought by bureaucracy and technology embedding to villagers, the legitimacy of daily life world of rural society has become another logic of practical governance.

The legitimacy of the world of daily life means that the grass-roots practice subjects do not simply accept and implement policies, but care about the local environment for policy implementation, and interpret and recreate policies, which shows that grass-roots governance has a bottom-up response mechanism for people's needs, reflecting the strategic and flexible nature of grass-roots governance. For example,(a)Attracting village elites who are familiar with local interpersonal relationships and local feelings to join the governance team.(b)The promotion and use of technology is in line with the characteristics of the people.From August to September 2022, the social security card will be activated, which can be opened by one family member with a household register for the whole family, old and young, without corresponding to every individual.(c)The vulnerable groups caused by technology embedding have been actively concerned and guaranteed, and relevant supporting policies and measures have been constantly promoted, such as technology aging friendly design, free collection of smart phones for the elderly, online and offline work can be synchronized, and so on. In fact, successful policy cases often contain creative policy explanations from "grass-roots bureaucrats".China is currently pursuing a series of policies to solve the "three rural issues"."The biggest support for the success of the policy comes from farmers. Careful observation of farmers' attitudes towards the policy and their daily behavior is a vivid information to evaluate the effect of the policy implementation"(Cuijun Ma2015).

In essence, the above three have different positions and functions in practical logic. First of all, political legitimacy is the preferred principle and basic position of the grass-roots government and its cadres, which cannot be shaken and questioned. Secondly, the legitimacy of policy implementation and the legitimacy of the world of daily life are often

intertwined. Accurate weighing and making choices test the political wisdom of grass-roots cadres, which not only determines the effect and impact of policy implementation, but also has a significant impact on the career fate of individual grass-roots cadres.

Of course, political legitimacy, legitimacy of public administration and legitimacy of daily life world should be consistent in their spiritual connotation, that is, "people centered". Moreover, it will continue to establish and improve the socialist rule of law and the rural grass-roots democratic system in china. The above two can truly become the value guidance and road guidance to solve the paradoxes of digital rural policy practice.

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Panel 5:
Smart City
Challenges and
Prospects

Opting for Unbundling a Regulation Scheme for Energy Smart Grids in Thailand

Narong Kiettikunwong

College of Local Administration
Khon Kaen University, Thailand
ORCID 0000-0003-0446-8287
naroki@kku.ac.th

Abstract

Thailand is improving its energy network from a traditional to a smart distribution grid. However, it is currently not known how the smart grid regulations outside the European Union (EU) should be designed. Although the EU's Third Electricity Directive introduced three different options for unbundling at the transmission level, i.e., 1) full ownership unbundling, 2) an independent system operator, or 3) an independent transmission operator, choosing which option will maximize private investment and participation is still unclear. This paper unveils an extensive review on which option is more likely to incentivize investment in distribution grids by the private sector to competitively partake in establishing the smart distribution energy grid in Thailand. The insights from this study should enable Thai policy makers and practitioners to reorient their plans to eliminate barriers that prevent private operators from entering the arena while still maintaining high competition in the market.

Keywords: energy smart grids, power distribution planning, competition regulation, electricity market design

Introduction

Improving Thailand's energy network will be crucial to Thailand's expansion and move towards energy sustainability (Delina, 2018). It is recognized that the country can move towards a low-carbon economy. Therefore, smarter distribution grids are needed to consolidate the increasing amount of decentralized energy generation into the network and encourage consumers who can actively manage their energy needs (Bahrami et al., 2018). Although this increasing proportion of decentralized production will lead Thailand towards a sustainable society as mentioned above, there is a price to be paid for this operation, i.e., additional investment in a huge amount of new infrastructure. Because this intermittently distributed generation capacity has to be linked to the distribution grid, it will be challenging to have a comprehensive grid and make the overall power system more adequate and more flexible (Joskow, 2012). This is true not only in Thailand but also in the ASEAN region, and Thailand's current regulatory framework does not encourage investment in smart power distribution networks. If the investment is insufficient, it will result in congestion in the distribution network which will lead to a higher risk of downtime causing a loss of quality in the supply, so that whichever investors build the infrastructure to support it, whether public or private, they will be at great risk (Rodriguez-Calvo, et al., 2014). If they cannot get the right returns, they will not be able to lead Thailand to a sustainable future.

The benefits of this study relate to the practices of the Thai energy network's regulatory bodies, to practitioners, to policy-makers, to academics, and to the theory on the regulations for smart grids, as well as on the identification of future research directions. Some of these major contributions are listed below.

- The results of this research will generate new insights into how to design the regulations for smart grids outside the European Union (EU) and add to the

existing knowledge on sustaining the economy and being environmentally active.
- The overall understanding of the approach to build smart regulations/grids in Thailand via private investment based on a newly developed framework from this study will assist future researchers to further investigate other related issues in the energy sector both quantitatively and qualitatively.
- Policy makers and practitioners can use the results of this study to improve and reorient their plans so that they can increase private investment and participation through the new incentivized schemes.

This can potentially improve the standards both of social life for Thai people and of the national economy of Thailand on a macro scale.

Research Objective

The objectives of this study are:
1. To examine the currently available options for an unbundling regulation scheme for energy smart grids.
2. To highlight the shortcomings of the currently available options for an unbundling regulation scheme for energy smart grids.
3. To propose an unbundling regulation scheme for energy smart grids in Thailand that will incentivize Thailand's network operators to make investments.

Literature Review

Smart grids were born through technological developments in the EU (Tuballa & Abundo, 2016). A common definition of a smart grid is that it is an electric network capable of intelligently integrating the operations of all connected users from generators, manufacturers, consumers, etc., to deliver sustainable, economical and safe electricity efficiently (El-Hawary, 2014). In addition, smart grids are about upgrading, expanding, operating and maintaining the electric networks of the future in such a way that, in the case of the EU, it will help meet the EU's 2030 energy efficiency goals and contribute to a low-carbon economy (Lunde et al., 2016). These ambitious targets for the year 2030 include a 40% cut in greenhouse gas emissions compared to 1990 levels, a binding renewable energy target of at least 32%, and an energy efficiency target of at least 32.5% (with a possible upward revision in 2023).

For Thailand, smart grids will certainly make grid operations more efficient resulting in a stronger demand participation compared to traditional grids (Davoli et al., 2012). However, the use of smart grids inevitably requires additional investment in the grids in many areas, such as investment in building infrastructure. In order to enable a grid to be smart enough to respond to communication between grid operators, between the grid and customers, or an adequate supply of metering systems, etc., the overall "smartening" process is facing many challenges that are mainly propelled by the lack of large-scale investment (Farhangi, 2009). Hence, investment in Thailand's smart grids will need to be incentivized by national energy regulators, such as the Energy Regulatory Commission of Thailand or the Electricity Authority of Thailand. The critical condition, the disposition of favorable investment conditions, is due to two main reasons:
1. Heavy investment in additional distribution lines is needed in order to 'over-size' the distribution grids for a possible large intake of renewable energy sources electricity to avoid congestion;
2. Investing in information and communication technologies (ICT), e.g., smart metering, will help to better manage and optimize the electricity flows and limit the need for new lines.

Figure 1 below reveals a model of the relationships between dependent and independent variables:
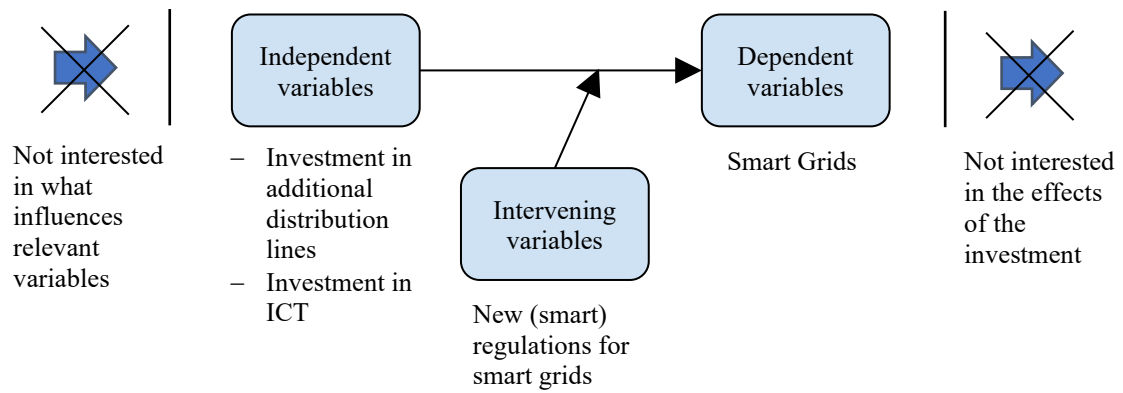
Figure 1. Research variables and their relationship to investigation objects

It is expected that the national energy regulator of Thailand will play a key role in enabling the arrival of both generation and consumption changes. While existing economic regulations are unfavorable for investment in new smart grids, to support this change process Thailand's national energy regulator will also need to be smarter (Meeus et al., 2010). In other words, innovation in both engineering and regulation is needed to find the right solution (Meeus & Saguan, 2011).

Accordingly, the purpose of this research is to assess the current regulatory challenges which Thailand is facing when investing in smart grids, specifically as to which regulation scheme for energy smart grids Thailand should adopt, and to establish principles towards smarter regulation in Thailand based on the current regulatory frameworks for energy networks across Europe. To that effect, relevant literature was reviewed and necessary information about the effectiveness of each currently available regulatory scheme to incentivize network investment was gathered from key informants who are either experts or took part in the roll out of smart grid and electricity networks in the EU. Based on the results, this study analyses the main barriers hindering investment and recommends the presumably most effective regulation to support this transition for Thailand.

Methods

Method of data collection

Following the earlier discussion above, most of the information needed for this research will most likely be available from two sources: 1) the current regulatory concepts and frameworks for energy networks across Europe; and 2) a certain group of people who are actively involved in the processes that are needed for the investigation. The kinds of data required for this investigation could thus best be collected by the instruments and methods shown in Table 1:

Table 1. Data collection details and expected outputs

Source of information	Type of Source	Instruments	Collection methods	Method of data Analysis	Expected Outputs
Case law, official communications from legislative bodies, and any rulings from administrative agencies, law journals and reviews, current legal opinions and rulings	Primary/ Secondary	Achievement test[1]	Physical on/offline databases research	Content analysis	Current regulatory concepts and schemes for energy networks across Europe
People with relevant knowledge	Primary	Semi-structured questionnaire[2] and achievement test	Survey, expert interview, focus group discussion and observation	Content analysis	Status quo for Thailand energy networks

Method of data analysis

Although transcription is rather time consuming, to ensure higher methodological control, it is the preferred method in this study because it allows much higher effectiveness in retrieving information. After transcription and clean up, the data obtained in the interviews were analyzed using content analysis (Neuendorf, 2002) by the type of information needed to answer the key research question, "What is the regulation scheme that can incentivize investment in distribution grids from the private sector and competitively partake in establishing the smart distribution energy grid in Thailand?"

Findings

The landscape of the power industry in the EU

The market of the power industry can be broken down into three major tiers: power generation, power transmission, and sales (Eikeland, 2016). This article focuses chiefly on choosing the rules to govern the market competition at the power transmission level. European Union law[3] defines the *transmission grid* as an extra-high voltage or high-voltage interconnected grid that is used to supply end customers and distributors; a *transmission network* is a network comprising mainly high-pressure transmission lines, excluding upstream pipeline networks, and those parts of a high-pressure transmission line used primarily in connection with the local natural gas pipeline that also serves to supply final customers or distributors. Additionally, the transmission network can be subdivided into *transmission* and *long-distance transmission* networks, which are used to transport energy over long distances, and the downstream distribution networks, which are used to supply customers.

The *distribution network*, on the other hand, refers to a local or regional gas pipeline network for supplying customers or a high, medium or low voltage network that is also used to supply customers (Chopra, 2003). By definition, both levels of network operation are to be distinguished from "supply", which is used in the Directives to describe the level of distribution. Through the unbundling, connections between network operators

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[1] Researcher's own, based on a review of the literature on existing academic theoretical concepts and frameworks.
[2] Researcher's own, based on researcher's secondary research findings on current regulatory concepts and frameworks for energy networks across Europe.
[3] See Art 2 Z 3 RL 2009/72/EG.

and energy producers or suppliers are to be dissolved or at least subjected to strict regulation (Joskow, 1997).

Natural monopolistic behavior in the energy supply market

One of the central objectives of the EU in the field of energy policy is to increase competition (Clastres, 2011). The rise in competition in the energy industry should benefit consumers as a result of the ongoing development and innovations in the field of energy production (Bertolini et al., 2020). In reality, the development of effective competition in the electricity and gas markets is in the opposite direction because energy supply companies (ESCs) normally own electricity and gas lines to transport their goods in order to supply their customers, which means that these ESCs become the electricity and gas networks' "natural monopoly". In essence, it is almost impossible for other market participants to compete with the network owners, who can use their transport lines to supply their customers (Crispim et al., 2014). The simple reason for this is that there is a very high cost associated with the construction of a transmission network which prevents other companies from building their own networks in order to compete with the owners of the existing networks (Lim & Yurukoglu, 2018). It is almost impossible for another company to compete downstream with an existing ESC that owns the network without government intervention. State regulation is therefore necessary in this area in order to make competition possible in the first place (Eisen, 2013).

For this reason, a system for regulating grids was established at the EU level which is intended to ensure non-discriminatory access to the energy infrastructure for all potential market participants. In addition to the regulation of network access and network usage fees, the unbundling of network operations represents a key means of liberalizing the electricity and gas markets.

Unbundling as a rule to govern

Generically, the provisions on unbundling are intended to separate network operations from the existing utilities in order to reduce their influence on network operations as much as possible (Agrell et al., 2013). Unbundling measures are considered necessary to counterattack natural monopolistic behavior and discrimination against other energy supply companies when using the network infrastructure, to avoid competitive advantages for energy supply companies that own the network, and to ensure that the owners make the necessary investments in the network infrastructure (Brandstätt et al., 2017).

The provisions on *ownership unbundling*, which is an umbrella term that comprises three options for implementation of ownership unbundling, namely, 1) full ownership unbundling (FOU), 2) independent system operator (ISO), and 3) independent transmission operator (ITO), were added to the existing framework of accounting, informational, legal and operational unbundling by the new version of the Directive[4, 5] as a special regulation for transmission and transmission system operators. For the first time, the complete separation of network ownership and energy generation or sales as a basic model of unbundling was provided for network operators at the transmission and long-distance network level (Gugler et al., 2013).

This ownership unbundling concept was highly controversial during the legislative process. While the European Commission's original draft only provided for the ISO model as an alternative to FOU, some member states were able to include and push through a third alternative, the ITO. However, it is clear from the guidelines that the Commission prefers FOU. Initially, ISO or ITO can only be chosen as the unbundling model if the network in question was already owned by a vertically integrated company (VIC) – referring to a company or a group of companies which is controlled uniformly and is simultaneously active in the area of generation or supply as well as in network operation – at the time the liberalization package came into force (Sugimoto, 2021). In addition, the EU member states must in any case allow ownership unbundling of the network operators; so, within

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[4] A legal act of the European Union that requires member states to achieve a particular result without dictating the means of achieving that result.

[5] Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast).

the framework of the right to choose, the network owners must always be able to unbundle according to the FOU concept (Meletiou et al., 2018).

The FOU is characterized by a complete loss of network ownership, whereas the ISO model leaves ownership of the transmission or transmission network within the group. However, the network must be operated by a third network operator who acts completely independently of the network owner (Pollitt, 2008). Although ownership of the network does not have to be sold with this variant, it is accompanied by an almost complete loss of power of disposal over the network, so that both models ultimately have the same effect. In contrast to the first two variants, however, in the ITO model a subsidiary retains both ownership and power of disposal over the network. However, a large number of regulations are intended to ensure a non-discriminatory network operation. This unbundling variant is characterized by a significantly lower intensity of intervention (Pielow et al., 2009). In addition, the operation of a transmission or long-distance transmission system now requires certification by the national regulatory authority, which must also obtain an opinion from the European Commission. The certification process enables an effective review of the unbundling regulations; if this is violated, the certification can be refused or withdrawn by the regulatory authority (Pollitt, 2008). A final point is that member states are free to choose a particular unbundling model themselves or to leave this choice to the network owners. However, it is not permitted to combine different elements of the different variants into a new unbundling model, so mixed models are not permitted (Pollitt, 2008).

Conclusion and Discussion

At this point, it is still too soon to decide on an unbundling regulation scheme for energy smart grids in Thailand because it is still unclear what form of investment Thailand will choose, whether it is the government's 100% self-investment with foreign loans, opening up to foreigners to invest, self-investment through foreign funding (FDI), allowing operation of the private sector through government concession, etc. However, experience with the implementation of Directive 96/92/EC of the European Parliament and of the Council of 19th December, 1996 concerning common rules for the internal market in electricity has shown that the instrument of a regulated network access alone is not sufficient to force an effective opening of the national electricity markets and thus strengthen competition (European Parliament and the Council, 1996). Thus, rules on the unbundling of those activities of a VIC, such as at the transmission level, electricity trading or sales, can bar the VIC from discriminating against potential market participants into the energy market (Höffler & Kranz, 2011). Another aspect is that the high degree of integration of the electricity companies can encourage cross-subsidization of the competitive sector through the revenues of the monopolized network sector and thus distort competition (Poudineh et al., 2022).

As already explained, the concept of the FOU which is preferred by the EU Commission is considered to be the most suitable scheme for energy smart grids in Thailand, as it provides for a complete separation of network ownership and operation from the electricity company taking into account that the aim of complete ownership unbundling is to avoid the conflicts of interest and incentives that favor an electricity company (Sugimoto, 2021); this will ensure a non-discriminatory network operation and prevent cross-subsidies between network operators and the electricity company.

Finally, apart from the fact that the VIC must not own the grid company (ownership unbundling), it must be owned by an independent third party, and another decisive point to consider is that the network operator must own the network assets (asset unbundling) but use other means, e.g., a lease agreement, to transfer the asset (Helm, 2014). Both options, particularly on ownership unbundling, are likely to perfectly fit in the legal situation of Thailand and cannot therefore be ruled out when the decision to invest in the energy smart grids in Thailand is finalized in the future.

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Smart Mobility Development Strategy for Public Transportation in Palembang: A Case Study of the Light Rail Train

Kamila Khoirunnisa

College of Local Administration
Khon Kaen University
Khon Kaen, Thailand
kamila.k@kkumail.com

Abstract

Palembang is one of the big city in Sumatera Island, so that it is used as a center for education, economic center, tourism and culture. The existence of this potential on the one hand can have a positive impact on the city of Palembang but on the other hand it can also have a negative impact. One of the negative impacts of this potential is the rapid development of motorized vehicles that occur due to the high urbanization of the population with the aim of looking for work and seeking education. According to data from the South Sumatra One Data System in 2019, the number of motorized vehicle users in the city of Palembang was 561,840 units and the population of Palembang City was 1.66 million in 2020 (BPS Palembang City, 2021). Continuous urbanization in urban areas will require adequate infrastructure, one of which is public transportation. In 2015 the Light Rail Train (LRT) construction project was implemented because the city of Palembang was appointed to host the 2018 Asian Games. The initial plan for the Palembang LRT project was to build a connection connecting Palembang Airport to the Jakabaring Sports Center, so that it functions as a transportation facility for spectators and athletes Asian Games 2018.

With population growth and increasing number of motorists, the Palembang City Government uses the smart city concept. This smart city concept can have a big positive influence from starting to solve congestion, the safety of city residents, the accumulation of garbage and so on. The concept of a smart city is indeed a trend today. Smart mobility is one of the six pillars of a smart city (Giffinger et al, 2007). The aim of this research is the researcher want to know what strategy should be done in the development of smart mobility based on public transportation in Palembang city study case Light Rail Train (LRT). In this study, the res uses a deductive thinking process because the development of smart mobility based on public transportation is carried out based on the theory of smart mobility variables. The researcher also use qualitative method and Literature review as the research method.

Keywords: smart city, smart mobility, light rail train

Introduction

Cities, one of the greatest phenomena in the world in the 21st century have grown rapidly over the centuries, especially in terms of their size, shape, structure and composition, while largely retaining their importance in local and regional development. In just 65 years, the world has experienced population shift from rural to urban areas, as witnessed by the global increase in the population living in urban areas from 29.6% in 1950 to 54% in 2015 (UN, 2014). Cities have made a positive and powerful impact to address sustainable economic growth, development and prosperity. They drive innovation, consumption, and investment in both developed and developing countries (UN-Habitat, 2016).

Palembang is the capital of South Sumatra Province. The city of Palembang is also one of the largest cities on the island of Sumatra so that it is used as a center for education,

economic center, tourism and culture. The existence of this potential on the one hand can have a positive impact on the city of Palembang but on the other hand it can also have a negative impact. One of the negative impacts of this potential is the rapid development of motorized vehicles that occur due to the high urbanization of the population with the aim of looking for work and seeking education.

According to data from the South Sumatra One Data System in 2019, the number of motorized vehicle users in the city of Palembang was 561,840 units and the population of Palembang City was 1.66 million in 2020 (BPS Palembang City, 2021). Continuous urbanization in urban areas will require adequate infrastructure, one of which is public transportation. In 2015 the Light Rail Train (LRT) construction project was implemented because Palembang City was appointed to host the 2018 Asian Games. The initial plan for the Palembang LRT project was to build a connection connecting Palembang Airport to the Jakabaring Sports Center, so that it functions as a transportation facility for spectators and athletes. 2018 Asian Games athletes.

With population growth and increasing number of motorists, the Palembang City Government uses the smart city concept. This smart city concept can have a big positive influence from starting to solve congestion, the safety of city residents, the accumulation of garbage and so on. The concept of a smart city is indeed a trend today. It's as if every city wants to move towards a smart city (inforepublik.com, 2020).

Smart cities are considered as a winning urban strategy using technology to improve the quality of life in urban spaces, both improving the quality of the environment and providing better services to citizens (Hall, 2000). One of the issues prioritized in this research is the development of smart transportation or smart mobility. Smart mobility is one of the six pillars of a smart city (Giffinger et al, 2007). Giffinger and colleagues define smart mobility as the physical capabilities supported by the ICT infrastructure; it must be sustainable and innovative, with secure data transport and features of local, national, and international network connections.

Smart mobility is a city development concept as part of the smart city concept, which is a transportation development concept based on information and communication technology which is expected through information technology, public transportation services can be easy, safe, comfortable, fast and have affordable prices for the community. Benevolo, et al. 2016). There are 3 main variables in smart mobility, namely accessibility, availability of information technology (ITS), and integration (Giffingger, 2015).

One further consideration concerns the need for a smart mobility system that is synergistic with all other operating urban infrastructure and systems to support people and their activities. The mobility of people usually occurs in corridors which also facilitate the movement of resources supplying utility services across urban areas (Biyik, et al. 2021). This concept is becoming increasingly important, as traffic congestion caused by the increasing number of people using different road infrastructure to commute to work, school or whatever else, imposes additional costs that make all activities more expensive and hinder development.

The development of smart mobility based on public transportation requires a development strategy so that the development carried out can run according to the expectations of experts and in accordance with the needs of the City of Palembang. Therefore, the researcher wants to know what strategy should be done in the development of smart mobility based on public transportation in Palembang.

Research Objective

In this study, it is hoped that this research can be useful for the community and also the government. Benefits for the government can pay attention to the needs of the community regarding public transportation. Provide good public facilities and benefit the community. It is not just a supporting facility for international events but can be used for the community. The benefits for the community are having good transportation facilities and making it easier for people to access mobility, reducing congestion and also reducing air pollution in Palembang.

Literature Review

Smart City

Cities around the world have built transformative cultures around the six components that characterize smart cities: smart government, smart mobility, smart environment, smart economy, smart living and smart people. A smart city is often defined as an urban space with complete and sophisticated infrastructure, smart networks and platforms, with millions of sensors used by people and their mobile devices (Yue, Chye & Hai, 2017). Neirotti et al. (2014) defines a smart city "as an ecosystem that is largely developed through the effective use of technology with the aim of: improving the quality of life of citizens achieved through efficient integrated systems and services."

Smart City represents innovation in city management, services and infrastructure, the general definition of the term has not been mentioned (Monzon, 2015). On the one hand, there is a set of definitions that focus on only one aspect of the city (technology, ecology, etc.) separating the rest of the conditions that occur in a city. This group of monotopic descriptions misunderstood that the latter. The goal of the Smart City is to provide a new approach to urban management where all aspects are treated with interconnections that occur in real-life city life. Improving only one part of the city's ecosystem does not mean that the overall problems are being solved. On the other hand, there are several authors who emphasize how the main difference from the Smart City concept is the interconnection of all urban aspects. The crucial issue between urbanization is infrastructure, social and institutional at the same time and this interplay is reflected in the Smart City Concept.

From this definition it can be seen that infrastructure is a major part of a Smart City and that technology is the driver that makes it possible, but it is the combination, connection and integration of all systems that are fundamental to a truly smart city (Nam and Pardo, 2011). . From this definition, it can be concluded that the Smart City concept contains a comprehensive understanding of urban management and development approaches. This definition shows the balance of technological, economic and social factors involved in urban ecosystems. The definition reflects a holistic approach to urban problems taking advantage of new technologies so that urban models and relationships among stakeholders can be redefined (Caragliu, Del Bo and Nijkamp 2009; Harrison et al., 2010; Correia et al., 2011; Nama and Pardo 2011; Batty et al., 2012 and EC, 2014).

The model by Giffinger et al. includes six dimensions, namely Smart Economy, Smart Governance, Smart Mobility, Smart Environment, Smart People, and Smart Living. In Malaysia, Giffinger et al's model has been used to guide Iskandar Malaysia's Smart City implementation. The Smart City framework followed by Iskandar Malaysia links dimensions with the three pillars of sustainable development thus: Smart Economy and Smart Governance with the pillar Economy; Smart Environment and Smart Mobility with environmental Pillars and Smart People and Smart Living with Social pillars.

Smart Mobility

Smart mobility has been used in transportation networks in both urban planning and transportation because of its innovation. Tomaszewska and Florea suggest that smart mobility is "a cornerstone of smart cities that are closely related to transboundary haze (routing, digital transformation systems, and traffic forecasting). cross-car) city decisions and policies focused on data and communication tools and innovations." Smart mobility Smart mobility as an aspect consisting of a series of actions that promote the flow of traffic, either by walking or cycling, or via federal or state transport, all following a common goal of minimizing economic, environmental, and time costs (Aletà, et al. , 2017).

In the literature, smart mobility is often presented as one of the main options for a more sustainable transportation system (Pinna, Masala & Garau, 2017). Benevolo et al. (2016) state that smart mobility can be thought of as a "coordinated set of actions aimed" at improving the efficiency, effectiveness and environmental sustainability of cities." The main aspect of smart mobility is connectivity, which along with big data, allows users to transmit all traffic information in real time while local city government representatives can simultaneously perform dynamic management (Pinna, Masala & Garau, 2017). In other words, urban mobility is mostly related to real-time traffic management, passenger transportation means management, tracking and logistics applications, car parking management and car sharing services, and various other smart mobility services (Yue, Chye & Hoy, 2017).

Smart mobility presupposes the development of logistics and transportation activities using digital smart technology, mandatory existence of online databases,

optimization of traffic and aims to reduce the negative effects of mobility (especially pollution) and optimize resource consumption. The transport system (public and private), as well as heavy goods transport, is a support system for mobility services, which is very important for the city and its citizens (Czech et al., 2018).

Methodology

This research is included in the scope of qualitative and literature studies because in developing smart mobility based on public transportation it uses the thoughts of experts who provide new views or insights in developing smart mobility in a city through in-depth interviews. Qualitative also emphasizes the most important thing in the form of exploring an event or phenomenon that can be used as a valuable lesson for the development of theories and concepts (Satori and Komariah, 2014). Qualitative research in general can be used for research on people's lives, history, behavior, concepts or phenomena, social problems, and others (Craswell, 2016). The author also analyzes the literature obtained from documents, print media, books and journals.

Findings

Palembang LRT Overview

The South Sumatra Integrated Railroad (LRT), known by another name LRT Palembang is a fast transportation system with the Integrated Railroad model operating in Palembang, Indonesia, connecting Sultan Mahmud Badaruddin II International Airport with the Jakabaring Sports Complex. The construction of this LRT functioned as a means of supporting transportation for the residents of Palembang and its surroundings, including to support the mobility of spectators and athletes at the 2018 Asian Games. It is estimated that this project will cost at least Rp. 10.9 trillion rupiah. This LRT is operated by PT Kereta Api Indonesia Regional Division III Palembang. Initially, Palembang planned to build a monorail from Sultan Mahmud Badaruddin II Airport to the Jakabaring Sports Complex as an alternative to public transportation because based on existing research, the city of Palembang will experience total traffic jams in 2019. In order to welcome the 2018 Asian Games in Palembang, the monorail construction plan was later canceled due to difficulties in finding investors who could complete the work on time and the project was deemed less profitable. Monorail was then replaced with LRT which was considered more effective. The project worth Rp9.4 trillion was asked to be financed by the Central Government through the APBN and construction assignments to SOEs.

Picture 1. Palembang LRT Line Map
Source: Kumparan, 2020

General Condition of LRT Palembang

1. Accessibility

- Palembang LRT Fleet

As a means of supporting public transportation, the roads used in serving urban areas should provide sufficient space for public transportation so that services can be fast and safe. As of August 2018, as many as eight series of light trains produced by PT Industri Kereta Api arrived in Palembang since April 2018, each train series consisting of three carriages. Each train series is capable of carrying up to 722 passengers: 231 passengers in the first and third carriages, and 260 people in the second carriage. Meanwhile, the seating capacity is 78 passengers. The series of trains can transport passengers from SMB II Airport to Jakabaring with a travel time of about 30-45 minutes. The government targets the number of passengers to reach 96,000 people per day through this project, with an estimated increase in the number of passengers to 110,000 people by 2030.

- Stations

There are 13 stations on this LRT line and 1 depot. 12 of them have been operating since October 6, 2018. Each train series will stop for 1 minute at each station, except at each station at the end of the journey the train series will stop for 10 minutes 5 between The 13 existing stations are equipped with connecting bridges with surrounding buildings. It is planned that every Palembang LRT station will be connected to the previously operating Trans Musi bus service.

- Rails

The Palembang LRT runs on an unballasted flyover with a track width of 1,067 mm (3 ft 6 in), which spans 234 kilometers (145 mi) from Sultan Mahmud Badaruddin II Airport on the west end to the OPI Depot on the east end. This train signaling technology uses a fixed-block signaling method, equipped with third rail equipment. The railroad tracks were built across the Musi River, parallel to the Ampera Bridge.

Technology and Information of LRT

PT. Kereta Api Indonesia (KAI) South Sumatra is a unit that provides light rail / Light Rail Transit for South Sumatra as described above, that the Government has assigned PT. Kereta Api Indonesia (Persero) to organize light rail / Light Rail Transit facilities. Thus PT. Kereta Api Indonesia (KAI) provides many services for companies and services for the community including, the public can enjoy facilities at each station such as Escalators, Lifts, E-gates and so on. With a number of stations consisting of Airport Stations, Hajj Dormitory, Punti Kayu, Hospital, Garuda Dempo, Demang, Bumi Sriwijaya, Dishub, Cinde, Ampera, Polsresta, Jakabaring and DJKA. PT. KAI also provides Electronic card-based services (E-Ticketing) for the people of South Sumatra by purchasing cards/e-money at stations or buying them at mini markets that have collaborated with Indomaret/alfamart.

Although the South Sumatra Light Rail Transit (LRT) already has an E-ticketing system, and other service facilities. In scheduling the departure of the LRT between each station, they still provide information using social media, the LRT schedule website, print media and other information media. One of the information on the Light Rail Transit (LRT) departure schedule that can be viewed is on the www.schedulerpalembang.com page so that people can only see the LRT departure schedule without knowing the nearest LRT and how many hours, minutes, and seconds the LRT is waiting for to come. . In addition, currently the public or LRT passengers can view the departure schedule and train routes in available applications and can be downloaded on Google play or the app store.

Picture 2.   LRT Palembang Application
Source: Google play, 2022

Integration

Integration between Modar

Palembang has several public transportations that can be used by the community, namely Bus Rapid Transit, Damri Buses, Public Transportation (Angkot), Bajai, and also some online transportation. To reduce congestion in Palembang, the government launched a feeder service for the LRT Palembang, South Sumatra. Users of the LRT feeder in the form of an oplet will not be charged or free. The Ministry of Transportation launched feeder transportation services in the form of city transportation (angkot), as feeder transportation for the South Sumatra Light Rapid Transit (LRT) and Bus Rapid Transit (BRT) in Palembang. The presence of an angkot which is named "New Oplet Musi Emas" makes public transportation services in the city of Palembang integrated. However, this service has not yet covered all areas in the city of Palembang, only this feeder service will serve two routes, namely: the first route, namely the Talang Kelapa - Talang Bad cross via Hajj Dormitory with a route length of 20.4 Km. The second route is crossing the Hajj Dormitory - Sematang Borang via Jalan Noerdin Panji with a route length of 40.2 Km. In the future, feeder route services will continue to be added.

ITS Integration

Integration of ITS on the Palembang LRT using the Palembang LRT application and a non-cash payment system. Cashless applications and payments are made so that people can easily access routes, schedules and also payments using cards. Non-cash payments also help and reduce face-to-face activities due to the Covid-19 pandemic. Non-cash payments are the result of cooperation between the government and registered banks. PT KAI Divre III Palembang together with the South Sumatra Light Railroad Management Center (BPKARSS) and Bank Indonesia collaborated with BNI, Mandiri, BCA, BRI, and Bank Sumsel Babel for the program.

Problems

In four years of operation, the occupancy rate or occupancy of the Palembang light rail (LRT) has not yet reached the target. In fact, this transportation facility, which costs up to Rp. 11 trillion, is a national pilot project. The government will make a number of efforts, including redesigning transportation routes to be more integrated and providing subsidies to lure people from Palembang, South Sumatra, to use this facility (Kompas.com). Since it first operated in 2018, the movement of Palembang LRT passengers was recorded at 927,432 people, the peak occurred in 2019 with the number of passengers reaching 2.6 million people. However, due to the Covid-19 pandemic, in 2020, the occupancy of the Palembang LRT decreased significantly to around 1.1 million people.

There are two reasons why LRT Palembang occupancy is still low, namely related to purchasing power and accessibility. For purchasing power, LRT is still considered expensive, especially for students. Meanwhile, for accessibility, LRT and public

transportation facilities are not connected to residential areas, so residents prefer to use private vehicles or online transportation.

The head of the Indonesian Transportation Society of South Sumatra, Erika Buchari, said that the transportation problem in Palembang was the disconnection of the public transport and LRT networks from residential areas. In addition to designing an integrated route, other mechanisms are needed to support the increase in LRT occupancy. For example, collaborating with online transportation providers to develop routes that make it easier for people to get to feeder stops and LRT stations. "In addition, it is necessary to provide connecting facilities between the station and the destination, for example by building a skybridge like the one at Sultan Mahmud Badaruddin II Airport, Palembang," he said. Traffic engineering is also needed to encourage residents to switch to public transportation, for example by implementing odd-even.

Conclussion and Disscusion

Smart mobility is a city development concept as part of the smart city concept, which is a transportation development concept based on information and communication technology which is expected through information technology, public transportation services can be easy, safe, comfortable, fast and have affordable prices for the community. Benevolo, et al. 2016). There are 3 main variables in smart mobility, namely accessibility, availability of information technology (ITS), and integration (Giffingger, 2007).

The strategy of developing smart mobility based on public transportation in the city of Palembang can be used as a strategy to reduce congestion in the city of Palembang. In addition, this mode of transportation can also reduce pollution in the city of Palembang. The development of smart mobility based on public transportation requires a development strategy so that the development carried out can run according to the expectations of experts and in accordance with the needs of the City of Palembang. However, there are still shortcomings from the existence of Light Rail Transit (LRT), which is still considered expensive, especially for students. Meanwhile, for accessibility, LRT and public transportation facilities are not connected to residential areas, so residents prefer to use private vehicles or online transportation. So that the people of Palembang still choose to use private vehicles. The government still needs to improve or socialize to the public to use public transportation.

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Smart Community Construction under Smart City System: A Case Study of Chenggong Urban Area of Kunming City, China

Zixuan Wang

School of Tourism
Kunming University
Kunming, China
zixuan.w@kkumail.com

Abstract

In recent years, Yunnan Province of China has proposed to speed up the construction of smart cities. As a grass-roots unit of urban construction, the community's intelligence is a concentrated reflection of the city's wisdom level. Therefore, the construction of smart communities is bound to become a new model and new path of current urban management innovation. Firstly, this paper analyzes the concept of smart community, and sorts out the research status of smart community at home and abroad; Then, taking Chenggong urban area that lies in the capital city of Yunnan Province -- Kunming City, as a case study, we conducted a survey on the construction of smart communities from the aspects of infrastructure and facilities, cloud exchange platform, smart applications and service systems, and security systems, and analyzed their advantages and disadvantages. From the perspective of smart city system, it is proposed that the construction of smart communities should be systematically considered and summarized from the aspects of construction concept, construction strategy, construction system, construction mechanism, etc.

Keywords: smart community, comprehensive construction, case analysis

Introduction

Smart community is to use 5G, Internet of Things, big data, artificial intelligence, regional chain and other new generation information technologies, take the community's intelligence, greening, and human culture as the guidance, integrate people, places, things, feelings, events, organizations and other elements in the community scene, promote community residents' interaction and mutual assistance, coordinate public management, public services, commercial services and other resources, and provide services for the government, property management The community management and service application of residents, enterprises and other subjects is an innovative mode of community management and service to improve the scientific, intelligent and refined level of community management and service.[1, 2]

With the progress of society, science and technology, and the development of cities, people have a scientific and standardized understanding of smart communities. As the cell of the city, community intelligence is an indispensable part of smart city governance, plays an important role in the new infrastructure, and is also an innovative model of community management and service under the new urbanization development strategy. [3-5]

Research Objective

With the improvement of China's urbanization rate, all kinds of old and old communities have started smart transformation, and new communities have carried out smart upgrading. The smart community market will continue to expand. Under this social background, Kunming, as the capital city of Yunnan Province, has put forward and

formulated the general idea and plan for building "smart city" and "smart community" since 2011, and started to build a smart city.[6] Especially in 2012, Kunming started to build a "national civilized city", speeding up the construction of a smart city. Chenggong urban area, subordinate to Kunming City, Yunnan Province, is one of the five main urban areas of Kunming City and was established in 2011. Chenggong urban area gathers Kunming municipal government, colleges and universities, financial center and high-tech companies, representing the advanced management concept and culture of Kunming. As a newly established municipal district in Kunming, it has both practical and innovative experience in social governance at the grassroots level in new communities and difficulties in upgrading old communities. Studying the construction of smart communities in Chenggong urban area and analyzing its successes and shortcomings have important guidance and reference significance for the construction of smart communities in Kunming and other urban areas in Yunnan Province.

Literature Review

The research on smart communities at home and abroad is generally on the rise, that is, the number of research is increasing. The depth and breadth of research are expanding. However, foreign research is earlier than domestic research, and economically developed regions are better than economically underdeveloped regions. [7] The research on smart communities at home and abroad is very different in terms of focus and type.

Based on CNKI and ScienceNet, through comparison and analysis of research on smart communities at home and abroad since 2010 and up to 2022, it is found that by the end of September 2022, the total number of domestic papers on "smart communities" has reached 4958, while the number of foreign papers on "smart communities" has reached 4958, Through the "web 0f science" search, there are 10204 papers in various journals. The total number of published journal papers in foreign countries is almost twice that in China, which fully shows that the theoretical research on "smart community" is more extensive and widespread abroad, and the research content is more rich and in-depth.

In addition, through comparative analysis of research themes and research fields, it is found that domestic research focuses on the overall smart community and construction, accounting for 42%, but accounts for less than 10% in community governance and community services, as well as the Internet of Things, the Internet, etc., while community elderly care, smart elderly care, elderly care services account for only 2.76%, foreign research focuses on computer science accounts for more than 50%, followed by self-control, mathematics Computer and transmission system technology research, but in business economy and education, construction technology, ecological environment, etc., accounts for a small proportion. It shows that for the research on smart communities, foreign countries pay more attention to the practical application of wisdom, pay more attention to pragmatism and practicality, and domestic countries pay more attention to theoretical discussion and overall integration analysis.

In order to actively respond to the call of the country to promote the implementation of "smart city", Kunming has formulated corresponding overall ideas and plans since 2011. In 2016, Kunming issued the Implementation Opinions on Accelerating the Construction of Smart City, proposing to accelerate the development of digital industry with the guidance of new generation information technology. [8] In the 2019 municipal government work report, it was also proposed to vigorously develop the digital industry, seize the opportunities of the digital economy, and prepare the "Digital Kunming" development plan. The development plan will focus on promoting the digitalization of resources, digital industrialization, and industrial digitalization, promoting the integrated development of the digital economy and the real economy, and establishing the digital economy industry system of Kunming.

Methods

In this context, this paper takes the construction of smart communities in Chenggong urban area, Kunming City as an example, and takes three communities in the area as key practical research objects. Through questionnaires, field interviews and other methods, the research data are collated and analyzed to gain an in-depth understanding of the construction of smart communities.

Findings

Analysis of Smart Community Construction in Chenggong Urban Area

The Standard specifies the construction requirements for the overall architecture of smart community construction and its infrastructure layer, platform layer, application layer, etc. It aims to guide the construction of smart communities, innovate urban governance methods, improve urban governance mechanisms, promote the modernization of community governance and community management, promote intelligent management and service innovation models of public services and services for the convenience and benefit of the people, and achieve the goals of new urbanization development and community service system construction.

Table 1.   Planning and Design Scheme of Intelligent Community Intelligent System [9]

Section	Content	Built	Specific circumstance
wisdom foundation installation	Lighting facilities, parking space and charging facilities, Water, electricity and heating facilities, barrier-free facilities, etc.	yes	all standing
	Entry and exit control system, video surveillance system	yes	all standing
	Internet of Things sensor	yes	Some communities are built
	Electronic inspection system, building intercom system, emergency alarm system	yes	all standing
	Hybrid network (wired, wireless, mobile, etc.)	yes	all standing
foundation data terrace	Community Basic Data	yes	all standing
	Data intelligent statistics, data processing, data model management	yes	all standing
foundation data terrace	Data visualization display, Internet of Things monitoring data	yes	all standing
	Internet of Things access, artificial intelligence application	yes	Some communities are built
	Blockchain data sharing, CIM applications, etc.	yes	Some communities are built
	Community Basic Data	yes	all standing
wisdom community terrace	Intelligent release and dissemination	yes	all standing
	Authentication and authorization processing	yes	all standing
	Structured data processing	yes	Some communities are built
	Visual management command	yes	Some communities are built
community synthesize apply terrace	Community management: Governance management, Population management, Vehicle management, Event handling, Housing management, Community Party building	Yes Yes	all standing all standing
	Community service: Housekeeping service, property service, government affairs service	yes yes yes	all standing all standing all standing
	Community culture Community relief Smart business circle	deny	
	Community health: Video tour	deny	all standing
	Health lecture	yes	Some communities are built
	Family doctor	deny	
	Make an appointment to row number	yes	
	Community pension: One-key call	deny	Some communities are built
	Behavioral monitoring	deny	
	Pension zone	yes	
	Security check-in	deny	

Infrastructure and basic data layer:

The construction of smart community in Chenggong urban area of Kunming has a certain implementation foundation. Basically, all communities within the jurisdiction have community service centers, sports and sports venues, medical and health facilities, etc., and the construction of community comprehensive infrastructure is relatively perfect. The whole area has been covered by broadband networks, radio and television networks, wireless networks and other networks, the construction of 5G base station facilities has been completed, and efforts have been made to promote the upgrading of the Internet of Things.

Basic data is one of the core contents of smart community. The basic data platform of Chenggong urban area is constantly improving, and the basic community database has been preliminarily built, including the population database, building database, event database, etc. within the jurisdiction. In terms of security monitoring, access management, monitoring data, etc., the pace of construction has also been accelerated and promoted in recent years, which provides a data driven optimization for smart communities. In general, the infrastructure construction in Chenggong urban area is generally good, but the hardware facilities in some old communities need further upgrading and reconstruction.

Digital platform:

The smart community platform is an integrated application that makes full use of the Internet of Things, cloud computing, mobile Internet and other new generation information technologies to provide a safe, comfortable and convenient modern and intelligent living environment for community residents. Chenggong urban area, by means of data centralization and sharing, promotes technology integration, business integration and data integration, breaks through information barriers, vigorously promotes "one network unified management" and "one network unified management", promotes "fingertip management", "online management", "nearby management", etc. of various services, makes full use of digital platforms, forms a smart life service circle for convenience and benefit of the people, and forms a large data sharing platform covering the whole district, making overall use of and providing unified access.

The smart community management platform is an open community service platform. It is required to interface with the urban integration platform (GWIM) and be able to carry various community applications. It not only provides a unified application integration and operation management platform for community application providers, but also provides a unified access for community residents, as well as comprehensive, professional and perfect community services. At present, the big data platform in Chenggong urban area of Kunming has accessed 60 million government data. With the promotion and docking of the construction of the big data platform in Chenggong urban area, the collection and sharing of big data has enabled the whole "Smart Chenggong" construction project and provided data support for the construction of "Smart Community".

Comprehensive application platform:

The smart application in Chenggong urban area is mainly divided into four aspects, including community governance, community emergency, community health and elderly care. (1) Community governance and community. Relying on the intelligent way of information technology, actively promote the community grid management service platform. In order to cooperate with the construction of "Digital Kunming", all communities in Chenggong urban area have basically achieved hierarchical grid management, that is, the systematic management of district government, streets and communities. Even in a community, it is divided into one or several networks to include people, places, things and things, gradually realize refined and information-based management, and to a certain extent promote the innovation and development of public services and community management methods to achieve community governance through intelligent platforms, new media tools, communication tools, etc. (2) Community emergency. The smart community emergency service management system in Chenggong urban area, with the cooperation of the community grid management system and the community command and control management system, uses big data technology, Internet of Things technology, cloud platform technology and other

mainstream technologies to achieve the connection of system data and realize the functions of the smart community such as risk monitoring, emergency security, and emergency response. To discover, report and deal with risks in a timely manner, and gradually realize a complete set of event handling processes of "risk monitoring - data upload - emergency plan activation - emergency handling - emergency aftermath disposal - action evaluation". The construction of this system can greatly enhance the ability of real-time risk monitoring, real-time processing, real-time information resource sharing, and will greatly improve the level of intelligent emergency service management in the community. (3) Community elderly care and community health. At present, all communities in Chenggong urban area can provide health knowledge lectures to residents through online and offline methods, guide residents to make online medical appointments, generally establish electronic health records for residents, and generally set up qualified community hospitals and health service stations around the community to provide certain medical services for residents in the community, including blood pressure measurement, blood glucose measurement. Some communities also have community canteens. The service and management for the elderly in the community mainly includes setting up elderly activity centers, providing entertainment facilities for the elderly, establishing online health files for the elderly in the community, and setting up canteens for the elderly in some communities. At present, the community elderly care institutions in Chenggong urban area are still in the preparatory stage, including community elderly care institutions and home-based elderly care services, Internet of Things terminal service facilities for elderly care, including smart bracelets, one button pagers, etc., have not been specifically implemented.

Advantages and Disadvantages of Smart Community Construction in Chenggong urban area

Advantages

Chenggong is located in the southeast of Kunming, with Yangzonghai Lake and Dianchi Lake in the east and west. The climate is pleasant, the average annual temperature is 14.7 ℃, and the water quality, weather and environment are good. Chenggong is located along the Kunman and Kunhe Economic Corridors, at the intersection of the central line and the eastern line of the Trans Asian International Corridor, and positioned as a "regional international urban construction pilot area and demonstration area". With the implementation of the "the Belt and Road" and the Free Trade Zone strategy, Chenggong's regional advantages are increasingly evident.

Chenggong urban area's comprehensive transportation planning adopts a road grid bureau combining "grid network and free road network", forming a four in one urban transportation network system of "rail transit, rapid transit, ordinary road traffic and pedestrian traffic", and a 100 square kilometer urban backbone road grid bureau has been formed.

Chenggong urban area, as the location of Yunnan Digital Economic Development Zone, has obvious advantages in digital economy industry. Moreover, Chenggong urban area is rich in university resources, with a total of 9 universities gathering here. The integrated development of "production, teaching, research and application" has a good prospect.

Disadvantages

The concept of smart community construction is not clear, and there is a lack of overall long-term planning and goals. The participation of all aspects of smart community construction is insufficient, and the integration and utilization of community resources are insufficient. The construction of smart communities lacks technology and corresponding institutional guarantee, and unified norms and standards. The business model of smart community is not clear, and the investment and development of community benefit projects need to be improved.

Conclusion and Discussion

Community is the most basic part of a city, and its intelligence is the concentrated embodiment of the city's wisdom level. Therefore, smart communities are the only way to

improve urban governance and realize the development of smart cities. Based on the analysis of the smart community construction in Chenggong District, Kunming City, the following aspects are considered and summarized:

The construction of smart communities should focus on the core concept of "people-oriented, service first", and ultimately achieve the overall goal of a healthy community, an ecological city, and a harmonious society.

Smart community construction is not an isolated point, but the inheritance, development and implementation of the concept of smart city construction. Therefore, the technical route of smart community construction should be coordinated with the technical route of smart city construction while meeting the characteristics and needs of community construction. The construction of smart community in Chenggong District should be consistent with the concept of "smart city" construction, "digital Kunming" construction, and "great health" cultural construction in Yunnan. It should make full use of the regional advantages, talent advantages, and transportation advantages of the district to gradually achieve the general goal of a healthy community, an ecological city, and a harmonious society.

The construction of smart communities is a complex social system project, which requires the joint participation of other departments, social organizations, community residents, etc. under the leadership and overall planning of government departments to jointly build, govern and share.

The construction of smart communities is a dynamic development process. It is necessary to constantly integrate the internal and external resources of the community and optimize the allocation. The situation of communities is complex, and different communities have different characteristics and business priorities. The construction and operation of smart communities should take into account the demand differences caused by these background differences, do a good job of demand analysis, and promote by category. Therefore, the government of Chenggong District should not only take the lead and issue relevant policies to integrate social resources, but also increase investment to promote the coordinated governance of smart communities by multiple subjects. The government should also guide different stakeholders to participate in the building of a smart community in the interests of consistency and mutual benefit. In the future, smart communities need to strengthen innovation in construction and operation models based on new technologies such as the Internet of Things, big data and artificial intelligence, and explore the establishment of a new community governance and service model of "co construction, co governance and sharing" based on multiple participation and data fusion. [10]

The construction of smart community not only needs to improve the corresponding indicator system and evaluation standards, but also needs certain laws and regulations, maintenance and guarantee mechanism, etc.

In view of the construction of smart communities in Chenggong District, it is suggested to improve relevant laws and regulations, clarify community functions, strengthen the construction of community organization system, and provide legal support for the development of smart communities. It is suggested that under the premise of reference to the national standard, a unified quality standard for smart communities should be formulated throughout the region to accelerate the upgrading and transformation of old communities, including scientific decision-making platform, supervision and evaluation platform, service supply platform, resource integration platform, complaint acceptance platform and service selection platform. The quality standards of smart communities should be compatible with the vertical level of community governance and the horizontal multipolar cooperation, cooperation, competition and other operating mechanisms of participants.

The construction of smart communities is a process of sustainable development and requires long-term sustainable operation mode support.

The sustainability of construction and operation is an important indicator to measure the effectiveness of smart community construction, and is also the focus of exploration in practice. Common investment and operation modes can be divided into government investment and construction mode, market investment and construction and operation mode, government enterprise cooperation mode and entrusted operation mode. At the same time, under the premise of benefiting the people and facilitating the people, smart community projects should develop diversified channels of profit return mechanism, such as value-added services, feasibility gap subsidies, user fees, site rental income, channel income, etc. [9] In the construction of smart communities in Chenggong District, although the government plays a leading role, there is ambiguity in the construction mode. The role of the market and enterprises as the main force of the construction is not fully reflected, while the community residents and the public have low participation and low willingness to use, resulting in a weak sense of gain and weak capacity for sustainable operation. According to the data from the field survey, the satisfaction of community residents with the smart community construction is less than 30%, and the proportion of residents participating in the smart community construction is only about 15%. It is suggested to select a smart community construction mode suitable for itself based on the development characteristics and actual conditions of different communities in Chenggong District. For example, for new and high-end residential areas with good infrastructure and rapid development of digital platforms, it is recommended to adopt the mode of entrusted operation under the supervision of the government. At the same time, smart community commercial projects are gradually introduced to the market, where resources are allocated by the market; For the construction of old communities, it is recommended to adopt the government enterprise cooperation mode. The government should guide social enterprises to participate in the transformation and governance of the community, increase the initiative of enterprises in smart community projects, and increase the motivation and enthusiasm of enterprises to participate. In a word, it is an important attempt to promote the transformation of smart communities from construction oriented to long-term operation, build a sustainable development ecology of government guidance, government enterprise cooperation, multi party participation and professional operation cooperation, and promote the organic integration of effective markets and service-oriented governments.

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Role of Waste Management Policy to Greenhouse Gas Emission Reduction at MSW WTE Power Plant (Effects of Plastic)

Pattanapong Topark-ngarm*

College of Local Administration
Khon Kaen University, Khon Kaen, Thailand
pattto@kku.ac.th

Narongdet Mahasirikul
College of Local Administration
Khon Kaen University, Khon Kaen, Thailand
narongdet@kku.ac.th

*Corresponding author

Abstract

Most urban carbon emissions come from energy usage, transportation, and municipal solid waste (MSW). Khon Kaen municipality (KKMU) manages approximately 200 tonnes of waste daily. Since 1964, Khon Kaen municipality has dumped waste at landfill. The landfill has generated soil pollution, water pollution, air pollution, and greenhouse gas emissions. After 50 years, KKMU contracted Absolute Clean Energy (ACE) to build Waste-to-Energy (WTE) Power Plant to manage waste from KKMU, generate electricity, and reduce greenhouse gas emissions. The KKMU's waste composition consists of wood (0.00%), scrap paper (6.26%), food scrap (58.61%), textiles (1.96%), garden waste (1.16%), rubber and leather (1.44%), plastic and foam (23.40%), diaper and sanitary napkin (0.00%), and other such as glass, metals, rocks, and tiles (7.17%). The amount of electricity produced and wastewater generated from the process is used to calculate carbon emission reduction using the methodology "T-VER-METH-WM-02: Municipal Solid Waste Incineration" of Thailand Greenhouse Gas Management Organization (TGO). The estimated emission reduction from October 2016 to December 2018 was 14,004 tCO2eq compared to if dumped waste into landfills. The amount of plastic in the waste composition is important for generating heat for the steam turbine generator. The greenhouse gas emission reduction was calculated by adjusting the percentage of plastic in a wet weight of MSW by 70, 80, 90, 100, 110, 120, and 130 percent. It was found that emission reduction would be 277, 216, 157, 100 (reference), 45, -8, and -60 percent, respectively. The estimations prove that waste management policies such as 3Rs by removing plastic from going to WTE powerplant will help increase the amount of greenhouse gas emission reduction.

Keywords: waste-to-energy, waste management, greenhouse gas emission, low carbon city, livable city

Introduction

In 2021, the average land and ocean temperature was 1.51 °F (0.87 °C) warmer than the pre-industrial period (1880-1900) 1.87 °F (1.04 °C) (Climate.gov, 2022). The increasing average global surface temperature leads to the melting of the icecap, rising sea levels, and sea temperature. These changes impact ecosystems and biodiversity, cultivation, production and food security, water resources, and sea level rise that threatens major cities (Botkin et al., 2007). All these are caused by increased greenhouse gas emissions from our daily activities.

According to U.S. EPA (2022), greenhouse gas emission sources are transportation, electric power, industrial, commercial & residential, and agriculture, as shown in Fig. 1. The majority of gases are carbon dioxide, methane, and nitrous oxide, which account for 97% of all greenhouse gases.
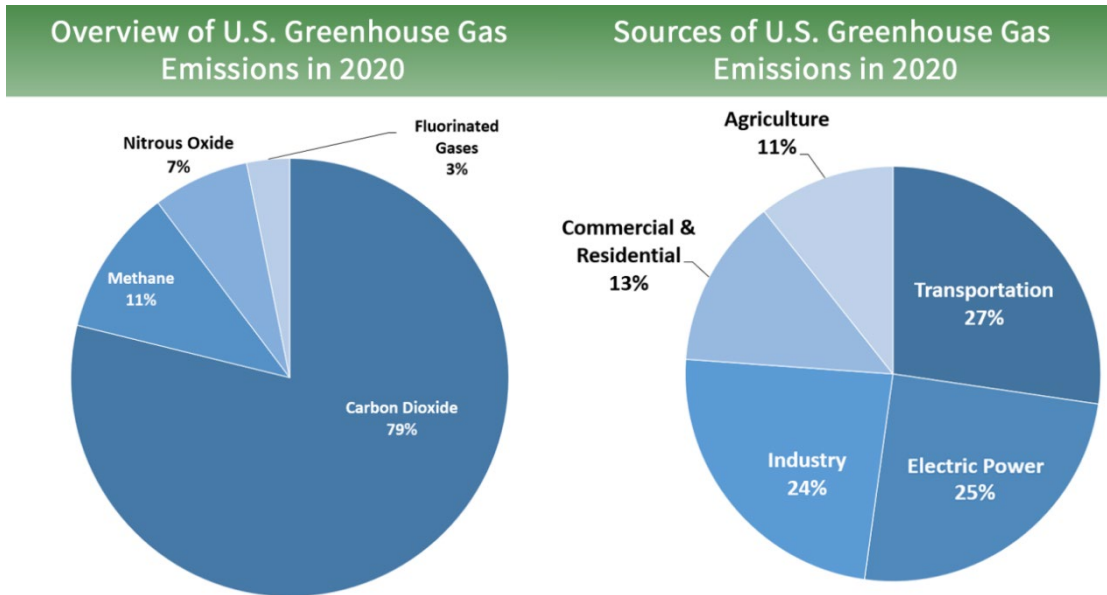
Figure 1.   Overview of U.S. Greenhouse Gas Emission and Sources in 2020
(EPA, 2022)

Khon Kaen municipality (KKMU) reported similar results. The sources of greenhouse gas emissions in KKMU are stationary combustion, transportation, and municipal waste, which account for 97 percent of all greenhouse gas emissions (College of Local Administration, 2021). The forecast of greenhouse gas emission in KKMU is shown in Fig. 2. It reported that KKMU's greenhouse gas emission was 413,480 tCO2eq in the year 2017 and is projected to reach 644,475 tCO2eq in the year 2030. Municipal solid waste (MSW) represents approximately 10 percent of greenhouse gas emissions.
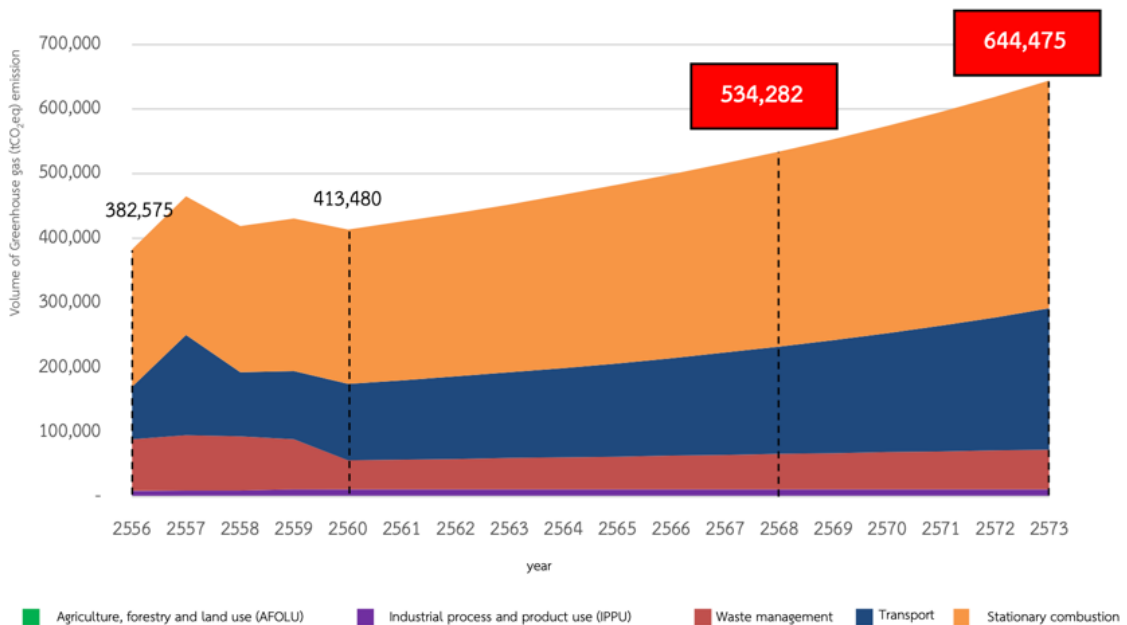
Figure 2.   Anticipated greenhouse gas emission in 2030 of Khon Kaen Municipality

Since 1964, KKMU has dumped waste into landfill in Kumbon District. The landfill has generated soil pollution, water pollution, air pollution, and greenhouse gas emissions. After 50 years, KKMU contracted Absolute Clean Energy (ACE) to build Waste-to-Energy

Power Plant to manage waste from KKMU. The power plant burns MSW to generate heat for the steam boiler. The electricity is generated from a 6 MW steam turbine generator. Fig. 3. shows the electrical generator process. Overall, waste management reduces greenhouse emissions from landfill and produce alternative electricity.
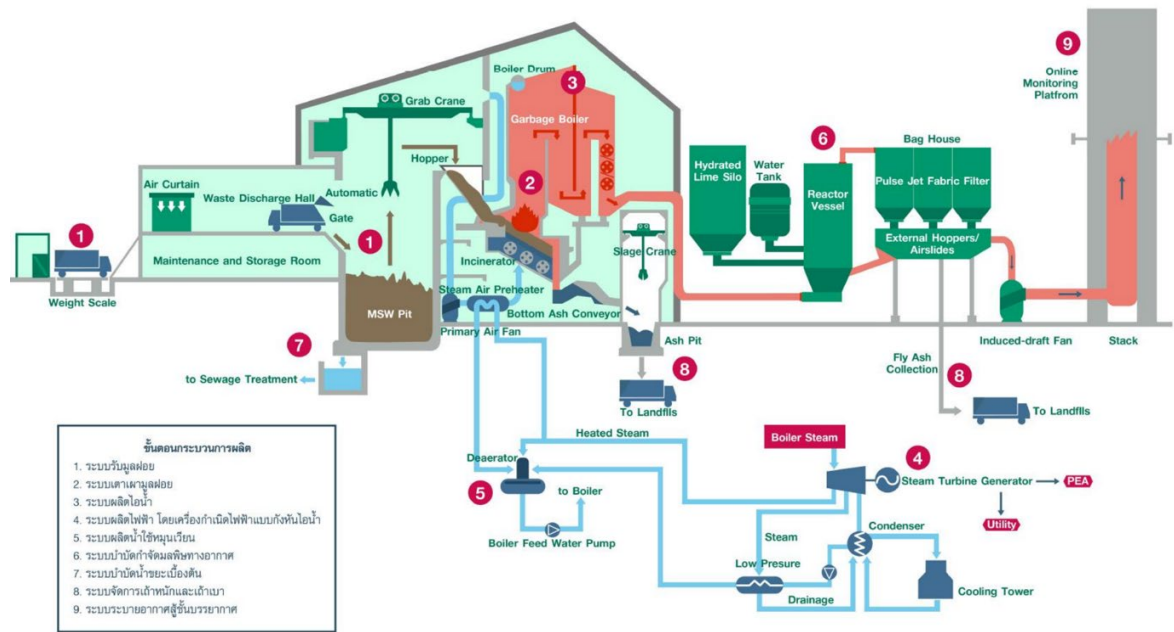
Figure 3. The Electrical Generator Process of MSW-to-Energy Power Plant

Research Objective

The amount of plastic in the waste composition is essential for generating heat to produce electricity. In this research, the wet weight of plastic was adjusted by -30%, -20%, -10%, +10%, +20%, and +30% from the original plastic weight collected each month from October 2016 to December 2018. The assumed amount of plastic was added or subtracted from the original amount, while the weight of other waste was not changed. The new waste compositions were calculated as shown in Table 1 below. The assumption was that the amount of plastic was adjusted while everything was not adjusted. The adjusted wet weight of MSW was used to calculate the estimation of carbon emission reduction from MSW-to-energy power plant according to T-VER-METH-WM-02: Municipal Solid Waste Incineration" of Thailand Greenhouse Gas Management Organization (TGO) (2017).

Table 1. Adjusted MSW Composition

Type of MSW Components	Percentage by wet weight						
Wood	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scrap paper	6.64	6.50	6.38	6.26	6.15	6.05	5.96
Food Scrap	62.21	60.90	59.71	58.61	57.60	56.67	55.81
Textiles	2.08	2.04	2.00	1.96	1.93	1.90	1.87
Garden waste: branches and leafs	1.23	1.21	1.18	1.16	1.14	1.12	1.10
Rubber/Leather	1.53	1.50	1.47	1.44	1.42	1.39	1.37
Plastic/Foam	18.70	20.41	21.97	23.40	24.72	25.94	27.06
Diaper/Sanitary Napkin	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other e.g. glass, metal, rock, tiles	7.61	7.45	7.30	7.17	7.05	6.93	6.83
Change of plastic weight from reference*	70	80	90	100*	110	120	130

*The reference MSW composition

Literature Review

Khon Kaen Municipality's Policy

To be a Smart City, Khon Kaen Municipality focuses on 7 areas. They are smart living, smart people, smart education, smart governance, smart economy, smart mobility, and smart environment. Under smart environment, KKMU aims to be a green city with low pollution or Low Carbon City. Therefore, KKMU established a working group known as Khon Kaen Low Carbon City to reduce municipal waste. The plan consists of 4 strategies, prevention of waste, reducing waste, recycling network, and waste sorting management. By using the 3Rs (Reduce, Reuse, and Recycle) approach through social mechanisms known as "Don't leave anyone behind" (Inclusive Development) (Wongthanavasu et al., 2019)

Waste-to-Energy

Most urban cities face the challenges of MSW management. Industrial wastes are more complex than ever. At the same time, landfill present financial, health, and safety concerns. Furthermore, mismanagement of MSW could become a risk to the community and create several issues for society and the economy (Khan et al., 2022).

Most urban cities face the challenges of MSW management. Industrial wastes are more complex than ever. At the same time, landfill present financial, health, and safety concerns. Furthermore, mismanagement of MSW could become a risk to the community and create several issues for society and the economy. Therefore, many municipalities look to manage MSW by reducing waste at its source, promoting recycling, and turning waste into energy sources such as Refuse Derived Fuel or RDF. The waste-to-energy power plant also gains more interest in urban cities.

The waste-to-energy power plant has several advantages for the city. First, it can help reduce waste in landfills. The energy generated from MSW can potentially offset the use of fossil fuels for energy production, thus, reducing carbon emissions related to fossil fuel extraction.

Methods

The greenhouse gas emission reduction of MSW-to-Energy power plant is calculated according to the methodology "T-VER-METH-WM-02: Municipal Solid Waste Incineration" of Thailand Greenhouse Gas Management Organization (TGO) (2017). In addition, the project baseline is calculated according to T-VER-TOOL-WASTE-01 Version 03: Baseline Emission. Fig. 4 shows the scope of carbon emission calculation. Greenhouse gas emission calculation includes methane and carbon dioxide from MSW burning, steam turbine generator, and fossil fuel usage.

The carbon emission reduction calculation is shown in Eq. 1

$$ER_y = BE_y - PE_y - LE_y \qquad \text{Eq. 1}$$

Where
- ER_y = Emission Reduction in year y (tCO2e/year)
- BE_y = Baseline Emission in year y (tCO2e/year) includes 1) quantity of methane gas (CH4) from SWDS site in year y, 2) quantity of methane gas (CH4) from fossil fuel electricity generation in year y, and 3) quantity of methane gas (CH4) from anaerobic wastewater treatment process in year y
- PE_y = Project Emission in year y (tCO2e/year) includes 1) amount of emission from fossil carbon combustion of MSW in year y, 2) amount of emission from anaerobic wastewater treatment in year y, 3) amount of emission from burning fossil fuel for project operation in year y, 4) amount of emission from electricity usage for project operation in year y, and 5) amount of methane gas (CH4) is released from SWDS in year y
- LE_y = Leakage Emission in year y (tCO2e/year) includes 1) amount of emission leakage from fossil fuel usage in transporting MSW outside the project's area in year y
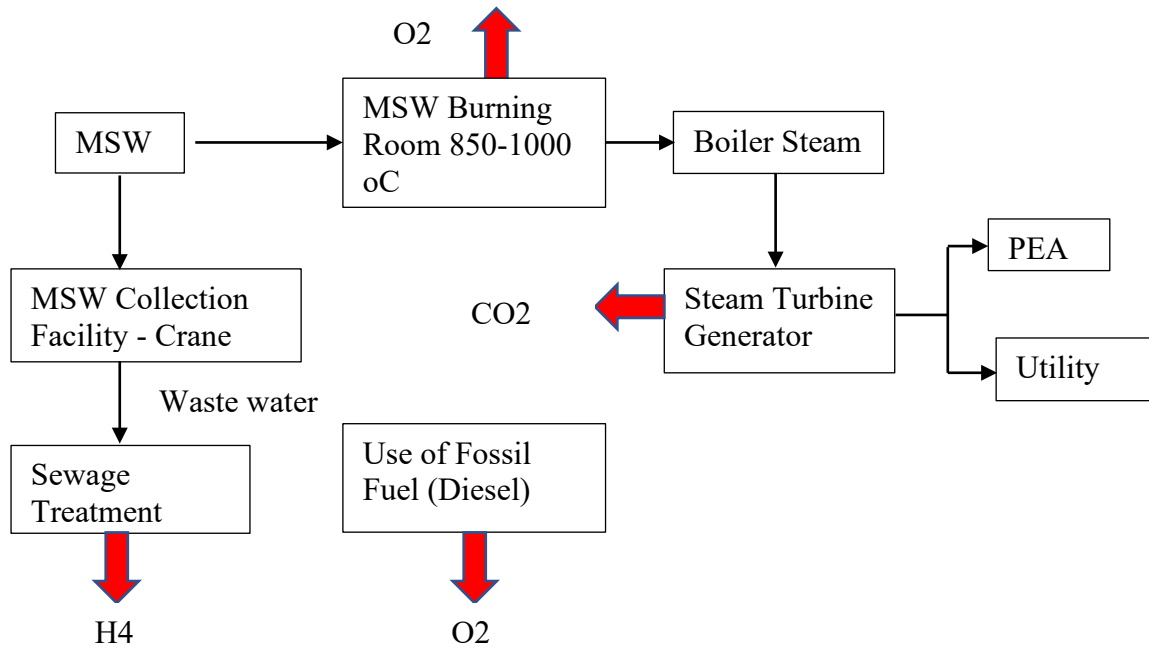
Figure 4. Scope of Greenhouse Gas Emission Calculation

Findings

MSW adjusted wet weight
The MSW adjusted wet weight shows in Table 2. These adjusted MSW wet weight was used in the calculation of carbon emission reduction.

Table 2. MSW Adjusted Wet Weight (tone)

Year	Month	Adjusted Wet Weight (tone)						
2016	Oct	3376	3616	3856	4097	4337	4577	4817
	Nov	3927	4207	4486	4765	5044	5324	5603
	Dec	3898	4176	4453	4730	5007	5284	5562
2017	Jan	3955	4237	4518	4799	5081	5362	5643
	Feb	3620	3878	4135	4392	4650	4907	5165
	Mar	4129	4422	4716	5010	5303	5597	5890
	Apr	4016	4301	4587	4872	5158	5444	5729
	May	4581	4906	5232	5558	5884	6209	6535
	Jun	4536	4858	5181	5503	5826	6149	6471
	Jul	4624	4952	5281	5610	5939	6268	6596
	Aug	4663	4995	5326	5658	5990	6321	6653
	Sep	4342	4651	4960	5269	5578	5886	6195
	Oct	4370	4681	4992	5303	5614	5925	6235
	Nov	3810	4081	4352	4623	4894	5165	5436
	Dec	4168	4464	4760	5057	5353	5649	5946
2018	Jan	4158	4453	4749	5045	5340	5636	5932
	Feb	3720	3985	4249	4514	4778	5043	5308
	Mar	4142	4437	4732	5026	5321	5615	5910
	Apr	3861	4135	4410	4684	4959	5233	5508
	May	4852	5198	5543	5888	6233	6578	6923
	Jun	4407	4721	5034	5348	5661	5974	6288
	Jul	4381	4693	5005	5316	5628	5939	6251
	Aug	4742	5080	5417	5754	6091	6429	6766
	Sep	4432	4747	5062	5377	5693	6008	6323
	Oct	4250	4553	4855	5157	5459	5762	6064
	Nov	3961	4243	4524	4806	5088	5369	5651
	Dec	4345	4654	4962	5271	5580	5889	6198
	Total	113268	121323	129378	137433	145488	153543	161598
	Change of plastic weight from reference*	70	80	90	100*	110	120	130

Carbon Emission Reduction

The carbon emission reduction was calculated according to Eq. 1 above. Fig. 5 shows the impact of plastic content in carbon emission reduction calculation. The carbon emission reduction decreases as plastic composition increase. The carbon emission reduction will be zero if the percent of plastic composition increase by 18.46% from the current plastic composition. The estimations prove that waste management policies such as 3Rs will help increase the amount of greenhouse gas emission reduction by preventing more plastic to MSW power plant.
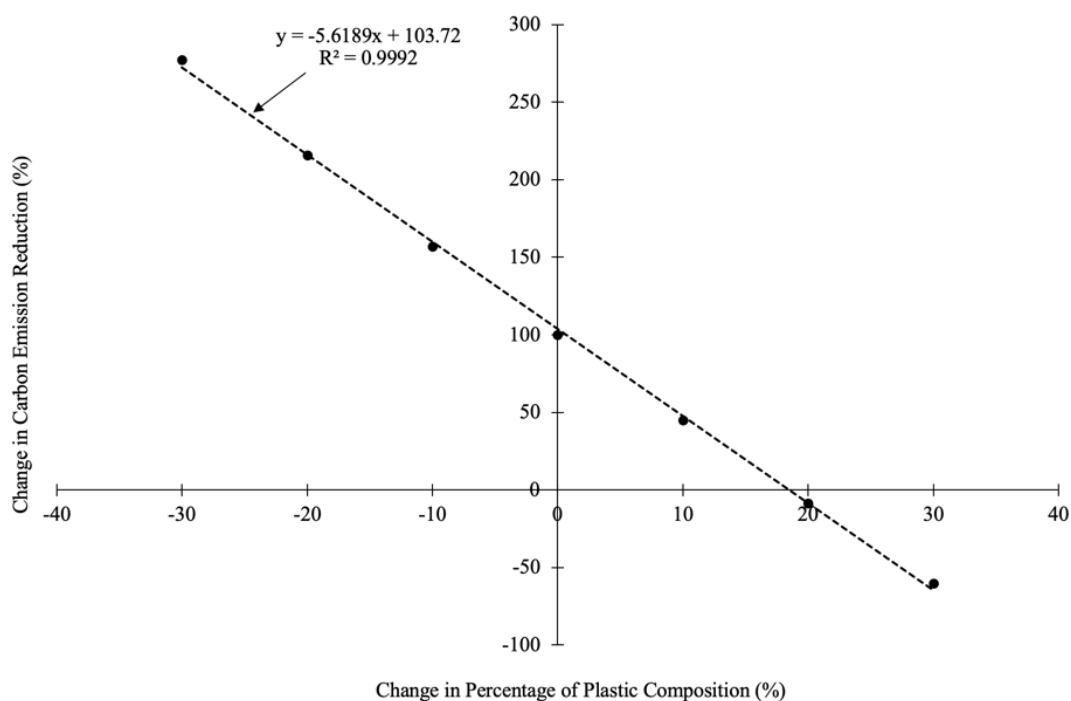
Figure 5. Effects of Plastic in MSW Composition on Carbon Emission Reduction of MSW Waste-to-Energy Power Plant

Khon Kaen Municipality Waste Management

Under the mayor's leadership and the current city development plan, KKMU wants to "Develop the city to the international and create a happy society. KKMU also wants to be a low-carbon city by implementing Low Emission Development Strategy (LEDS). As a result, KKMU can manage waste from upstream, midstream, and downstream. There are several ongoing waste management projects in KKMU. 1) Promoting a Waste separation project to reduce the amount of upstream waste to be managed. 2) Increase the number of recycling stations. In 2019, KKMU added 47 more recycling stations throughout the city. 3) The recycle-to-saving project in which KKMU accepts recycled waste in exchange for saving into participants' accounts. Under the program, KKMU was about to separate 879 tons of recycled waste from 2018-2021.

Conclusion and Discussion

This research looks at the effects of plastic content on calculating greenhouse gas emission reduction at the MSW-to-Energy Power Plant at Ban Kumbon, Khon Kaen. By adjusting the plastic's wet weight from MSW's wet weight to the WTE power plant from October 2016 to December 2018. It was found that the plastic content plays an important role in the calculation. Furthermore, the result indicated that the amount of greenhouse gas emission reduction decreased as plastic composition increased. Therefore, KKMU needs to reduce the amount of plastic from the upstream source to prevent this scenario. KKMU has implemented sever projects to promote waste sorting, trading recycled to saving with participants, and increasing the number of recycling stations.

The effect of organic waste composition on greenhouse gas emission reduction should be investigated since organic waste is the majority waste composition to WTE power plant.

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Panel 6: Representation of Women and Minorities in Public Affairs

Women Empowerment through Appropriate Representation in Local Governance: Case Study of Bihar state, India

Bijay Kumar Das

Associate Professor,
Department of
Architecture & Planning,
NIT Patna
Patna,Bihar, India
bijay@nitp.ac.in

Avi Kush

B. Tech, Civil Engg. (3rdSem)
SMVDU, Katra
Jammu and Kashmir, India.
avikush@ymail.com

Arpita Srivastava

M.Arch,3rdSem, Department of
Architecture & Planning,
NIT Patna
Patna,Bihar, India
arpitas.pg21.ar@nitp.ac.in

Abstract

India is a federal country with three tier governance at Central, State and Local level. Representation of women in Central and State Governance is very poor. At local level in the state of Bihar the representation of women is secured by way of reservation. This representation of women is the pseudo indicator of women empowerment but it establishes a sense of pride among the women community. The state of Bihar in India is among the poorest state in terms of GDP and other social indicator. Bihar state has made constitutional provision for reservation of women community for various position at urban and local level. This paper examines the various reservation for women at local governance in the state of Bihar.

Keywords: local governance, reservation for women, women empowerment

Introduction

A woman, in contrast to a man, is an adult female human being, while a girl is a young female. The term woman (irregular plural: women) is used to indicate biological sex distinctions, cultural gender role distinctions, or both.(Wikimedia. 2005, n.d.)

Interruption of traditional social contract theory by pointing out that the Hobbesian or Lockean contract focused on the public, "civil" sphere of citizenship, dominated by men, and thereby excluded women in the private sphere—and that the contract that women typically are afforded is the marital or sexual contract wherein they are not equals to their men partners.(Pateman's, 1988)

Empowerment' is 'the granting of the power, right or authority to perform various acts or duties.' (Webster)Thus, 'the literal meaning of women's empowerment is to give power to women to change their status in society.'(Kaur, 2009)

Women's empowerment can boost social progress by allowing more women to participate in decision-making processes at all levels of society, from the household to the political sphere. Empowerment of women means developing them as more aware individuals, who are politically active, economically productive and independent and are able to make intelligent discussion in matters that affect them(Koko, 1992).As a result, women's empowerment can aid them in taking charge of their lives and gaining access to more opportunities and resources.

In the last few decades, the issue of how to better empower women to take part in all aspects of society's economic and social development has risen to the forefront of discussions about progress in both areas. Almost every multilateral and bilateral development organisation has policies that aim to increase women's participation in economic and social life were announced.

Women are receiving assistance from a wide variety of governmental and non-governmental organisations that focus on self-help initiatives and advancement for

women. Self-reliance is defined in three ways; Knowing that people can solve a problem for themselves and make sure they have the ability and skill to do something about it and free them from external obstacles(J.Carter, 2012). According to (E.O.Ojameruaye, 2004),self-reliant development is defined as that type of development, which relies on their own human and material resources or a do-it-yourself approach.

Sustainable development cannot be achieved without women's empowerment. Gender parity and progress cannot happen without it. The News Letter of the Bernard Van Leer Foundation cites the United Nations Population Fund's 1992 report on the state of the world's population when arguing that gender equality is necessary for long-term progress because women play such a pivotal role in their communities' most precious resource: their children. Home is the first place that empowerment should be practised. Women's independence is based on their social status within the family. Ascertain whether he has the legal capacity to make decisions regarding the purchase of jewellery, the transfer of money, the scheduling of visits to friends and family, and the authorization of medical care.

Microcredit is having a positive effect on the economic activities of rural women and family formation, according to research by(Hoque,M.;Itohara, 2009). Research into women's empowerment should focus on three key areas, all of which point to the same five principles: improved well-being, equal access, greater awareness, active participation, and decision-making power.

There is a spectrum along which many factors, including those listed below, can be placed that contribute in some way to women's empowerment.

- The ability to plan, make decisions,
- Organise, and carry out activities;
- Having a voice and being heard;
- Defining and creating from a women's perspective;
- Being recognised and respected as equal citizens and human beings with a contribution to make;
- Having the capacity to do so.

However, if the goal is to increase the representation of women in politics, then it is important to note that the promotion of women in politics. The validity of affirmative action programmes that have already been implemented is still being debated. This is in spite of the fact that women, who form around 50% of total world population, share a considerably lower presence in elected political bodies: Women made up only 11.6% of MPs in 176 parliaments in 1995(Norris, 2001).

Women's demands for equal citizenship were seen as a violation of the historically established "virtual contract" and an attempt to intrude into spaces monopolised by males in society, particularly politics, which was seen as a public activity and therefore the prerogative of men. Even though women won equal political rights over time (in terms of voting, etc.), this did not help them carve out a place for themselves in representative institutions.

Equality in procedure was guaranteed, but it did not lead to any meaningful democratic participation. The disproportionate number of women in government bodies reflected this contradiction. It stoked calls for quotas to increase the likelihood that women will hold political office, where their voices can help shape policies that actually get results. It marked a shift from the "politics of ideology" to the "politics of presence" within feminist struggles. Anne Phillips (Phillips, 1993)in her scholarly work, The Politics of Presence argued that the issue now was about 'who' is representing rather than 'what' was being represented. Phillips maintained that the present form of democratic discourse did not deal with the forms of exclusion that many groups were facing in society, for example the exclusion of women in politics. Based on the logic of experiential epistemology, she held that the experiences of these sections affect their life worlds, and in order to take cognizance of their interests, their presence in representative bodies was imperative(Phillips, 1993).

It was argued that if a certain group was not represented during the policymaking process, the resulting policies would be irrelevant to that group.

Research Objective

The state of Bihar is one of the poorest in India, with 40% of its population living in poverty despite having the third-highest population in the country (at an estimated 103

million people and a population density of 880 persons per sq. km.). Purchasing power parity estimates place its per capita income at around $348. Indicators of health and population growth in the state, such as the infant mortality rate (IMR), maternal mortality ratio (MMR), and total fertility rate (TFR), are all significantly higher than the national average, suggesting that the health of the state's residents is subpar. Bihar's Human Development Index has consistently ranked last among the major Indian states over the past three decades. The state average is lower than the national average on many health indicators, so much work remains to improve the health of its population as a whole. Some vector-borne diseases, communicable diseases, and water-borne diseases also have the highest prevalence in Bihar compared to the rest of India.

According to the Annual Health Survey Reports (AHS), Bihar's IMR has been falling at a much faster rate than the rest of India's states in recent years, but the state still has a much higher total IMR than any others. According to the(National Family Health Survey, 2015-16), half of the children in Bihar are underweight (compared to a national average of 46%), and 42.3% of the children under the age of 3 are stunted, indicating widespread chronic under-nutrition during the first few years of life.

Over the last two decades, political decentralization has emerged as a dominant trend in world politics. According to the World Bank estimates, several developing and transitional countries with populations greater than 5 million started the process of political devolution.(Richard C. Crook and Alan Manor, 1998).Indian authorities made the switch in April of 1993. The 73rd and 74th Amendments formally established local governments (known as Panchayati Raj Institutions in India) and devolved more authority to them from the federal government (PRIs).The new rules mandate that women make up at least one-third of all local elective positions and give members of the historically oppressed Scheduled Castes and Scheduled Tribes a proportional share of legislative seats. Before the state government of Bihar adopted the 73rd amendment in 2001, the state had never held local elections.

In the second panchayat election in 2006, Bihar became the first state that reserved 50% of the panchayat seats for women, which is more than the stipulated 33% in the constitutional amendment. Almost a decade has passed since the first panchayat election in Bihar, therefore, it is of tremendous policy interest to evaluate the impact of political decentralization and women's reservation on developmental outcomes, including health outcomes.

Following the suggestions of the amendment acts, the state of India reserved 33% of seats for women in the local self-government (Panchayati Raj Institutions). But the state of Bihar has gone ahead of this quota limit and has through the Bihar Panchayat Raj Ordinance introduced a reservation of 50 % for women in local government institutions:

> "13 (2) As nearly as but not exceeding fifty per cent of the total number of seats reserved under Sub-section(1) shall be reserved for women belonging to the Scheduled Castes, the Scheduled Tribes and the Backward Classes, as the case may be. (3) As nearly as but not exceeding fifty per cent of the total number of seats not reserved for Scheduled Castes, Scheduled Tribes and Backward Classes shall be reserved for women." (The Bihar Panchayat Raj Ordinance, 1996)

The reform in Bihar is the first of its kind in India and according to the information made available by the Institute for Democracy and Electoral Assistance (IDEA) there is no other countries where the local governance has adopted a reservation of fifty per cent (Norris, 2001).

Bihar has a total no of 9032 local government bodies; it includes 8463 Gram Panchayats, 531 Panchayat Semites, and 38 ZillaParishads. Following the Bihar Panchayat Raj Ordinance 2006, elections were held and women candidates got elected in the excess of 54%. This is a significant increase in women representation and it is believed that such a reservation policy will have a positive effect on women's empowerment.

Women and the Local Governance

This topic sheds light on the dynamics of local governance in India by analysing the phenomenon from both the theoretical and practical perspectives of decentralisation.

The historical, socioeconomic, and political contexts are emphasised, and numerous examples and cases from India are used to illustrate key points and facilitate

understanding. By situating local government within the larger political context, it seeks to reframe local government in India as fundamental to the country's macro politics. Providing a policy-oriented understanding of the concept of governance through a wide-ranging analysis of specific programmes like MGNREGA and structures of governance at the grassroots level.

Among the countries where quotas for women have been implemented, at least on the municipal level, is India. There is still a lot of debate over whether or not the State Assemblies and the National Parliament should be using the same strategy, and the so-called "Women's Bill" has been defeated three times in the legislature(Rai, 1999).Some readers may be surprised that India has implemented a quota for women at all, given the country's negative stereotype as a place where women are treated poorly. Abortion of female foetuses, deaths related to dowry, and the burning of widows continue to shape the general public's perception of India. On the other hand, in 1992, the 73rd Amendment to the Indian Constitution established new guidelines for the formation and organisation of rural local governments (called Panchayati Raj). One of the requirements of this Amendment is that women make up at least 33 percent of all elected and appointed positions. Supporters of the measure argue that the quota will help empower women, while detractors say the women selected will be little more than "proxies" for powerful men and come primarily from the elite. Another argument made by those opposed is that women in rural India lack the education and training necessary to be effective political actors. Indeed, a patriarchal social structure persists in India's rural areas. Women's access to public spaces is limited, though the extent to which this occurs varies by social strata, religion, age, and family status. As was previously mentioned, the question of how far gender transcends caste, class, and ethnic affiliation is prompted by the treatment of women as a political group with common concerns. Whose interests do you think the elected women should be advocating for, other women, their caste, clan, or religious community, or something else entirely? Is there a way to help rural women, who are unquestionably less qualified for political office to begin with (lower formal education, less political experience, less public exposure, etc.), overcome their reluctance to run for office? But what happens when male coworkers, officials, and villagers are coerced into electing and working with women as their representatives?

Women and the Local Governance of Bihar

The following topics can be included for the questionnaire:

i) the background of women members and their motivation for entering politics;

ii) women's involvement in the decision-making process in Panchayats or ZillaParishads;

iii) the representatives' roles as Sarpanch, chairman, and vice-chairman;

iv) the projects that these representatives have worked on;

v) the representatives' awareness of certain general and women-specific issues; and

vi) the representatives

Women's access to and participation in Bihar's local government Panchayats:

• Women's reservation: The women's reservation is the single most influential factor in encouraging and empowering women to take active roles in politics.

• Inspiration and help from loved ones and family: Most of the newly elected female lawmakers credit their families and friends with inspiring them to enter politics.

Issues that prevent their full participation in Bihar's local government Panchayats: Issues that prevent their full participation: It is important to understand the barriers that prevent women from entering or participating freely in political institutions in order to judge the level of women's political empowerment and the effect of gender quota on the political attitude and activities of women representatives. (Shvedova, 2005)has done a lot of work developing this theory. The present research builds on the findings of (Shvedova, 2005)in an effort to identify the barriers that prevent women from entering politics. It uses three overarching concepts developed by (Shvedova, 2005)to provide a more complete picture of the challenges. Social and economic barriers, psychological and ideological ones, and institutional and governmental ones. To gain a deeper comprehension of the factors, these three overarching ideas are further broken down into categories.

• Difficulties arising from one's social and economic environment: According to the research of(Shvedova, 2005), the economic and social climates of democracies, both

old and new, play a significant role in the recruitment of women into politics. She advocates that women's socioeconomic status unquestionably affects their engagement in political institutions and elected bodies. According to her, the socioeconomic factors that limit women's participation can be broken down into a number of categories, including but not limited to: poverty and unemployment; inadequate financial resources; illiteracy; restricted access to education and career options; and the double responsibilities of caring for one's family and earning a living. Some of the difficulties encountered during this investigation are as follows.

Financial/professional status and field of choice-Women's representation in elected office in a developing country like India is influenced by a number of factors, including their economic status, the nature of their jobs, and their career choices. Many women, due to their financial circumstances, are unable to fully participate in society.

The chance to learn and educate themselves- The vast majority of the females in Bihar have only completed elementary school. The inability to freely participate is hampered by many factors, one of the most significant of which is the lack of adequate education among women. It's hard for women to speak up about issues that affect them if they haven't received an adequate education. Having the mental faculties to question, reflect, act, and acquire knowledge are all crucial for women, and (Kabeer, 2005)argues that education is the key to achieving these ends.

Separation of duties- Women have been kept out of politics for a very long time. The male-dominated society prevented them from entering the political mainstream. Such exclusion is largely the result of social and cultural constraints, as well as the division of labour. The expectation that women should remain at home and raise children is widely held. Also, the socialisation effect is powerful enough to keep them out of politics. That's why, according to (Shvedova, 2005), cultural norms still place a premium on and even impose upon women's primary roles as caregivers and homemakers. The advancement and engagement of women in politics is hindered in many countries by the prevalence of a traditional, powerful, patriarchal value system that promotes division of labour.

Stress from both personal and professional responsibilities- One of the factors that limits women's involvement in politics is the fact that they must balance personal and professional obligations. Similar to many other nations in India, as in the rest of the world, women do the bulk of the housework. Therefore, it is only natural that they should spend a lot of time on fundamental responsibilities and family's requirements. Some women also work full-time in male-dominated fields, such as education, law, medicine, etc. As a result, entering politics is akin to taking on a third job, and then some, and eventually becoming exhausted from doing so. It's a challenge for many women to meet the needs of their families while also meeting the challenges of their careers.

· Ideological and Psychological barriers: Prevented women from actively participating in politics. Women in traditional societies, like India's, are expected to tend to the home before pursuing other interests or careers. They aren't used to chatting casually with the guys at the bar. They must first overcome their own insecurity before taking on the conservative values of their community. As if that weren't bad enough, when they do manage to do something positive for their people, the media pays them essentially no attention. That's why they're under such constant pressure to excel at everything they do.

Self-respect and Self-assurance-Women are underrepresented in parliaments, governments, and political parties, and (Shvedova, 2005)cites a lack of confidence in women members as a major contributing factor. Many of them were anxious and hesitant to run for office in the days leading up to the election.

Social conventions, ingrained habits, etc.-In addition, women cannot be seen in public places unaccompanied due to cultural norms in rural India. In rural areas of India, the traditional view of women's place as being within the home persists. Women who openly discuss politics with male colleagues face stereotypes of being untrustworthy. Another time limit is imposed on women because they are not allowed to perform outdoor work after dark. Their reasoning is based in part on tradition and on the sense of safety it provides.

We can classify people's perspectives on their immediate environment into two broad buckets. Lack of family support: It's fascinating to learn that women who ran for office on their own initiative had more difficulties at home and in the community than those who did so at the urging of their husbands or other family members. Discriminatory

bureaucratic treatment: Discriminatory bureaucratic treatment has been a barrier to women's participation. Administrative staff members don't seem to care about them.

Insufficient coverage in the media: According to (Shvedova, 2005),the media's dual function in any society is to both report on and shape public opinion on the issues of the day. Sadly, however, mainstream media outlets often downplay women-centric events and groups. Women's exclusion from politics and the media's failure to cover the issue, as argued by (Shvedova, 2005).

· Political and Institutional Hurdles: In addition to personal bias, women face institutional and political barriers that limit their participation in politics. A masculine view of politics, as (Shvedova, 2005),contends, discourages women from entering the field. She claims that men control the political sphere, set the rules for political engagement, and determine how candidates should be evaluated. Political life is also organised in accordance with male standards. For instance, (Shvedova, 2005)argues that the political model is founded not on mutual respect, teamwork, and consensus building but on the idea of winners and losers, competition, and confrontation. Women typically feel uncomfortable in this setting. Since politics has traditionally been a man's game, (Shvedova, 2005)argues that this paradigm shifts women away from politics altogether.

To fund women's campaigns and increase their political, social, and economic credibility, support from the political party, including financial and other resources-Despite the fact that women play crucial roles in campaigning and organising support for their parties, (Shvedova, 2005)argues that they have traditionally held few positions of power within political party structures. She goes on to argue that women are disadvantaged by political parties despite the fact that they have access to resources necessary to run successful election campaigns. One of the main reasons political parties give for not selecting female candidates is the existence of gender bias among the electorate.(Shvedova, 2005)argues that within political parties, the selection and nomination process is also biased against women, with male characteristics often becoming the criteria for selecting candidates. Evidence of this trend emerged from the responses of female party members, many of whom voiced dissatisfaction with the conduct of their political organisation.

While the government has successfully launched the quota system in the local self-government institutions, it is also very important to have some supplementary policies that can support the system-Such as the type of electoral system used and the degree to which quota provisions are enforced. Elected women members are suffering from an absence of effective training and capacity building initiatives.

The Importance of Women's Groups- Groups advocating for women's rights are collaborating with political and governmental bodies in many nations to open doors for women's nomination and election. The number of women serving in legislatures rises as a result.(Shvedova, 2005)argues that in newly or partially developed democracies, women politicians have less of a chance to connect with women's groups or other broad interest organisations like trade and labour unions. Furthermore, in these regions, women's groups are less likely to communicate with and lobby for female politicians on women's issues.

The political culture at play there makes it difficult for women to enter and participate in political institutions. In addition to (Shvedova, 2005)findings, new information has emerged. When asked about barriers to political participation, male members' interventions is the main obstacle.

Conclusion and Discussion

Women are also less likely to get involved in politics because of the culture that currently exists. Nowadays in politics, loyalty and integrity are seen as antiquated virtues, and cunning tactics are used to secure victory. Even women already working in politics are discouraged from publicly expressing their anger and disdain for the current climate.

The prevalence of violence in the PRI elections is another factor that discourages women from running for office. Most caste-based violence occurs when members of the lower castes (who are traditionally considered to be less intelligent) challenge the candidates of the upper castes for office. In recent elections, capturing voting booths has become common practise. There is also the unsettling trend of criminalization of politics that is prevalent in electoral processes.

Because of these factors, women are discouraged from entering politics.

The purpose of this research was to determine if increasing the number of women in positions of political power would lead to a meaningful increase in women's political participation and thus pave the way for women's political empowerment. The research identified the factors that encourage and discourage women's entry and participation in politics and provided a theoretical framework for understanding the multiplicity of effects of gender quotas on women's empowerment.

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Just How Representative Is Local Governance in Auckland, New Zealand

Karen Webster*

Paramedicine
Auckland University of Technology
Auckland, New Zealand
karen.webster@xtra.co.nz

Charles Crothers

Social Sciences and Public Policy
Auckland University of Technology
Auckland, New Zealand
charles.crothers@aut.ac.nz

* Corresponding author

Abstract

As the population of the Auckland region in New Zealand, becomes markedly more super-diverse, the question of fair and effective representation becomes increasingly relevant. This paper explores who stood, and who was elected to local office, in the three Auckland triennial local elections, following the 2010 amalgamation of the regions local authorities. It addresses the question of how representative the electoral candidates and elected members of local government in Auckland were of the diverse population they serve. A quantitative analysis of the gender and ethnicity of the Auckland Council candidates and elected members in the 2013, 2016 and 2019 triennial elections was undertaken and the gender and ethnicity compared with that of the Auckland population. Our findings show that under the two-tiered shared governance model established by the Local Government Act (Auckland Council) 2009, electoral candidates have become more ethnically and gender representative of Aucklanders at the local level, while at the regional level, divergence from predominantly New Zealand European, male local representatives is emerging, albeit with less pace. These findings warrant further investigation, but overall, the research presents a cautiously optimistic picture of Auckland local democracy, in terms of increasing representational diversity.

Keywords: local government, representation, diversity. New Zealand. Reform, elections, ethnicity, gender

Introduction

This article explores how closely electoral candidates and elected members reflect the diverse Auckland population following the 2010 reforms, which resulted in the amalgamation of the eight Auckland Councils to form one unitary council. This paper builds on the baseline research in undertaken in 2013 local government election (Webster and Fa'apoi, 2017) 2016 and 2019 triennial local elections.

The aim of New Zealand's Local Electoral Act 2001 (LEA) and the 2021 amendments is to implement "fair and effective representation for individuals and communities"[6] (section 4(1)(c). Hayward (2016). It is further underpinned by the United Nations Human Rights framework which argues for political representation that responds to changing demographics (McGregor et al., 2015); Pitkin's 1967 concept of descriptive representation which argues for a mirroring of the population (Pitkin, 1967); and modern concepts of democracy advocating recognition of diversity (Rao, 1998, Dovi, 2017, Minta, 2012, Celis and Childs, 2012, Childs and Krook, 2008, Kanter, 1977, Stevens, 2007). (For a detailed discussion of these concepts see Webster & Fa'apoi, 2017). Integral to this inquiry is recognition that the nature of local government elections has failed to deliver on the

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[6] Local Electoral Act 2001, s 4(1)(c).

rights and obligations of the Crown to Māori under Te Tiriti o Waitangi[7] for fair and effective representation in governance.

Fairness of local representation in Auckland, New Zealand's largest region by population, has consistently featured as a topic of debate amongst media, citizens and representatives themselves. This concern is supported by election survey data (Department of Internal Affairs, 2013, Local Government New Zealand, 2019) which emphasised low descriptive representation[8] amongst New Zealand local elected members. Women identified as just 36% of candidates and 39% of elected members nationwide in 2019, against women as 51% of the population, and New Zealand European (NZE) elected members as 90% of all elected members, against 74% of all New Zealanders.

Asquith and McNeill (2021) have highlighted shortfalls in the region's local democracy following the reforms, , which include democratic deficit (in terms of voter turnout and elected member: population ratios) and low citizen engagement. This raises questions about the influence of descriptive representation on the health of local democracy(For a discussion of the international and New Zealand literature relating to local representation and diversity, descriptive and substantive representation and Te Tiriti o Waitangi see Webster and Crothers (Webster and Crothers, 2022 (Forthcoming)) . In this short paper we provide an outline of the changes to Auckland's demography in the decade following the region's 2010 governance reforms and discuss the findings in terms of candidate and elected member representation. We underline the emerging trend of women's leadership at the local level of an incremental and the visible increase in Pacific and Asian representation, and the ongoing challenges of Māori to achieve fair and effective representation.

The Auckland Council structure

The Auckland region covers 4,894 km² and is home to over 1.7 m people (just over one-third of the national population) (NZ Stats Tatauranga Aotearoa, 2020). From 1989 to 2010 it was governed by a regional council[9], four city councils and three district councils[10]. In 2007, the Royal Commission on Auckland governance was established to determine how to best structure Auckland local governance

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[7] Te Tiriti o Waitangi is the Te Reo Māori version of the Treaty of Waitangi, the founding document, which underpins the legitimacy of New Zealand's system of government PALMER, G. & PALMER, M. 2004. *Bridled power: New Zealand constitution and government,* Auckland, Oxford University Press. It was signed by the British Crown and Māori chiefs in 1840 and affords Māori, New Zealand's indigenous people rights and privileges. In Article 1, Māori chiefs "cede to Her Majesty the Queen . . . all rights and powers of sovereignty" (in the Māori version this is translated as 'government). Article 2 "confirmed and guaranteed to the Chiefs and Tribes of New Zealand and to the respective families and individuals thereof the full exclusive and undisturbed possession of their lands and Estates Forests Fisheries and other properties which they may collectively or individually possessed... "ORANGE, C. 1987. *The Treaty of Waitangi,* Wellington, Allen and Unwin New Zealand Limited.,p.258. Article 2 further provided an exclusive pre-emption to The Crown, to treat over land purchase. In Article 3, "her Majesty the Queen of England extended to the Natives of New Zealand Her royal protection and imparted to them all the rights and privileges of British subjects". Almost immediately after signing, conflict arose regarding the interpretation of the Māori and English versions of the Treaty, which resulted in grievances between generations of Māori and The Crown. Following Māori activism in the 1970s, government acknowledged Māori had grounds for grievance and enacted the Waitangi Tribunal Act 1976 to address land claims WEBSTER, K. 2009. *Whakapiri tātou, hei manaaki tangata, hei manaaki whenua: Effective governance for urban sustainability.* Doctorate in Public Policy, Auckland University of Technology.. References to the Treaty of Waitangi are incorporated in New Zealand statutes, including the Local Government Act 2002, and the Resource Management Act 1991. These statutes effect the New Zealand government's obligations to honour Te Tiriti to local authorities and provide the foundation for New Zealand Māori participation in local governance. The Treaty is referred to in English in statute and that form is used where appropriate in this article.

[8] Descriptive representation is the idea that the characteristics of voters are mirrored in the representatives they elect PITKIN, H. 1967. The concept of representation, Berkeley, University of California Press.

[9] Regional council responsibilities include: Managing the effects of freshwater, land, air and coastal waters; developing regional policy statements and issuing consents; managing rivers, mitigating soil erosion and flood control; regional emergency management and civil defence preparedness; regional land transport planning and contracting passenger services; and harbour navigation and safety, oil spills and other marine pollution TE TARI WHENUA INTERNAL AFFAIRS. 2011. Local government in New Zealand - Local councils [Online]. Wellington: New Zealand Government. Available: https://www.localcouncils.govt.nz/lgip.nsf/wpg_url/Resources-Glossary-Index#RegionalCouncil [Accessed]..

[10] Collectively known as local authorities, city and district council services typically include roading, water reticulation, wastewater, refuse collection, libraries, parks, recreational services, local regulations, community and economic development, and town planning.

for the future (Salmon et al., 2009). The resulting 2010 reforms disestablished the eight local authorities and formed a new unitary council, the largest council in the Oceania region[11]. It comprised a governing body (or council), 21 local boards organised into 13 wards, and seven council-controlled organisations which own and manage the city's utilities, business units and property assets (for detailed discussion on the Auckland Council structure see (Webster and Fa'apoi, 2017)). As a unitary council, the Auckland Council has the powers and responsibilities of a regional council and a local authority. The geographic boundaries of the wards and local boards are shown in figures 1 and 2.
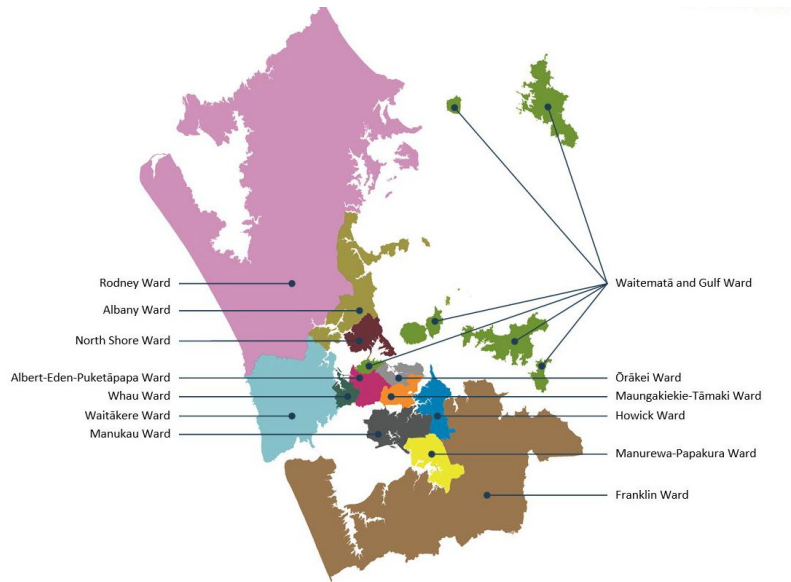
Figure 1. Auckland Council ward boundaries.
(Source: Auckland Council (2022)
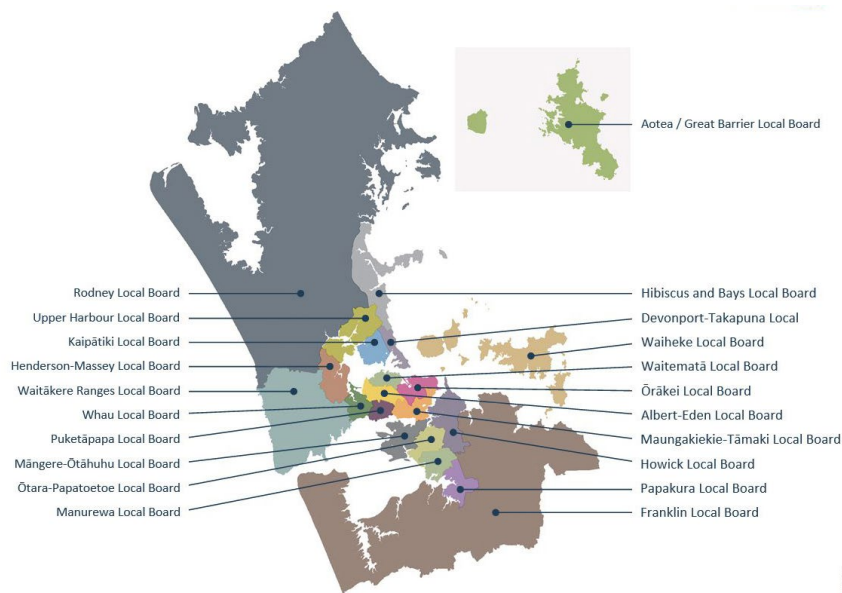
Figure 2. Auckland local board boundaries.
(Source: Auckland Council. (2022)

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[11] The Oceania region includes Australasia, Melanesia, Micronesia and the Pacific Islands FLICKER, L. & KERSE, N. 2017. Population aging in Oceania. In: MICHEL, J.-P., BEATTIE, B. L., MARTIN, F., C. & WALSTON, J. (eds.) Oxford textbook of Geriatric Medicine (3rd edition). UK: Oxford University Press..

The council is led by a directly elected mayor and 20 councillors who represent their wards via single or multi-member representation. They make up the governing body, responsible for regional and strategic decision making. There are 149 elected members across the local boards, who make decisions on matters local to their communities. The local boards are organised via the ward system[12] (see table 1).

Table 1. Ward and their local boards (in approximate order from north to south)

Ward	Local board
Rodney	Rodney
Albany	Hibiscus and Bays
	Upper harbour
North Shore	Kaipatiki
	Devonport-Takapuna
Waitemata and Gulf	Great Barrier
	Waiheke
	Waitemata
Albert-Eden-Roskill	Albert-Eden
	Puketapapa
Maungakiekie-Tamaki	Maungakiekie-Tamaki
Whau	Whau
Waitakere	Henderson-Massey
	Waitakere Ranges
Orakei	Orakei
Howick	Howick
Manukau	Mangere-Otahuhu
	Otara-Papatoetoe
Manurewa-Papakura	Manurewa
	Papakura
Franklin	Franklin

(Source: Auckland Council, 2022)New Zealand local electoral process

Auckland and its population

In 2013, the usually resident population of Auckland was 1.4 million, 33% of New Zealand's total population of 4.2 million (Statistics New Zealand, 2013). By 2018, the population had grown 10.8% to 4.7m, with Auckland's share being 1.6m or 34% of the national population. Nationally, females have outnumbered males in the general population since the 1971 Census. The numbers of females have steadily increased and by 2013, there were 114,015 more females than males overall in the population over 20 years of age. By 2018 there were 2.25m females to 2.17m males (a difference of 80,000), with more women in every age group over 30 years and more men under 30 years (NZ Stats Tatauranga Aotearoa, 2018).

Generally, Auckland's demographic composition is younger and more ethnically diverse than the rest of New Zealand. In 2013 in Auckland there were 40,563 more females than males (Auckland Council Social and Economic Research Team, 2014). By 2018 this difference had reduced to 17,763 (Stats NZ, 2019a).

Table 2 shows the ethnic spread in the Auckland population over the period relating to this research. Residents of European ethnicity are still the largest group in Auckland. Data shows a modest decline of 3% over the last three census periods. While the Maori population of Auckland is relatively steady between 10.7 and 11.5% there is a growing increase in the proportion of Pacific and Asian residents and a decrease in the other categories, including European residents (but excluding Middle Eastern/Latin American/ African (MELAA)), in line with the national trend[13].

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[12] It should be noted that some of the more rural wards have subdivisions, with or without local boards, by which members are elected. This is to ensure an even spread of elected members across the population. Sub-divisions are not referenced in the discussions of representation that follow.

[13]

Table 2. Ethnicity of Auckland population – 2006, 2013 and 2018 Census data

Ethnicity	2006 (%)	2013 (%)	2018 (%)
European	56.5	59.3	53.5
Māori	11.1	10.7	11.5
Pacific peoples	14.4	14.6	15.5
Asian	18.9	23.1	28.2
MELAA	1.5	1.9	2.3
Other ethnicity	8.1*	1.2	1.1

(Sourced from NZ Stats Tatauranga Aotearoa, (2020))

Note: As individuals could identify as more than one ethnicity, percentages add to more than 100.

* Until 2009 the category New Zealander was categorised as 'other'. After 2009 it was counted with NZE and renamed European. As individuals could identify as more than one ethnicity, percentages may add to more than 100.

Areas of diverse ethnic concentrations have been evident across Auckland for some decades. Of specific note, since 2013, are the Manukau and Manurewa-Papakura wards, with significant proportions of Māori (21%), Pacific (40%), and Asian (21%) people. The proportion of Asian people is significant in the Whau (32%), Howick (36%), Albert-Eden (26%), Kaipatiki (24%), Maungakiekie-Tamaki (21%), and Henderson-Massey and Devonport-Takapuna local boards (19% each). These concentrations facilitate diverse representation, even under the FPP electoral system

Research design

The research was undertaken as mixed method cohort study (Levin, 2003, Dulin, 2008) drawing on Auckland Council published candidate lists for 2013, 2016 and 2019 elections. Cohorts' gender and self-identified ethnicity was determined by reference to publicly available information (candidate booklets, archives and websites), and checked across multiple sources.

New Zealand Census data categories have been used for consistency: New Zealand European (NZE, before 2009) or European (Eur, after 2009), Maori, Pacific, Middle East, Latin American and African (MELAA) and 'other'. Due to the low prevalence of MELAA and 'other', these categories are combined. While some electoral candidates identified with more than one ethnicity, analysis has focused on the identity that was most expressed in their community and governance activities. The gender and ethnicity of candidates and elected members was compared against the 2013 and 2018 census data to ascertain the degree of descriptive representation (Pitkin, 1967) delivered by the respective elections, to determine whether local government representation in Auckland was responding to the city's changing demographics. Striking differences are observed between the profiles of the candidates and elected members, and the populations to which they are compared.

The research cohorts

In total, the cohort for this research comprised the 1362 candidates who stood across three election cycles for the Auckland mayoralty, the 20 governing body (council) seats, and 149 local board seats. Table 3 shows that the number of candidates standing was slightly higher in 2013 and 2016 at 453 and 468 respectively, the year following the Auckland local government amalgamation, and reduced to 424 in 2019.

Table 3. Auckland Council candidates comprising the research cohort by year (2013, 2016 & 2019)

	2013	2016	2019
	n	n	n
Total nominations	453	468	424
Elected unopposed	6	4	4
withdrawn/cancelled nominations	0	0	0
Men candidates	290	282	247
Women candidates	163	186	176
Total candidates	453	468	423
Total elected member seats	170	170	170

Auckland governance and gender

In 2013, of the 453 candidates contesting the Auckland Council 2013 election: 290 men and 163 women, a ratio of 64:36, against a population ratio of 49:51 per cent (Stats NZ, 2018). Fifty-nine candidates stood for the 20 governing body or mayoral positions and 394 candidates stood for the 149 local board positions. In 2016, the total number of candidates was slightly higher at 468: 282 men and 186 women, a ratio of men to women candidates of 60:40. In 2019, of the 423 candidates 247 (58%) were men and 176 (42%) were women, a ratio of 58:42. The number of men standing over the three election cycles has dipped (down 18% or 53 candidates -see table 1.), while the number of women has fluctuated – up 8% overall (13 candidates). This may indicate an increased willingness by women to put themselves forward for local office, at the local board level at least, due to greater proximity to home and workplace. The new structures appear to be overcoming the geographic barriers to women's participation highlighted by Drage and Tremaine (2011) and Conroy (2011) in first decade of the new millennium. A similar if less marked change can be seen at the governing body/regional level (see table 4).

Table 4. Auckland Council candidates and elected members by gender (2013, 2016 and 2019) by percentage.

		All		Governing Body		Local Board	
		Men (%)	Women (%)e	Men (%)	Women (%)	Men (%)	Women (%)le
2013	Candidate	64	35	71	29	63	37
	Elected	58	42	65	35	58	42
2016	Candidate	60	40	70	30	49	51
	Elected	53	47	65	35	49	51
2019	Candidate	58	42	65	35	57	43
	Elected	49	51	55	45	48	52

Table 4 shows that while in 2016, women comprised just 30% of candidates and 35% elected members. In 2019, at the governing body level, the percentage of women did not change, however, the women candidates were more successful and won 45% or 9 of the 20 seats they contested.
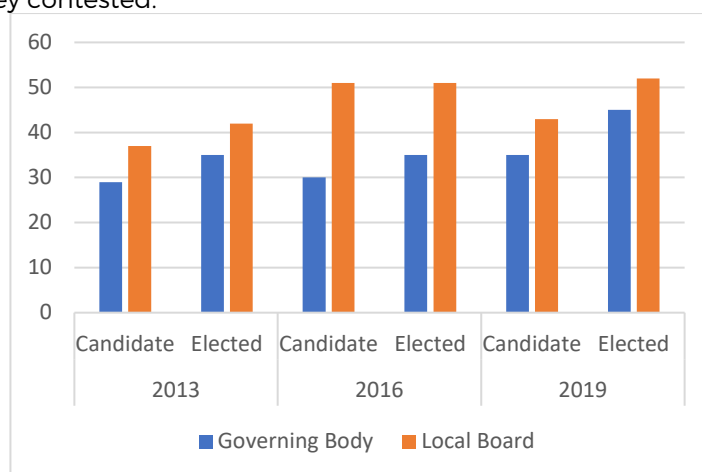
Figure 4. Women candidate and elected member success in Auckland – Governing body vs local boards (by percentage of total) (2013, 2016 and 2019)

The percentage of women candidates standing overall has risen from 35% to 42%, however at the governing body level it remains at 35%. This highlights the reluctance of women to stand for senior leadership positions and the challenges they continue to face post-amalgamation, overcoming the barriers of greater distance from home and dedicating time to community service. Of note, is that for the first time since the 2001 local election in Auckland (McGregor and Webster, 2017), women's representation overall in Auckland has reached 42%. This is well over the 35% critical mass threshold postulated to effect influence around the governance table (Kanter, 1977), indicating the likelihood of

substantive representation of women and families in Auckland local governance (McGregor and Webster, 2017).

In contrast with 2016, where the number of women candidates standing for the 149 local board positions lifted by 12 (a total of 146, making women 62% of candidates), in 2019, the overall number of candidates reduced from 468 to 423 and the number of women standing for a local board increased by a further five (a total of 151). Women again won more than half the local board seats (52% compared to 51% in 2016 and 42% in 2013). In 2019, men elected to the governing body outnumbered women by just 1 seat, indicating that more women are overcoming the barriers to standing for council, and proportionally winning more seats than men. Figure 4 highlights women's success in being elected. At both the local board and governing body , women were elected in greater proportion than that in which they stand.

Women's electoral success is evident at the local board level (see table 5). In 2013, women comprised 35% or more of elected members in just 13 of the 21 local boards. This increased to 17 local boards in 2016, and 18 in 2019 (see table 3). By 2019, women made up 50% or more of the elected members in 14 local boards, compared with 11 in 2016 and just six in 2013. Table 3 shows that in 2013, 2016 and 2019, women candidates were more successful than men at being elected in 11, 10 and 19 of the 21 local boards respectively i.e. they were elected in greater proportions than they were candidates. Taken alongside the national statistics which show that the proportion of women elected to local government across New Zealand has remained static at around 30%, and moved only several percentage points up or down over the past eight election cycles (1995-2019) (Stats NZ, n.d., Department of Internal Affairs, 2019), the increase in women's descriptive representation and the proportion holding leadership positions in the local boards, may indicate that the reforms have overcome some of the barriers for women to stand. What remains to be established (and outside the scope of this research) is whether this is translating to substantive influence in policy and governance at the local level.

Table 5. The percentage of women who stood and were elected by individual local board (2013, 2016 and 2019).

Local board	N elected members	% Women					
		2013		2016		2019	
		Candida.	Elected	Candida.	Elected	Candida.	Elected
Albert-Eden	8	54	62	50	63	72	75
Devonport-Takapuna	8	33	25	28	25	39	50
Franklin	9	24	44	36	33	32	33
Aotea/Great Barrier	6	70	80	75	60	57	60
Henderson-Massey	8	43	37	46	38	42	50
Hibiscus and Bays	8	43	37	35	63	44	63
Howick	9	28	33	39	34	27	33
Kaipatiki	6	44	57	65	50	47	63
Mangere-Otahuhu	7	24	44	42	57	36	43
Manurewa	8	42	37	43	63	46	38
Maungakiekie-Tamaki	7	45	29	53	43	56	43
Orakei	7	36	29	50	43	27	29
Otara-Papatoetoe	7	40	43	30	57	55	57
Papakura	6	40	17	31	50	44	50
Puketapapa	6	13	33	31	50	42	50
Rodney	9	23	22	37	56	39	44
Upper Harbour	6	44	50	40	50	36	67
Waiheke	5	50	60	67	25	44	60
Waitakere Ranges	6	44	50	56	50	47	50
Waitemata	7	30	29	33	43	55	71
Whau	7	38	43	35	57	40	71

It is significant that women have continued to hold a substantial proportion of the leadership positions over this period: more than half of 21 chairs in 2013 and 2016 (12 and 11 respectively) were held by women; and just half (10 and 11) of 21 deputy chair offices. In 2019, 11 of the 21 local boards opted for chairs and deputy chairs to serve split terms. Under this arrangement women held a similar proportion of the leadership roles. Term 1 saw

eight women holding the chair and 14 women in the deputy chair role. In term 2, 11 women held the chair, and 13 the deputy chair. For the purposes of comparison with 2013 and 2016, this can be averaged to give 9.5 women chairs and 13.5 women deputy chairs, out of a possible 21 (the number of leadership roles held by women is summarised in table 6.).

Table 6.   Women in leadership roles across the 21 local boards (2013, 2016 and 2019)

2013		2016		2019	
Chair	Deputy	Chair	Deputy	Chair	Deputy
12	10	11	11	9.5	13.5

The electoral success of women was accentuated over the same period, by data which shows the number of boards dominated by men has halved, from 14 to seven.

Auckland governance and ethnicity

Overall, Auckland Council candidates and elected representatives have become increasingly ethnically diverse since 2013. Figure 5 shows the progressive decrease in European dominance of candidates and elected members, overall, across Auckland local government. It is evident from the data that the number of Maori, Pacific and Asian candidates increased over the three elections in question and these candidates were increasingly successful at being elected. While European candidates and elected members still dominated in 2019, proportionally, they reduced from 84% and 88% respectively in 2013, to 67% and 76% respectively in 2019 (see figure 5).

Also of note in 2019, was a doubling in the percentage of Māori candidates over the three elections, from 5% of candidates to 10%, resulting in 6% Māori elected members, compared with 4% in 2013. The percentage of Pacific candidates also increased over this period from 6% to 9%, resulting in an increase in elected members from 6% to 10%. Māori have consistently stood and been elected at around half their prevalence in the population of 11-12%. While there is a geographic concentration of Māori in the Manukau, Manurewa and Henderson local board areas (Auckland Council, n.d.), the overall dispersed nature of Maori across the region poses a significant challenge to being elected.

On the other hand, Pacific people who have comprised 15-16% of the population, stood as 9% of candidates and were 10% of those elected in 2019. Their success is attributed to Pacific people being geographically clustered in Auckland's southern wards comprising the Mangere-Otahuhu, Otara-Papatoetoe, Manurewa and Papakura local boards and being well organised in terms of support from church and family networks, with the former being a significant avenue, for Council when reaching out Pacific people (Auckland Council, 2015). The number of Asian candidates and elected members has significantly increased over the same period, from 1% in 2013 to 9% and 7% respectively. The participation of 'other' ethnicities has remained stable at between 1-3%.
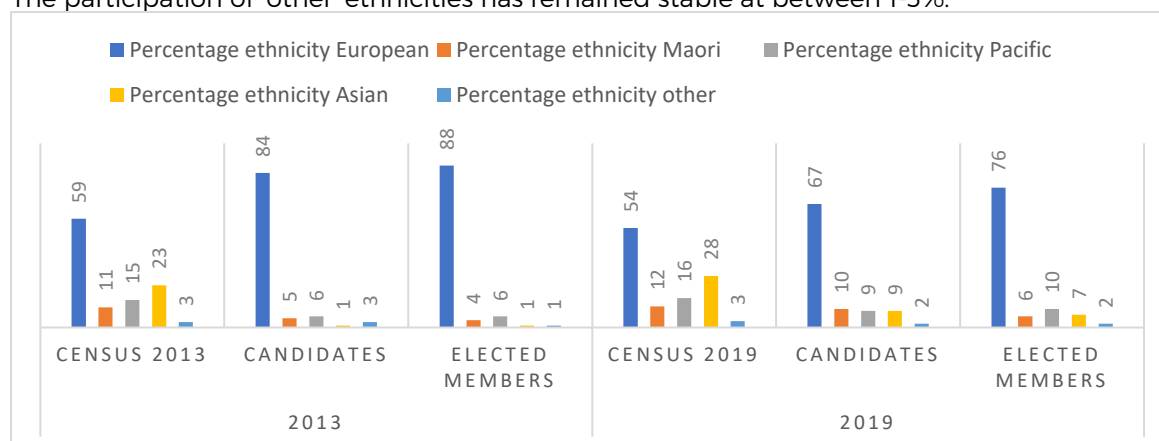
Figure 5.   Overall candidate and elected member ethnicity across Auckland against Census data (2013, 2019).

Auckland governance and ethnicity at the ward level

The increased diversity of candidates and elected members is evident across the ward/governing body level, as well as the local boards level. As shown in figure 6, in 2013, the near complete blue circle on the outer ring of the radial chart represents the dominance of European candidates in all but four wards. The blue line deviates from the green outer rim which represents 100 per cent European elected members, at Manukau, Maungakiekie-Tamaki, Waitakere and Waitemata and Gulf, demonstrating the diversity in electoral candidates in those local boards. Nine of the 13 wards had all European candidates, and 12 had all European governing body members, emphasising an absence of descriptive representation at this level of Auckland local government at that time.

In 2013, the Manukau and Manurewa-Papakura wards (comprising the Mangere-Otahuhu, Otara-Papatoetoe, Manurewa and Papakura local boards) in south Auckland were the only deviation from the trend of predominantly European representatives (see figure 6). One Asian candidate stood unsuccessfully for the Waitakere ward. The radial diagram highlights the diversity in the Manukau ward, where two Maori, two Pacific and two candidates of MELAA/other ethnicity stood. The two governing body representatives elected in Manukau were of Pacific ethnicity. This was the only ward where non- European (Māori and Pacific) candidates were elected as ward councillors (governing body members). In 2013, the Manukau ward with its significant concentration of Māori and Pacific people was the exception to total European dominance at this level of governance.

In 2016, while European remained the predominant ethnicity among ward candidates (66%) and governing body members (72%), new pockets of ethnically diverse candidates had emerged across Auckland e.g. Albert-Eden Roskill and Maungakiekie-Tamaki wards in central Auckland, and Waitakere in the west. Notwithstanding this, in five of the 13 wards (Franklin, Waitemata and Gulf, Manurewa-Papakura, Orakei and Rodney), all candidates were NZE; while in 10 wards, all the elected members were European (the previous five wards, plus North Shore, Howick, Albany, Maungakiekie-Tamaki and Whau).

The greater diversity in candidates was evident in seven wards. Meanwhile, European candidates prevailed in four wards (in Albert-Eden, Whau and Maungakiekie-Tamaki and Howick). One Asian candidate stood for Albert-Eden-Roskill and three for the Howick ward, all unsuccessfully. The Albert-Eden-Roskill and Waitakere wards each elected one European candidate and one of 'other' ethnicity. The increase in participation of diverse candidates is likely attributed to the 'Show your Love for Auckland' public relations campaign undertaken by the Auckland Council Elections Team for the 2016 election (Delbet and Watson, 2017), which aimed to increase voter turnout to an aspirational 40% of registered voters[14]. The campaign was highly inclusive of diverse communities, targeted candidates from ethnicities who were less likely to participate, and provided support for building their online profiles.

In 2019, Europeans again comprised 81% of candidates, however, overall they were less successful in being elected and comprised just 75% of governing body members (15 of the 20). Just five of the 14 wards had 100% European candidates, while nine of the 14 elected 100% European elected members. Again, the Pacific and Asian interest in local representation in the Whau Ward, and the Māori, Pacific and other interest in the Waitemata and Gulf Ward visible in 2013 were not present in 2019.

The Manukau Ward re-established its 2013 Maori/Pacific representation on the governing body in 2019, after reverting to all European candidates and elected members in 2016. Maungakiekie-Tamaki in central Auckland elected one Pacific member; and Albert-Eden-Roskill, also in central Auckland, elected one MELAA/other ward member. Howick, in east Auckland, again elected an Asian member. Figure 6 below shows the Howick, Manukau and Maungakiekie-Tamaki Wards with the highest diversity participation in 2019.

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[14] The campaign achieved a voter turnout of 38.5% over 36.5 in 2013 (Stats NZ, 2016).
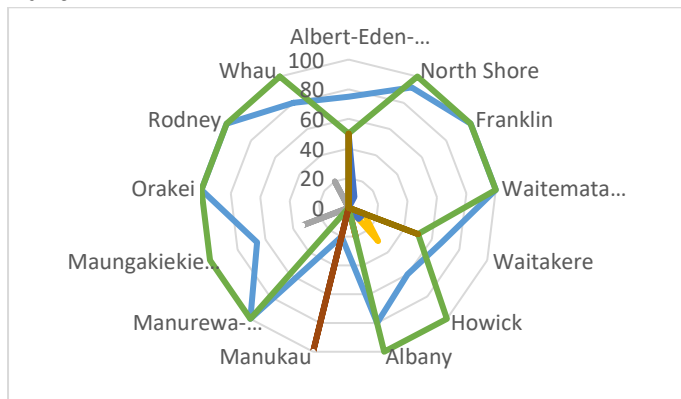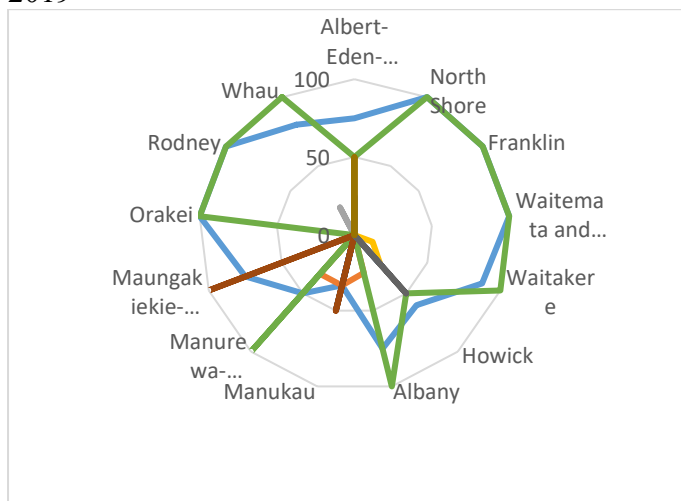
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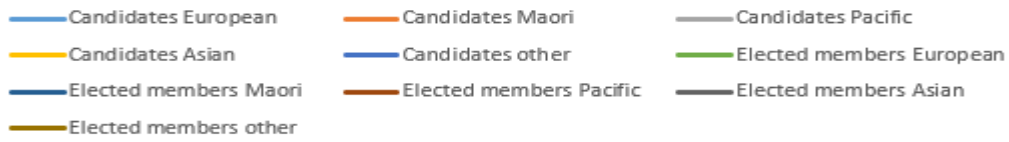
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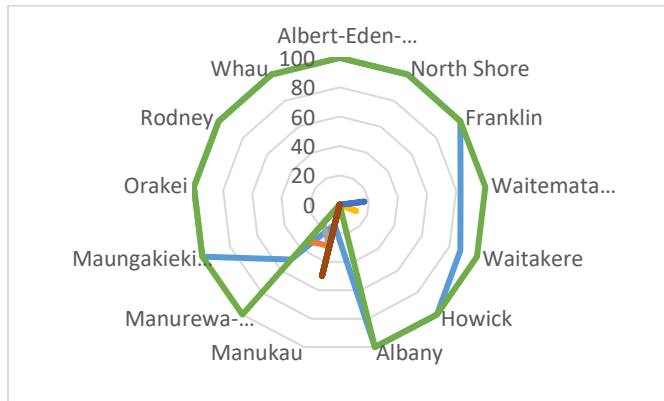
2016

2019

Figure 6. Candidate and elected member ethnicity at the ward/governing body level in Auckland.

The data shows the emergence of distinct pockets of diverse candidates. Notwithstanding this, it is clear that ethnic groups continue to struggle to achieve descriptive representation on a par with their proportion of the population at the ward/governing body level under the current FPP voting system, alongside the Auckland Council's determined public relations campaign to engage ethnically diverse communities in the electoral process.

In 2016, just two Maori stood for ward seats (in Albany and Waitakere wards), down from the four in 2013 (two in Manukau and two in Manurewa-Papakura wards), who were unsuccessful. In 2019, two Maori candidates again stood for ward seats (one in Manukau and one in Albany) one of whom was successful (Manukau). The poor representation of Māori, among both candidates and elected members at the governing body level, in the three elections following the 2010 amalgamation is of concern, as overall descriptive representation of Māori languishes at half their proportion in the Auckland population. While the presence of the Independent Māori Statutory Board might have been considered proxy to Māori electoral representation, the board has limited membership on council committees so there is no evidence to support that this is providing fair and effective representation for Māori.

Auckland governance and ethnicity at the local board level

At the local level, a diversity of candidates and elected members has been evident from the 2013 election candidate data (see figure 7) where many deviations from the outer rim of the radial graph demonstrate the greater diversity than at ward level. In 2019, just six of the 21 local boards had 100% European elected members, compared with seven in 2016 and 12 in 2013.

Notable in 2019, was the increase in Asian candidates – 34, 10 of whom were elected. This compares with 30 and seven in 2016 and 17 and 2 in 2013, respectively. In 2019, Asian candidates stood across 11 local boards and were elected in seven local boards: Albert-Eden, Puketepapa and Whau local boards in central Auckland; Howick in east Auckland; Henderson-Massey in west Auckland; Upper Harbour on the North Shore; and Otara-Papatoetoe in the south. The Puketepapa Local Board elected a record three Asian members (50%) out of a total of six local board members.

This builds on the Asian participation in Auckland local elections noted in 2016 when the 30 candidates stood across 10 local boards and were elected in four (Albert Eden, Henderson-Massey, Howick and Whau) and in 2013, when 17 candidates stood across four local boards and two were elected (Henderson-Massey and Whau local boards).

In 2019, a total of 36 Maori stood across 18 Auckland local boards and nine were successfully elected: Great Barrier Island, Henderson-Massey, Maungakiekie-Tamaki, Orakei, Waitemata and Whau (one member each); and Manurewa (2 members), This compares with 22 Māori candidates and seven local board members elected in 2013: Great Barrier; Henderson-Massey, Manukau, Mangere-Otahuhu and Otara-Papatoetoe one member each; and Maungakiekie-Tamaki (2 members).

Similarly, 32 Pacific candidates stood across just 11 local boards and 14 were elected: Mangere-Otahuhu (6 members); Maungakiekie-Tamaki (2 members); Otara-Papatoetoe (2 members); Papakura (2 members); and Whau (2 members). In 2019 there were just five 'other' candidates, down from nine in 2016 and 13 in 2013), however, just two, four and three 'other' candidates respectively were successful in winning seats. It can be postulated that the progressive reduction in the participation of 'other' candidates is a response to the success of NZE candidates under the FPP electoral system. This may be explained by unsuccessful candidates being discouraged from standing again because the majority groupings in the population, which dominate across many electoral boundaries, are seen to be more successful. The increases in Pacific representation evidenced here appear to be the result of organised community support where Pacific people are concentrated within the Manukau Ward in the south of the region where Māori and Pacific people comprised more than 42% of the population (Stats NZ, 2018).

Overall, these results emphasise that under FPP, where ethnicities live in geographic concentrations aligned with voting areas, for example, the Pacific population clustered in South Auckland, minority groups can be successful in achieving a level of descriptive representation. However, for Maori, and other ethnicities that are dispersed across the region, achieving descriptive representation continues to prove challenging

under the current predominance of FPP as the electoral system of choice for the majority of councils.
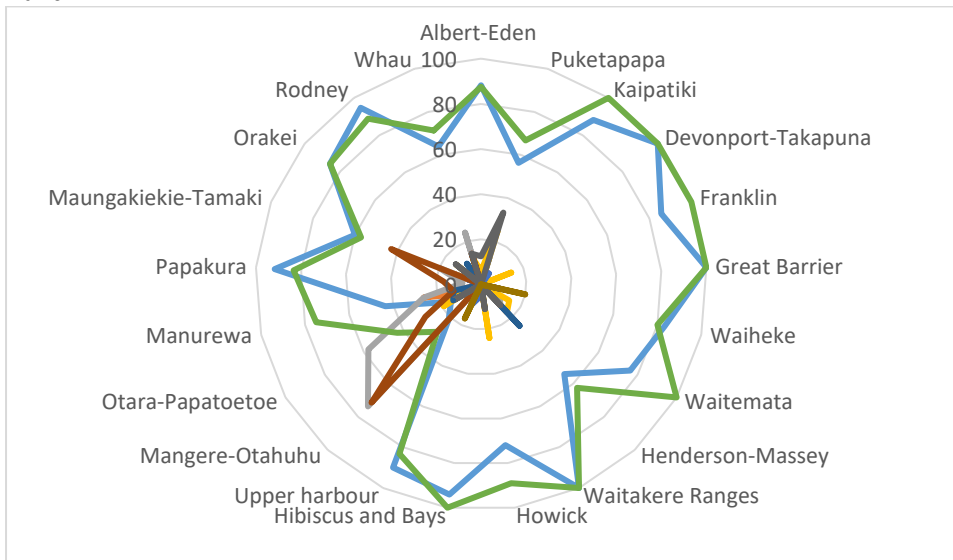
Key

- Candidates European
- Candidates Maori
- Candidates Pacific
- Candidates Asian
- Candidates other
- Elected members European
- Elected members Maori
- Elected members Pacific
- Elected members Asian
- Elected members other
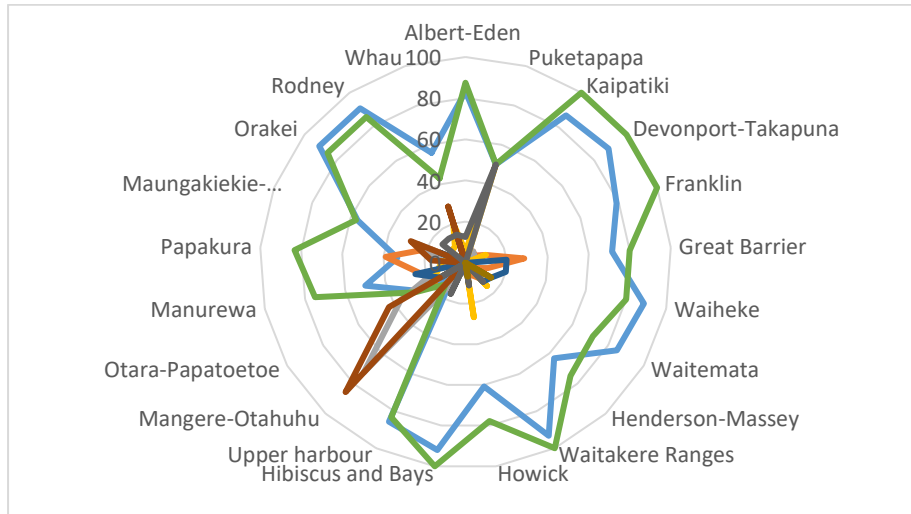
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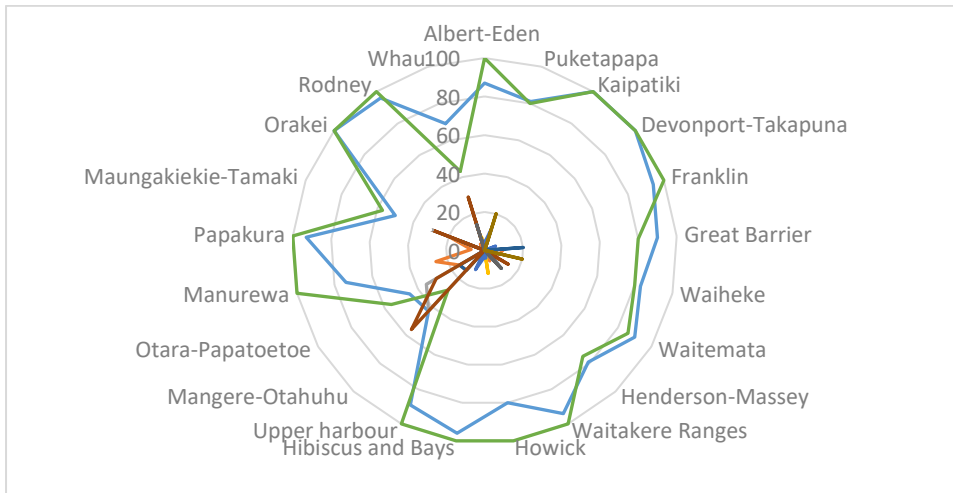
2016

2019

Figure 7.   Candidate and elected member ethnicity at the local board level in Auckland.

Discussion

In asking 'who stood and who was elected' in Auckland following the 2010 local body amalgamation, this research evidences increasing levels of incremental change in the descriptive representation in Auckland local government, between 2013 and 2019. The percentage of women elected to Auckland council has remained at 35% compared with their proportionality in the population of 52%. At the local level, women held more than half the seats in 2016 and around half the local board leadership roles in each of the three election cycles.

While the overall percentage of women elected to local government in New Zealand has remained almost static for the past 25 years (eight election cycles) (Department of Internal Affairs, 2019), in Auckland, the electoral success of women in the 2016 and 2019 local board election is evident. Women have exceeded a critical mass of 35% that Kanter (1977) argued was the tipping point or threshold for women to influence governance. Whether this is sufficient to overcome the cultural barriers inherent within the local government system highlighted by feminist authors (Tremaine, 2000, Conroy, 2011, Stevens, 2007, Phillips, 1995, Henig and Henig, 2001, Pini and McDonald, 2004), and result in women's substantive representation is yet to be established.

By contrast, at the regional level, women's representation is just short of this tipping point with seven of the 21 positions on the governing body (which includes the mayor) held by women. The lesser interest shown by women candidates at the ward level is likely due to the challenges posed by amalgamation; that is larger constituency areas, being less family friendly and the costs of mounting a campaign for election to the governing body (Pini and McDonald, 2011, Conroy, 2011, Henig and Henig, 2001, Stevens, 2007).

Overall, the proportion of European candidates and elected members decreased from 84% and 88% in 2013, to 67% and 76% in 2016. By 2019 the proportion of European candidates was two-thirds and European elected members, three-quarters of the total, compared to being just over half the Auckland population (Census 2018). While European remains the predominant ethnicity for Auckland elected representatives the emerging picture is encouraging for descriptive representation that reflects the diversity of cultures making up Auckland. both the ward and local level, as New Zealand government population projections predict that by 2038 NZE will comprise just 48% of the Auckland population; Asian 35%, Pacifica 17% and Maori 12% (Stats NZ Tatauranga Aotearoa, 2022). In contrast to this increasing diversity, the pace of change is slow. An exception to European dominance first in 2013, and sustained in 2016 and 2019, was the Manukau Ward, in southern Auckland. In this area, three quarters of elected members were of Pacific ethnicity and descriptive representation appeared to be achieved. It is concerning that while 11 per cent of Auckland's population identified as Māori and they comprised 10% of

candidates in 2019, they achieved just 6% of elected member seats, an incremental increase on previous elections.

We reiterate that while proportional representation at the national election has improved Maori representation, the prevalence of FPP across local authority elections in New Zealand, does nothing to enhance the representation of Maori and minority groups that do not achieve critical mass within a particular Auckland electoral boundary. There is no evidence to suggest that this will change if the Auckland Council's governing body retains FPP (over STV) as the local electoral system.

Conclusions

Overall, the representation gap evidenced by the original 2013 electoral results has been reduced in the two successive elections. On one hand, the integration of Auckland's eight local authorities and other entities into a unitary council is hailed as a major achievement. On the other hand, representation, and by association, democracy has been sacrificed by the barriers posed by larger geographic areas, and fewer elected members for a growing and increasingly super diverse population. In Auckland, the ratios of elected representatives to population persist at around twice the New Zealand (and Scottish) average, more than three times that of the UK and almost four times those of South Australia and Wales (Shirley et al., 2016).

It is likely that the significant changes in descriptive representation across Auckland at the local board level at least, are attributable to the 2010 Auckland reforms. While this does not address the democratic deficit in terms of excessively high voter to elected member ratios, it shows promise in that many more voters will see themselves reflected around the council and local board governance tables.

As women have exceeded the critical mass required to influence governance (Kanter, 1977), we are optimistic that this elevated level of descriptive representation at local board level is sufficient to overcome the cultural barriers inherent within the local government system that have been highlighted in the literature and to encourage more women to put themselves forward for regional governance. The emergence of an ethnically diverse range of candidates across the region at both the ward and local level, and the success of Pacific, and Asian candidates is heartening, notwithstanding the slow pace of change. In 2019, Maori representation in Auckland was just half their prevalence in the population. While campaigns such as Auckland Council's 2016 'Show your love' appear to be effective in reaching Pacific and Asian communities, it is unlikely that they will have a positive impact on Māori representation. The retention of the FPP as the voting system, and in the absence of Māori wards, Maori and minority groups that do not achieve critical mass within a particular Auckland electoral boundary will be unlikely to achieve fair and effective representation.

The institutions of representative democracy are failing to deliver on the aspiration of fair and effective representation for all citizens. Changing population demographics, the continued low representation of diverse communities in Auckland and the persistence of the Auckland Council to retain FPP, support the case to mandate STV, a proportional representation electoral system, at local government. As Godfery (2016) observed, the positive outcomes that proportional representation have achieved for Māori at the national level, provide a compelling reason for the government to legislate a such a change, to legitimise the Auckland region's local governance and to remove the barrier to fair and effective representation under the Local Electoral Act. This could provide a fair way for voter preference to be counted, and potentially encourage more people to vote with the knowledge that their vote will count, whether they support a candidate from the majority or minority ethnic group.

Postscript

This article was being finalised during the pre-2022 local election period. A number of changes were evident in Auckland and nationally. The Auckland mayoral competition started with 22 candidates, two of whom withdrew leaving the front runners as Auckland's first Pacific mayoral candidate, left-leaning two-term Manukau ward councillor Efeso Collins; and right-leaning engineer and business advocate Wayne Brown. Two other high-profile candidates from the right, Leo Molloy and Viv Beck had withdrawn

to avoid splitting the right vote. Subsequently, Collins was defeated by a significant margin as Auckland voted in another male European of advancing age.

On the national stage, 15 of the local authorities who had reviewed their representation arrangements (as required at least every 6 years under the Local Electoral Act 2001) had opted or confirmed STV as their electoral system, the largest number since STV was introduced as the local electoral option first used in 2004 (Department of Internal Affairs, 2021b). Further changes to the Electoral Act (Department of Internal Affairs, 2021a) made it easier for councils to establish Māori Wards and 35 councils had done this in time for the 2022 election (Taitaurā Local Government Professionals Aotearoa, 2022, Department of Internal Affairs, 2021a). The Auckland Council did not review its representation arrangements for this election and therefore retained FPP. Due to the legislative status of the IMSB, changes would be required to the Auckland Council-specific legislation (Local Government (Auckland Council) Act 2009) to pave the way for the Auckland Council to establish Māori wards. It will be seen whether the impact of the electoral changes on fair and effective representation of communities nationally, will provide the impetus for Auckland Council to embrace STV in future elections and advocate Māori wards in time for the 2025 election. These two electoral changes have the potential to fundamentally influence how future local elections deliver "fair and effective representation for all New Zealanders.".

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Policies and Challenges in Dealing with Street Children, Homeless and Beggars in an Indonesia Local Government

Andi Ahmad Yani

Department of Administrative Science, Hasanuddin University and Institute of Public Policy Studies, (LSKP), Indonesia. aayani@unhas.ac.id

Amril Hans

Department of Administrative Science, Hasanuddin University Institute of Public Policy Studies (LSKP), Indonesia. amrilhans@unhas.ac.id

Dwiana Fajrinawati Dewi

Department of Psychology, Hasanuddin University and Institute of Public Policy Studies (LSKP), Indonesia. dwianapiarah@gmail.com

Muhammad Adnan Kasogi

Department of Sociology, Hasanuddin University, Indonesia. adnankasogi@unhas.ac.id

Rahmat Nurul Nugraha

Department of Economics, Hasanuddin University, Indonesia. rahmat.nurul@unhas.ac.id

Andi Fitriyani Yahya

Regional Development Planning, Research and Development Agency, South Sulawesi Provincial Government. andifitriyani@gmail.com

Abstract

This study aims to analyze the policies and challenges of the provincial and district/city governments in urban areas to deal with street children, homeless people and beggars in South Sulawesi. This research was conducted with a qualitative approach by collecting data through interviews, focus group discussions and document studies. Data from interviews and FGDs were analyzed using interpretive methods and document study data were analyzed using content analysis methods. This research was conducted from April to October 2022 in four areas of the urban Mamminasata region, namely Makassar City, Maros Regency, Gowa Regency and Takalar Regency. This study identifies two local regulations that regulate the handling of street children, homeless people and beggars in South Sulawesi. The first policy is the Makassar City Government Regulation which regulates the development of street children, beggars, homeless people and buskers. The second policy is the regional regulation of the provincial government regarding public order and public order. These two policies have not been implemented effectively and have not had an impact on the handling of street children, homeless people and beggars in urban areas of South Sulawesi. This study identifies four factors that influence the effectiveness of policies dealing with street children, homeless people and beggars, namely family dysfunction, limited intervention programs, community involvement and weak institutional capacity.

Background

The phenomenon of street children is a societal problem that needs to be addressed seriously. Street begging activities carried out by school-age children can be classified as a threat to the process of human capital formation at the age of child development, leading to a reduction or even loss of children's potential to improve their intellectual abilities through receiving to increase training. This is because children who are still in school may have to devote the time and resources they have to study to begging activities. This can result in a child's level of education being lower or, in the worst case, a child not continuing their education as a result of this decision.

Naturally, this will have a lasting impact. The lack of education among the children will have an impact on their ability to become productive adults in the future. Given that the bulk of jobs requiring high levels of productivity demand high human capital credentials, demonstrated by the attainment of a qualified level of education, this is very plausible. A child who has dropped out of school or has a low level of education will ultimately be prevented from obtaining a job with a high-income level, which will ultimately have an impact on their children's level of welfare.

In order to avoid or reduce the children's involvement in street begging, the government should formulate a policy or a program to prevent this social problem. The policy is required to lessen the detrimental effects that can result from socioeconomic pressures, lack of parental knowledge and preferences regarding children's education, the influence of association with people who have little exposure to education, as well as a number of other socioeconomic factors that also affect children's participation in community begging activities.

Street children and homeless individuals who feel at home must subsist on the scale of their social class are on the rise as a result of social inequality and poverty (Purwoko, 2013; Bahfiarti et al., 2019). Since the COVID-19 pandemic crossed the nation, this situation has gotten worse, slowing down the global, national, and local economy and forcing many businesses and industries to lay off workers. The South Sulawesi Province's poverty rate rose from 8.56% in 2019 to 8.99 in 2020 before falling to 8.53% in 2021, according to data from the Central Statistics Agency (2022). South Sulawesi Province had rising poverty rates and an increase in the unemployment rate during the COVID-19 pandemic. According to the Bureau of Statistics (2022), unemployment was 4.62% in 2019, 6.31% in 2020, and then 5.72% in 2021. Consequently, this rise in poverty and unemployment rates may have an impact on the issue of beggars and the homeless in various South Sulawesi districts.

Even though the provincial government of South Sulawesi has a policy to address the issues of homeless people, beggars, and street children - Provincial Policy No. 6 of 2015 on public order and public peace - this policy is general in nature and does not provide a practical program framework, to take and respond to preventive action. The Regional Ordinance No. 2 of 2008 on Caring for Street Children, Homeless People, Beggars, and Singers in Makassar City is another document released by the Makassar City Government. This policy governs data collection and training initiatives for street children, beggars, and homeless people. However, given recent societal events, this approach must be further assessed as it has not been the best option.

The presence of street kids, beggars, and homeless people is being viewed with increasing anxiety due to the potential influence on law and order, cleanliness, safety, and the aesthetic value of the city. Their existence, however, can also result in crime and other negative social repercussions, such as child labor and subpar education. Given the range of circumstances they face, the South Sulawesi province government must develop strategic and coordinated policy measures to address the concerns of street children, the homeless, and beggars migrating between districts and towns. This study aims to evaluate the effectiveness of current policies and pinpoint implementation issues in respect to regional stakeholders.

Literature Study

In Indonesia and other emerging economics countries, the phenomenon of street children, the homeless, and beggars has been the subject of numerous studies. In Makassar City, Indonesia, Bahfiarti and colleagues's (2019) research looked at street kids and beggars. The findings of his study provide information about street kids and beggars in Makassar City, including demographic information about their age and gender as well as information about what motivated them to engage in street life in the first place. According to Bahfiarti et al. (2019), men accounted for 83.3 percent of the street children in Makassar City while women made up 16.7 percent. The same study indicated that 57.5 percent of street children were between the ages of 5 and 10 years, and 22.5 percent were between the ages of 11 and 14. This is especially regrettable because youngsters at that age should be playing and learning, but instead they spend the majority of their time working on the streets. In addition, Bahfiarti et al. (2019) contend that the motive behind their decision to live on the streets demonstrates that up to 50% of street children live there due to parental support or directives. Only 17.5% of people did it voluntarily to earn more pocket money. It's vital to understand not just why they want to go on the road, but also

what led them there in the first place. For the majority of them, up to 42.5 percent, family pressures were the driving force behind their decision to hit the road. This demonstrates that familial circumstances play a significant role in motivating children to become street kids and keeping them there.

Bharoto et al(2019) .'s analysis of the execution of policies to deal with beggars, the homeless, and abandoned individuals in Cirebon City, Indonesia is part of another study. This study shows that regulations on how to deal with beggars, the homeless, and abandoned individuals are not implemented to their full potential because local governments also have internal issues with human resources and a lack of funding for the program. As mentioned, the low level of community engagement is tied to external barriers, particularly the role of family members who assist families in keeping their kids out of the streets and away from beggars.

Researchers in Colombia, Mexico, and Nicaragua, three developing nations, concentrated on the low school attendance of the school-age population in a region that influences the problem of street children, the homeless, and beggars. The success of the conditional cash transfers (CCT) program, which was adopted in a number of developing countries, was confirmed by researchers evaluating studies in three of those nations. The researchers found that the CCT programs conducted in Colombia, Mexico, and Nicaragua were successful in raising school enrolment rates using experimental and quasi-experimental methodologies. The group of boys and girls showed a higher level of participation (Rawlings & Rubio, 2005).

The CCT Progresa initiative, which was put into place in Mexico, was successful in helping to raise school attendance rates. The difference-in-difference model's estimation findings reveal that the CCT program was successful in raising both boys' and girls' primary school participation rates by roughly 0.70 to 1.45%. In contrast, the CCT Progresa program has an even bigger impact on rising school participation rates at the junior high school level. The program was found to have the largest effect on women, where girls' grades at the junior high school level increased by about 7-9% and boys' grades increased by about 3.5–5.8%.

Regarding the CCT program's success in promoting higher rates of school engagement, the same thing was also seen in Nicaragua. The researcher was able to determine that there was a 21.7% rise in school participation rates in areas that adopted the conditional cash transfer program compared to areas that did not implement the program by utilizing the unconditional difference-in-difference estimator. Additionally, there has been a noticeable improvement when comparing the rates of school involvement before and after the adoption of this program. This shows that compared to Mexico, Nicaragua has a far stronger effect of the CCT program on raising school enrollment. Additionally, it is recognized that the CCT program in Nicaragua was successful in raising student attendance rates. According to the estimation results, there has been a 30% rise in the number of students who have confirmed absences that are only worth six meetings.

The CCT Family Action (FA) program's implementation in Colombia has had a variety of positive effects on the education of young people. At the elementary school level, it is known that this program does not significantly affect children's school attendance rates; nevertheless, for the group of kids who are junior high school age, the reverse is suggested. Using the Randomized Controlled Experimental, it has been determined that the rate of school enrolment has grown by around 13% in urban regions and by about 5.5% in rural areas (Filmer and Schady, 2011).

Another study assessed the impact of a CCT program's implementation on student enrolment rates. The purpose of the study was to determine whether the allocation of financial transfers to beneficiary families affected how effective they were at getting their children to attend school. This study was done in Cambodia, where the CCT program has quite a few distinct designs and the nominal amount of cash transfers obtained can vary based on the recipient's family's characteristics. A moderate quantity of cash transfers has a significant influence on raising student attendance at school, with the magnitude of the program's impact being estimated at 25%. This was discovered by the researcher utilizing the regression discontinuity approach (ibid).

Research Method

This study employs an exploratory methodology with the goal of mapping existing conditions or policies to more thoroughly analyze the phenomena of beggars, street children, and homeless individuals. We use qualitative techniques to put this exploratory approach into practice. We use qualitative approaches to implement this exploratory strategy.

The urban areas of Makassar City, Maros Regency, Sungguminasa Regency, and Takalar Regency are the subject of this study. The reason for selecting this urban region is that Makassar, the capital city of South Sulawesi Province, serves as both the main hub for begging and homeless activities as well as the socioeconomic core of the province. From April through October 2022, a six-month period, this study was carried out.

Data for this study were gathered through focus groups and interviews. The interviewees were chosen by the researcher based on their backgrounds and their connections to government and non-government organizations that deal with the treatment of beggars, homeless persons, and street children. 28 informants from government agencies, including the Social Service, Education Office, Women and Children Empowerment Service, Civil Service Police Unit, were able to be interviewed by the researcher throughout all subject areas. Ten individuals from non-governmental organizations, including the Makassar Street Children Assistance Community, the Amil Zakat Agency of South Sulawesi Province, and the Kalla Foundation, were also interviewed by the researcher. These organizations represent civil society organizations, philanthropic organizations, and private businesses. In order to validate the information and data from all interviews, focus groups were held. Government agencies and members from non-governmental organizations were involved in the FGDs.

Focus group discussions will follow the research's analysis of interview data using interpretive techniques (FGD). The NVivo application is used to process and analyze the data in order to identify relationships and patterns across all of the data gathered in order to speed up the analysis process.

Results and Discussion

Policy Implementation

Street children, homeless people and beggars are problems that are very identical to urban areas, including urban buffer areas. Makassar City, which borders Gowa Regency, Maros Regency and Takalar Regency, also has various problems related to the presence of street children, homeless people and beggars. The city of Makassar as the provincial capital which has a larger population than other areas in South Sulawesi makes the number of flattened and flattened areas also higher than the buffer zones of other cities. Therefore, the handling of flats and flats in Makassar City is more massive than other areas.

The existence of Regional Regulation Number 2 of 2008 about Guidance for Street Children, Homeless, Beggars and Singers in Makassar City strengthens the management of street children, homeless persons, and beggars in Makassar. By establishing the Saribattang Quick Reaction Team (TRC) and the Shelter House and Trauma Center (RPTC) through this regional regulation, Makassar City achieved considerable strides toward controlling these social issues.

TRC is a team that is quick to react when it comes to controlling flat paddles on city streets; once controlled, they will be kept at the RPTC for three days. The city of Makassar's initiative to establish teams and shelter homes is thought to be able to lessen flattening and flattening over time, but it hasn't been successful in eliminating the issue because the possibility for flattening and flattening always returns to the streets. TRC Saribattang regularly conducts monitoring and has conducted coaching, but is limited throughout the coaching.

The government is aware that in a short amount of time, coaching has not been able to modify the habits and mindset of street children, homeless people, and beggars. However, the coaching that can be funded by the APBD is only for 3 days with various structured activities in the RPTC. There has been proper action taken by the Department of Social Affairs and TRC, but CSR and other outside communities have not worked together to address the budget for the construction of street children and flats. Communities that foster street children, however, actually have tight financial constraints.

The Department of Social Affairs and the community do not currently engage in a formal, ongoing partnership; rather, they only coordinate on specific projects from time to time.

Teams from the Civil Service Police Unit (CSP) and the Social Service also operate in buffer zones like Gowa Regency to conduct raids to deal with street children, the homeless, and beggars. Five times a year, the raids are usually conducted. Cooperation with the CSP takes the form of purely cooperative agreements between institutions without any program coordination. There is no specific advice for dealing with homeless street children and beggars in Gowa Regency; instead, only rice is given as social help. Because there is no shelter to house the homeless street children and beggars, there is absolutely no follow-up on the findings of the raids conducted by the Social Service and the CSP. The Government of Gowa Regency's resources are restricted when it comes to caring for homeless street children and beggars, and there is no local law that may address this social issue. In addition, the Governmennt of Gowa Regency's human resources for assisting street children, the homeless, and beggars are still very scarce, making this area unprepared to handle the issue of street children, the homeless, and beggars on a large scale.

Based on Perda No. 6 of 2015, which deals with order and peace, the Government of Maros Regency's referral laws for managing squatters, homeless people, and beggars serve as the foundation for collaboration between the Social Service and the Civil Service Police Unit (CSP) during raids. The Government of Maros Regency also runs a shelter house, but it has not made the most of its potential to help street kids. Due to the lack of qualified social workers compared to the Makassar City Government, the Maros Regency Government's shelter house is not yet suitable to be used as a site for fostering street children. Due to a lack of officers, those who were raided, including street children, the homeless, and beggars, were nevertheless able to flee. Maros' efforts in prevention should be emphasized because, according to their data, there aren't a lot of street kids, homeless people, or beggars. Despite this, they are still working to stop it by collaborating with other local government organizations.

Although the Takalar Regency is located next to Makassar City, the Takalar government does not view the issue of beggars, homeless people, and street children as the main issue in the area. Due to this, the Takalar Regency administration has not yet created any local legislation, and a special team has been established to deal with begging and homeless street children. The Takalar region is still concerning with preventative strategies, as shown by the return of disturbed youngsters to school. The primary setting for keeping kids off the streets is schools.

Accordingly, this research indicates that the urban district and city governments either handle street children, the homeless, and beggars independently or develop a temporary alliance. It is not sustainable to work together to implement just one program and activity.

Challenges with Policy Implementation

We identified four challenges or obstacles for the South Sulawesi Provincial Government and District/City Governments in the Mamminasata urban area in dealing with social problems in order to analyze the challenges faced by the government in implementing policies for handling street children, homeless people, and beggars. will be further described.

1. Dysfunctional families

This theme alludes to the challenges posed by homeless individuals, beggars' families, and street children themselves. The family, which is the smallest and first human social system, should be able to support people in acting in accordance with their roles and stages of personal growth. Unfortunately, efforts to deal with street children, the homeless, and beggars are found to be hampered by the family. This is due to the fact that the family themselves sends the kids out into the streets to beg. The family component was the most frequently identified factor as the cause of the appearance of street children, as was discovered in earlier studies (Mugianti et al., 2018; Assessment, 2014; Purwoko, 2013). A study by Bahfiarti et al., (2019), which found that 50% of youngsters who work and are active on the road are compelled by their parents to get money, lends weight to this factor. The results of our interview with informant RA from the Community Assistance for Street Children (KPAJ) further support this situation. He said the following during the interview:

> "... that's why if you ask the children on the street, [they will have] that one answer, [that is] I help my parents earn money..."

According to this data, kids who are out and about are more motivated by money and are more realistic, which causes them to put less emphasis on their education. In addition, the absence of parents and the breakdown of family duties contributes to street kids becoming beggars and homeless persons. This is corroborated by an informant RA from KPAJ which is a Makassar based volunteer organization to assist the street children, who says:

> "... many children have no parents. That was from [caused by] economic factors, this caused poverty and disharmony to the family. So many of their parents remarry, continue to take their children to their grandmothers, ... There are also those who live with their parents, there are orphans, there are orphans, [so] there are those who are entrusted with their parents [grandmother].

The information above demonstrates how the dysfunctional family is a significant factor in the plight of street children, the homeless, and beggars.

2. Program Restrictions

In South Sulawesi Province and the districts/cities in the urban Mamminasata area, the program implemented by the Social Service as the main person in charge is carried out partially, superficially, and reactively through enforcement with the Civil Service Police Unit (CSP). This presents another challenge in the effort to deal with street children, homeless people, and beggars. Additionally, only the Makassar City Government is capable of offering aid for three days while accompanied by qualified social workers through the UPT Trauma Center Shelter (RPTC). Other *Mamminasata* regions, like Maros Regency, Gowa Regency, and Takalar Regency, are free of this problem.

The RPTC shelter operated by the Makassar City Government can only house people for a maximum of three days. In order to improve their perspective and enable them to hit the road once more, they are unable to offer mentoring programs over the long term. They can then get back on the road because the mentorship program's concept cannot be implemented in a planned and lengthy manner due to a lack of specialists who can serve as mentors and financial limitations. Informant M, who is also the Director of UPT RPTC Makassar, reported that:

> "... we've been there for 3 days. We once decided that if we got it again, it would be 7 days. But after us we also have trouble eating. Finally back again. Because we have resources. But that's not a rule, just an internal policy when we're here. What was built 3 days became 7 days. The difference is that for 3 days there is a SOP. The central rule is a maximum of 7 days, if we SOP 3 days. We're just here how the children don't come home, so 7 days are added. But we give one way [only] trouble with food

Based on the aforementioned information, we can conclude that the mentoring program run by the Makassar City Government, particularly the RPTC, is brief and does not engage parents or family members for an extended period of time.

3. The Community Engagement

Community involvement in handling street children, homeless persons, and beggars has a significant impact on how these issues are handled in South Sulawesi. According to the information we gathered, community involvement actually consists more of providing money to stray animals and begging children, whose good intentions only serve to fuel their desire to remain on the streets. Because it is simple to make money on the street, especially on Fridays or at certain religious gatherings, parents of street children are increasingly pressuring their kids to continue begging for money. An MI informant from the Maros District Social Service, who confirmed this, said that:

> "…Makassar is one of those places where people can change their destiny. Meanwhile, they are not equipped. Maybe from education or from work, getting lure from other people to Makassar is just this easy, it's easy to get money like this…"

The fast rate of urbanization in Makassar City also serves as support for the rising number of street kids, beggars, and homeless persons in the Mamminasata region. This is demonstrated by the significant contribution made by immigrant families from areas outside of Makassar who hire their kids as beggars on the streets. This was verified by KPAJ informant RA, who said that:

> "… The biggest [driving factor] is actually people from urbanization. And as a result of urbanization, there are actually people who don't marry, which are like cross-breeding, that's actually a lot. Then there are also those who marry but are not aware of the importance of education. Some do not have their KK [family card], there is no birth certificate for their child, because there is no marriage book.

Furthermore, RA also added that:

> "… because from that economic factor that causes poverty, from that poverty comes urbanization, there is also disharmony towards family and education that is not good from the economy…"

This data shows that despite lacking the necessary education and abilities to compete for urban jobs, residents of Makassar's neighboring cities are motivated by urbanization to move to urban regions in the hopes of finding better employment prospects. They are compelled by this predicament to hunt for different employment options to earn money in different ways, including working as beggars, in order to survive in urban areas.

4. Scarce Institutional Resources

The limited institutional capacity that controls services and fosters street children is the final component that contributes to the ineffective handling of street children, homeless persons, and beggars in South Sulawesi Province. Gowa and Maros Regencies, which have a dearth of human resources, particularly professional social workers, are particularly affected by this condition. Not all of the staff members of the social service offices in Takalar, Maros, and Gowa Regencies are licensed as professional social workers. Informant N from the Gowa District Social Service relayed this information and says:

> "… the number of our social workers in Gowa Regency is not as much as in Makassar. This makes us unable to provide good assistance to street children, homeless people and beggars…"

This condition is also exacerbated by the lack of facilities owned by the local government in dealing with street children, homeless people and beggars, especially in Maros Regency. This was confirmed by Informant AM from the Civil Service Police Unit that:

> "…The Social Service itself has a halfway house but the conditions are not representative, meaning that the security is still lacking, so sometimes we have succeeded in capturing street children, then we take them there, because the security factor is not as good as the windows don't have bars, so it's easy to run away, that doesn't mean we with limited facilities and infrastructure we give up, but we still carry out patrols at red light points regarding street children, homeless people, and beggars…

Lack of cooperation between institutions in addressing street children, the homeless, and beggars is another issue connected to institutional constraints. This is not to say that there hasn't been any coordination amongst institutions up to this point, but the system of coordination consists mainly of executing roadside raids on youngsters living on the streets, the homeless, and beggars. Informant AM from the Maros District Civil Service Police Unit corroborated this and said that:

> "...we are actively coordinating with the related local government institutions, in this case social service agency, which is about handling, we are the ones who patrol the streets and then if they are found, they are returned to their parents, then if they need it, it is more to the technical agency again in this case to the Social Service who handles it. if it is said to be optimal, it is not yet, because there are several things that cause this [problem] factor..."

The absence of budgetary support for the mentorship program, which should be run on a long-term basis rather than just briefly as it is today, is the final aspect that also has an impact on institutional limits. Informant Ik from the Maros District Social Service also confirmed this and stated that:

> "...We don't have the budget for that treatment. We are also in a dilemma, on the other hand, because if the budget is in the local government, what's more, the impact now is that all budgets have been cut, so this team decree has been running, only for very limited budgets. The most we reduce, the reduction is also limited. If there is a budget that can be repatriated, we will also return the budget..."

Given the many causes mentioned above, it is clear that province and local government institutions are inadequate at dealing with beggars, homeless persons, and street children. To help predict the growing number of societal issues that may arise in the future, it requires the cooperation of all parties.

Conclusion

The prevalence of street children, the homeless, and beggars in every part of the city is one of the social phenomena in metropolitan areas that has a detrimental effect on the social development of society. Due to many businesses and industries having to cut staff or even close their doors as a result of the weakening of the national and global economy, this state is one of the effects of rising poverty and unemployment. In order for the government and all stakeholders in South Sulawesi to design comprehensive initiatives to deal with this social challenge, multi-stakeholder collaboration and interdisciplinary studies are required to respond to this occurrence.

This study demonstrates that various regions have different approaches to dealing with beggars, homeless persons, and street children. The provincial administration operates within the parameters of Perda No. 6 of 2015's public order and peace-related policies. At the district/city level, Regional Regulation No. 2 of 2008 concerning the Guidance of Street Children, Homeless People, Beggars, and Singers in Makassar City is only held by the Makassar City Government. There are currently no local ordinances that particularly address this social issue in the districts of Maros, Gowa, and Takalar.

The results of this research also suggest that the Regional Regulation No. 6 of 2015 has not been effectively implemented, particularly in terms of the rules governing social order, where residents, particularly those in the Makassar City region, have not adhered to the ban on beggaring and squatting. Due to the coaching process only lasting a maximum of three days in the shelter house of UPT RPTC Makassar, Regional Regulation No. 2 of 2008 has also not been fully executed in terms of offering guidance to street children, the homeless, and street singers. Additionally, the South Sulawesi program for dealing with street kids, the homeless, and beggars has not fully enlisted the help of commercial organizations and social institutions to work together and share information to address this social issue.

Finally, this study identifies four factors, including family dysfunction, program limitations, community involvement, and weak institutional capacity, that present difficulties for the provincial and district/city governments in addressing the needs of street children, homeless people, and beggars in the Mamminasata urban area.

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An Access to Social Insurance Programs for Burmese Migrant Workers During the Covid-19 Pandemic in Khon Kaen, Thailand

Phyo Thiri Mon

College of Local Administration
Khon Kaen University, Thailand
Khon Kaen, Thailand
phyothiri.m@kkumail.com

Abstract

Thailand is the most popular destination country for Burmese migrant workers in ASEAN. It is also the pioneer country among ASEAN countries that have provided social insurance for both documented and undocumented migrant workers. However, the Covid-19 pandemic has challenged the existing social insurance programs and healthcare services for migrant workers. The objectives of this study were to study access to social insurance programs for Burmese migrant workers in Khon Kaen, Thailand, and to identify obstacles faced by Burmese migrant workers in Khon Kaen in accessing social insurance programs during the pandemic. A qualitative study was conducted between (September-October 2022) with four focus groups based on legal status and sex (the male/female documented and the male/female undocumented groups). In each group, eight research participants were included. Transcripts from focus group discussions were coded, and thematic analysis was then performed.

The research findings suggested that both documented and undocumented Burmese migrant workers could access benefits under Social Security Fund (SSF) and Migrant Health Insurance Scheme (MHIS) respectively. Five themes of access to social benefits were indicated: (i) availability, (ii) accessibility, (iii) accommodation, (iv) affordability, and (v) acceptability. Documented women migrant workers mostly used the available social security benefits. All migrant workers could access their healthcare needs within a convenient distance and connectivity of the service location with small costs. They also satisfied and accepted the level of professionalism and kindness of the public health staff. Furthermore, they highlighted plausible access to social insurance programs for undocumented migrant workers during the Covid-19 pandemic regardless of their legal status. Nevertheless, the lack of bilingual communication services was observed as an accommodation barrier.

Keywords: access, social insurance, Burmese migrant workers, northeastern Thailand, COVID-19 pandemic

Panel 7:
Digital Governance:
From the Perspective
of PV-GPG

High-Quality Public Service System: Dual Evolution of Theory and Policy

Hong Zhang*

Department of Public Administration
Dalian University of Technology
Dalian, China
zhangh2021@dlut.edu.cn

Tong Wang

Department of Public Administration
Dalian University of Technology
Dalian, China
tongwang@mail.dlut.edu.cn

*Corresponding author

Abstract

China's new emphasis on high-quality development has raised the bar for public service provision. What is a high-quality public service system has become one of the key questions. A review of the literature reveals that traditional quality concepts pose three major challenges to the study of public service quality: adaptability, definition and measurement, and conceptual confusion. Based on the vision of China's 14th Five-Year Plan for public services and the modernization of the national governance system and capacity, this study designed a two-stage qualitative research approach based on the policy texts related to public services issued by the Chinese central government since the 12th Five-Year Plan. First, the researcher identifies the connotation of high quality through a three-stage coding process, including five major categories: input, process, outcome, relationship, and design; based on this, the importance of different categories of the concept of quality during the 12th, 13th, and 14th Five-Year Plans is analyzed, presenting the basic vein of the evolution of the connotation of quality.

Keywords: high-quality public service system; quality; two-stage qualitative research

Introduction

The Fourth Plenary Session of the 19th CPC Central Committee proposed to promote the equalization and accessibility of essential public services, improve the system of national basic public service system, and guarantee the essential life of the masses; in his speech at the celebration of the 40th anniversary of the establishment of the Shenzhen Special Economic Zone on October 14, 2020, General Secretary Xi Jinping proposed to put an essential emphasis on improving the balance of development, continuously promoting the extension of public resources to the grassroots, building a high-quality and balanced public service system, and building a comprehensive and sustainable social security system. In January 2020, the National Development and Reform Commission and other departments jointly issued the "14th Five-Year Plan for Public Services", proposing a visionary goal that by 2025, the public service system will be more complete, with the government guaranteeing the essential, socially diversified participation and shared by all. By 2025, the public service system will be more perfected, the government will ensure essential, diversified social participation, the public service supply pattern will be based, and people's welfare will reach a new level. It can be seen that high-quality public services are an essential basis for people's sense of access, happiness, and security, an important manifestation of the modernization of the national governance system and capacity, and essential practice of the Party and the government to adhere to the people as the center and continuously realize people's aspiration for a better life.

The issue of quality in public services is not a new topic in public management theory and practice. Since the 1970s, service quality has been seen as a critical strategy for reshaping the public sector (Pollitt 2009; Löffler and Vintar, 2004; Chen Zhenmin g, and Geng Xu 2014). "Quality" was once famous and became an attractive public management concept. Both the introduction of total quality management into the public sector and the European government's launch of the Public Service Quality Conference and Public Service Quality Awards in 2000 have helped the concept of quality to become an essential

attribute of public services, and quality management has become a popular trend in general management. At the same time, the academic community has also identified challenges to quality management in public services. First, the introduction of quality management in the public sector lacks the ability to explore or validate the quality attributes of a public good or service. Given that the quality sources in public services differ from those in private services, greater attention must be paid to the diversity and complexity of issues in determining the quality of public services. Subjectively, public services include different stakeholders such as civil servants, taxpayers, communities, nonprofit organizations (NGOs), and the media in addition to beneficiaries (Andreasen & Kotler, 1996). Therefore, different patterns of relationships among different stakeholders are presented in public service provision. The government-led aspect, the government's ability to manage these relationships is crucial to improve the quality of the public sector and customer satisfaction. Secondly, public service quality in research is either given a broad meaning, for example, total quality management requires systematic organizational change (McGowan 1995); or it is given a chivalrous, technical meaning that ignores the public nature of public goods and services and the value implications they exhibit, which cannot be captured by a strict definition of the specific service content of quality management (Maram, 2008). Finally, the debate on quality measurement has been controversial in developing public service quality systems (Maram 2008; Pollitt & Bouckaert 1995). Public services themselves include all activities of public sector organizations that provide goods or services to all areas of society and are paid for by taxes (Broadbent & Guthrie 2008). The complexity inherent in the types of public services directly contributes to the difficulty of measuring the quality of public services.

In addition, public service quality management is seen as one of the reform tools of the New Public Management movement. Changes in New Public Management compared to traditional public administration include the introduction of private sector practices into the internal workings of public administration, the use of organizations external to public administration as quasi-markets, and the extensive development of performance measurement (Dunleavy & Hood 1994). Public service quality and performance are intertwined and, in summary, the existing research calling for development in public service performance and quality is dominated by the literature on quantitative and economic evaluation (Petersen, Hjelmar, & Houlberg 2018; Boyne 1998; Lindholst et al. 2018) and suggests the use of multiple stakeholder perspectives and consider assessing performance and quality from different stakeholder perspectives (Andersen, Boesen, & Pedersen 2016). In this process, quality and performance are often used indiscriminately. Despite the importance and influence of all of the above studies on recent research, however, the discussion of the connotation of public service quality itself is still of great importance at the present time, and there is an urgent need to respond to the research needs of clarifying the basic concepts and the concept and theory of public service quality to be further developed and clarified in the promotion of quality development of public service system in China. This brings challenges to the study of public service quality in terms of applicability, definition and measurement, and conceptual confusion.

This study is based on the vision of China's 14th Five-Year Plan for public services and the background of further modernization of the national governance system and capacity and is based on the general services-related policy texts issued by the Chinese central government since the 12th Five-Year Plan and rooted in the Chinese institutional context and public service discourse system How to understand the connotation of quality? How has the quality of public services developed and evolved to the sense of high quality in public service systems?

The following paper mainly includes three parts, firstly, combing the relevant literature, summarizing the existing studies on public service quality, analyzing the relationship between different theoretical sources and approximate concepts of the connotation of public service quality; secondly, introducing the applicability of the textual analysis method used in this study, data sources, operational processes, normative control, etc. for introduction, presenting the research findings; again, in-depth analysis of the two stages of data coding to form Again, an in-depth study of the core categories created by the two stages of data coding and the relationships between them is conducted to construct a structural framework of the connotation of high quality in public service systems. On this basis, through longitudinal analysis, we compare the different purposes of the connotations of public service quality in the 12th, 13th, and 14th Five-Year Plans.

Finally, the main research findings are summarized, and research shortcomings are concluded.

The Theoretical Framework of High-quality Public Service System

According to the ISO 9000:2015 International Standard, which defines the foundations and terminology of quality management systems, the quality of products and services includes their intended functions and performance and the customer's perception of their value and benefits. Quality can be understood as the value-in-use characteristic of a product's ability to meet actual needs (Jinbei, 2018). On the other hand, the quality perspective in management can be traced back to the scientific management paradigm of the 1920s, when the famous Hawthorne experiment was considered a classic study of production quality control. By the 1980s, total quality management was widely applied in the manufacturing industry and was considered a vital management idea to improve performance. Dang Xuyun (2003) proposed that comprehensive quality management is a management concept, system, and method that involves all employees to improve organizational management and services with various scientific methods to obtain customer satisfaction through high quality and continuous improvement of products and services. At the same time, in the public sector, Brown (1992) points out that the literature on public service quality is similarly replete with such concepts as "choice," "customer," "responsiveness," "competition," and "quality of service. "competition," "market," "quality," "service choice," "consumerism," and other terms. "consumerism," and other terms, TQM is actively used in public organizations. In both the private and public sectors, TQM is considered a management approach to improve the entire organization's competitiveness, effectiveness, and flexibility (Oakland, 2014). Although initially rooted in the manufacturing sector, the concept of quality has recently been applied to the service sector and, in turn, the public sector. Western scholar Garvin (1988) states that the development of the quality concept can be divided into four different "quality eras," namely inspection, statistical control, quality assurance, and strategic quality management. Based on these so-called "quality epochs," many different approaches to defining quality have emerged over the years.

Urban Sanitation Governance

Sanitation refers to general conditions related to clean drinking water and treatment and disposal of human excreta and sewage. Several sanitation levels are used to compare sanitation services within or across countries (WHO/UNICEF Joint Monitoring Program for Water Supply, 2017). The sanitation ladder defined by the Joint Monitoring Programme in 2017 starts with open defecation. It moves upwards using unimproved, limited, and primary, with the highest level safely managed. This is particularly applicable to developing countries. Providing sanitation to people requires attention to the entire system, not just technical aspects such as the toilet, faecal or wastewater treatment plant (Tilley, 2014). In her book on the compendium of sanitation systems and technologies, Elizabeth Tilley discusses that the sanitation chain involves the user's experience, excretion and wastewater collection methods, transporting and treating waste, and reuse or disposal.

Local governments in Indonesia are primarily responsible for delivering sanitation (wastewater) services. However, mainly due to governance factors, local governments invest little in sanitation services, and the delivery of services is weak (Chong et al., 2016). Drawing upon the research undertaken with a partnership led by the Institute for Sustainable Futures, University of Technology Sydney, and Partnership for Governance Reform, SNV Netherlands Development Organization, as well as Government of Indonesia partner BAPPENAS (National Development Board), it is recognised that institutional and governance arrangements for planning, budgeting, financing and making decisions about the delivery of sanitation services within and across levels of government play a significant role in inhibiting effective delivery of sanitation services by local governments. Therefore, weak governance may have a lower necessary investment than the lack of access to finance. This research sought to deepen understanding of the observation by investigating how sanitation planning, funding, budgeting, approvals, and administration affect and constrain service delivery at the local level. In recognition of the multi-sector nature of

sanitation, cross-departmental sanitation working groups are expected to lead, coordinate and oversee a unique, national model for sanitation planning in local governments.

Product and Service Quality Management

Theoretical sources of quality include product-focused quality in manufacturing, and marketing, service-focused quality in service science, and total quality management. This dictates that there is no uniform definition of quality. Scholars in the field of quality management have discussed the following questions: Is quality subjective or objective? Is it relative or absolute? Is it eternal or socially determined? According to Garvin (1988), there are five main approaches to defining quality. The product quality view According to the a priori view, quality has some timeless and enduring connotation-something that transcends changes in taste or preference.

According to this approach, quality is considered to be absolute and universally recognized. The product-based definition proposes that quality is precise and measurable. Differences in quality reflect quantitative differences in some component or attribute of the product. Thus, quality can be assessed objectively, not just by preference. Therefore, quality is considered an inherent characteristic of the goods rather than something attributed to them.

Marketing, as well as service science, emphasizes user experience and satisfaction. The user-based definition is based on the assumption that quality is a subjective phenomenon. Consumers are assumed to have needs or desires which they satisfy through the highest quality of the product. (Garvin, 1988) This approach has been most widely used in the service management literature and is consistent with the approach used in total quality management. "Whereas user-based definitions of quality are rooted in consumer preferences, the determinants of demand- manufacturing-based reports focus on the supply side of the equation and engineering and manufacturing practices (Garvin, 1988:44). The underlying theme of this approach is conformity to requirements. Any deviation from the specified requirements implies a degradation of quality. The value-based definition takes the idea of a manufacturing-based approach one step further; for example, a quality product is considered to be provided at a reasonable cost that meets the requirements (Garvin, 1988).

Total quality management emphasizes the impact of the organization as a whole on quality. According to Martin (1993), comprehensive quality management has become an umbrella term for the various U.S. quality management systems operating in the private and public sectors. There seems to be no consensus on what TQM is, its definition, and whether it is a management approach, theory, or philosophy. The most commonly used report is that TQM involves "the application of quantitative methods and human resources to improve the materials and services provided to the organization, all processes within the organization, and the extent to which customer needs are met now and in the future" (Martin, 1993:10).

Martin points out that the quantitative approach and human resources mentioned in the definition are an attempt by Total Quality Management (TQM) to "combine the analytical perspective of scientific management with the human relations school's focus on the organization, the team, and the employee" (Martin, 1993:10). TQM is not an end in itself, but rather a well-designed and executed strategy to improve processes, products, and services through continuous improvement in quality, reliability, systems, and performance.

In summary, the above sources of quality concepts pose three significant challenges to public service quality research. First, applicability, the introduction of quality management in the public sector lacks exploration or verification of the quality attributes of public goods or services, and the impact of publicness on the connotation of quality has been ignored. The second is definition and measurement. The quality concepts rooted in manufacturing and service science have mainly adopted a technically oriented definition path, and strict and measurable quality standards cannot be adapted to the multi-objective characteristics of public management; the ultra-broad definition of quality in total quality management has placed almost all organizational elements in the closed loop of quality management, but has paid less attention to the various relationship patterns between government and social organizations in public service production and supply. Third, the concept is confusing. Third, there is conceptual confusion, and quality

management in the public sector has become a hot topic with the rise of the New Public Management movement. The series of concepts such as efficiency, quality, and performance appear frequently. Many studies use such ideas indiscriminately, using such terms more lightly to express the managerialism orientation once reinforced in public management academia and industry. This has caused some confusion and uncertainty for readers in understanding the discourse of promoting high-quality development of the public service system in modernizing China's national governance system and governance capacity.

High-Quality Development

As a new stage of development concept in China, high-quality development was first proposed in the report of the 19th Party Congress in 2017: our economy has shifted from the location of high-speed growth to the stage of high-quality development. The Fifth Plenary Session of the 19th CPC Central Committee proposed that the 14th Five-Year Plan period of economic and social development should be based on the theme of promoting high-quality development, which was extended from the economic dimension to the comprehensive economic and social dimension. High-quality development is the development that can sufficiently meet people's growing needs for a better life, the development that reflects the new development concept, the development in which innovation becomes the first driving force, coordination becomes an endogenous feature, green becomes a universal form, openness becomes the critical path, and sharing becomes the fundamental purpose (Xi Jinping, 2020). Scholars have conducted research on high-quality development in terms of its primary connotation and objectives, strategic path, and evaluation system, respectively.

The primary connotation of high-quality development. Ren Baoping (2021) defines high- quality development as the process of transformation of economic development, optimization of economic structure, the change of old and new dynamics, and the result of synergistic economic and social development and significant improvement of people's living standards when the total volume and scale of the economy have grown to a particular stage. Some studies point out that the essential connotation of high-quality development is efficient, fair, green, and sustainable development to meet the growing needs of the people for a better life. High-quality development is the coordinated development of economic construction, political construction, cultural construction, social construction, and ecological civilization construction. The most basic requirement for improving development quality is to improve the quality and standard of products and services, which is the balance and unity of absolute and relative quality and quantity (Zhang Junxuan et al., 2019). Compared with the high-speed development stage, the high-quality development stage highlights surplus rather than the shortage in terms of historical background, multidimensional rather than unidimensional in terms of evaluation criteria, and market rather than planned in terms of means of realization (Liu Zhibiao, 2018). Therefore, to understand high quality from a more comprehensive and integrated perspective, improving the quality of development and development efficiency, building a modern economic system as well as to meet people's needs for a better life become the most important goals of high-quality development (Zhao Jianbo, Shi Dan, and Deng Zhou, 2019).

The strategic path of high-quality development. The strategic layout of high-quality product first emphasizes adherence to people-centeredness as the value leadership of high- quality product, stressing that the people's aspiration for a better life must always be the goal of struggle. The people's sense of access, happiness, and security must be continuously enhanced in the process of development (Hu Angang, Xie Yize, and Ren Hao, 2019). Some scholars have proposed several primary conditions for achieving high-quality product, including improving the quality of factors as the basis, scientific and technological innovation as the main driving force, and the quality technology base as a tool (Zhao Jianbo, Shi Dan, and Deng Zhou, 2019). As a long-term concept to be adhered to in the new development stage, high-quality development involves a series of strategic deployments and governance system designs at the national 24 levels, which, in addition to economic areas such as upgrading industrial structures (Wang, Yiming, 2020), also involve deepening structural reforms on the supply side (Lv, Shoujun, and Dai, Zheng, 2019), inward integration of global resources and outward integration of higher levels of

global resources "double cycle" (Jiang Xiao Juan and Meng Lijun, 2021) and a series of other discussions, in addition to accelerating the transformation of government functions and deepening administrative system reform as essential factors in promoting high-quality development. According to Shoujun Lu et al. (2019), the government has a vital role in promoting high-quality development, not only as a manager and planner but also as a participant, pioneer, and demonstrator. The focus of governmental function transformation and administrative system reform should be the entry point of the "administrative and service" reform, the construction of an integrated online government service system, and listening to the views of all sectors of society through social research and democratic evaluation meetings to continuously improve and perfect the government service system and provide a relaxed and convenient institutional environment for economic development.

The evaluation system of high-quality development. As the connotation of high-quality development is structural and complex, scholars also construct the evaluation system of this quality development from different research perspectives. Li Mengxin and Ren Baoping (2018) constructed an evaluation index system for China's high-quality development in the new economic era based on the five basic dimensions of "innovation, coordination, green, coordination, and sharing," and the secondary indicators include "scientific and technological achievements," "urban-rural coordination," "resource consumption," and "openness." The secondary indicators include 42 indicators such as "scientific and technological achievements", "urban-rural coordination", "resource consumption", "openness" and "poverty alleviation". Other scholars have evaluated high-quality development in five dimensions, including high-quality supply, high-quality demand, development efficiency, economical operation, and openness to the outside world, and included "innovation ability," "consumption level," "capital output efficiency," "capital consumption efficiency," and "capital output efficiency." "capital output efficiency," "growth quality" and "foreign trade" and 15 secondary indicators and 28 tertiary indicators (Ma Ru et al., 2019). The above studies highlight the objective evaluation of high-quality development. Other scholars highlight the fundamental people-centered position and construct the evaluation system of high-quality development from the perspective of people's perception. A total of seven dimensions are measured from six objective dimensions of economic quality and efficiency, innovation- driven, coordination and balance, green development, cooperation and openness, social sharing, and the people's subjective feelings (Liu Jiaqi and Ru Shaofeng, 2021).

The reshaping of the public service system by the concept of high-quality development. On the one hand, the concept of high-quality development guides the formation of the construction goals of the public service system. Li, Germany, and Chen, Zhenming (2020) proposed the primary connotation of high-quality public services in four aspects: individual access, hybrid organizational forms, carrier advantages of cities, and the driving role of technology, including a higher quality of life for individuals as service recipients, highly hybrid characteristics of organizations as service delivery systems, more significant agglomeration of cities as spatial carriers of service resources, and more substantial driving role of science and technology as service support systems. As a spatial carrier of service resources, cities play a more significant agglomeration advantage, and science and technology as a service support system play a more powerful driving role. In addition, from the perspective of government performance, performance appraisal becomes a critical path to promote high- quality development (Cao Tangzhe, 2018), comprehensive performance evaluation of high- quality development becomes an essential part of the performance appraisal of local party and government leadership teams, leading cadres at all levels, and many indicators such as science and technology innovation, social livelihood, ecological benefits, people's health, and public safety become important performance appraisal content (Zhu Huiyu 2021).

On the other hand, it guides the construction of a high-quality evaluation system for public service systems. Since the reform and opening up, China's performance appraisal has gone through the historical stages of GDP maximization appraisal, scientific development concept appraisal, government performance evaluation and the rule of law appraisal, and promotion of high-quality development appraisal (Zheng, Fanghui, and Liang, 2021). The study suggests that in the new stage of appraisal for promoting high-quality development, constructing an indicator system oriented to the "three senses of people's livelihood," improving the incentive and protection mechanism for taking charge, further cultivating and improving the third-party appraisal market, and building a digital

appraisal management information system are the fundamental principles for high-quality public service performance appraisal. Some studies have also proposed a framework for a high-quality public service system based on a sense of access, well-being, and security, with three dimensions of work/living conditions (access), quality of life (well-being) and sustainable living environment (security) as primary indicators and 1 3 secondary indicators including income level, childcare services and public safety (Li, Germany and Chen, 2020).

Framework of High-Quality Public Service System

Building a high-quality public service system is, first and foremost, a systemic task. In terms of value guidance, it should adhere to the concept of "people-centered" development, follow the primary reality and objective laws of public service system development in the context of China's social transformation, cope with external environmental changes and significant risks, and the urban-rural dual structure, and promote the realization of high- quality public service development and people's aspiration for a better life. In terms of system elements, according to Luhmann, the system covers the complexity of the organization and carries out specific functions of an organization, selection, and operation (Luhmann 1984). This paper constructs a "subject-process-result" system of high-quality public services to portray the complexity of public service production and supply from different dimensions and to understand the connotation of high quality deeply.

Plural subjects. Much of the literature on public service quality focuses on service provision in stable environments where citizen demand, public finance, and the quality of services remain constant or at least predictable (Filtenborg, Gaardboe & Sigsgaard Rasmussen, 2017; Jacobsen, Snyder & Saultz 2014). Achieving satisfactory service outcomes in complex and turbulent public governance environments is difficult because there are many complex and diverse participants and relationships in the decision-making process. In addition, service delivery between the government and customers of services is often mandatory, involuntary, and indirectly paid for rather than just market-based. In other cases, the service relationship can be voluntary or fee-for-service based. Citizens and administrators benefit from the empirical knowledge and theory gained from client surveys that assess the level of service expected and provided, particularly intelligence, law enforcement, and regulation of agencies (Milakovich 2003).

Multithreading. The multiplicity of subjects dictates that the public service production process must meet multiple load-bearing threads and hilarious operational capacity. To demonstrate the effectiveness of public service provision over time, systems must first measure outcomes, indicate how management practices are relevant to the communities and customers served, and document clear roadmaps to show how processes evolve to enhance adaptability (Keehley et al., 1997; Coplin & Dwyer 2000).

Needs-based outcomes. To meet the needs of a diverse public, it is also critical to develop "flexible use" criteria to identify and anticipate customer needs. Because services are less tangible than manufactured products, production and consumption are often closely linked. For some public services, the public's quality and reliability assessment even require long-term observation, experience, and comparison. Examples include health policies or compulsory education. It is difficult to obtain public service outcomes based on the needs of the public. Therefore, understanding how citizens form expectations is crucial for service quality management. The analytical framework is shown in Figure 1.
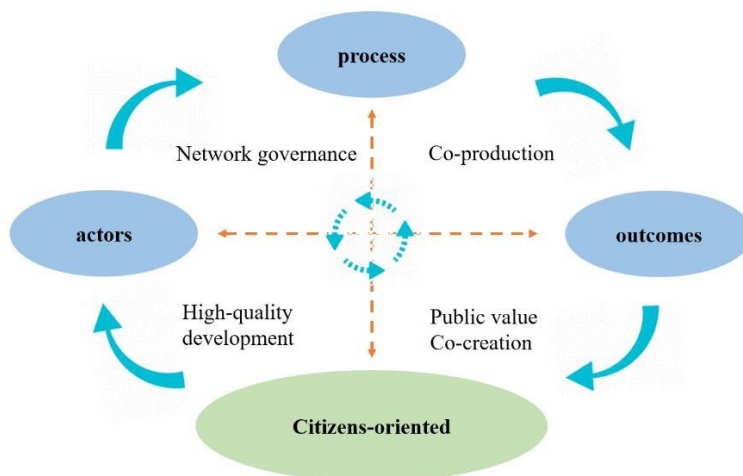
Figure 1. Framework for high-quality analysis of public service systems

Public services have three characteristics: intangibility, heterogeneity, and indivisibility (Parasuraman et al., 1985; Haywood-Farmer, 1988). These three characteristics help to understand the meaning of high-quality public services. First, services are intangible because most services cannot be counted, measured, inventoried, tested, or verified to ensure quality before delivery. Second, services are heterogeneous and pluralistic relative to human needs. Third, services are indivisible in that the production and consumption of services are not separate from manufacturing (Morgan and Murgatroyd, 1994, p. 10). Public services, on the other hand, are all material goods as well as spiritual goods provided by the government or public sector to society to meet general needs and achieve broader public interests, which are expressed as the relationship of rights, obligations, and responsibilities between the government or public sector and the public (Wang, 2020). The standardization of public services has become a quality improvement path that scholars focus on (Excellence, Zhang Shiyang, and Lan Lijuan, 2014; Chen Wei and Bai Yan, 2013; Hu Taxgen and Chen Xuemei, 2014). Researchers have also found that when public service providers define quality based on professional standardization, some of the meanings of service quality may actually run counter to the needs of the "customer," i.e., some public services may meet quality standards but not necessarily the needs of the customer (Turem, 1986).

Quality vs. performance. First, quality and performance are not fully aligned. Relying solely on market mechanisms can be counterproductive, producing only part of the desired economic performance and quality outcomes, including accountability and honesty (Bovens 2005; Williamson 1999). It has been suggested that performance measures and targets for achieving desired outputs promote "fast and sloppy work" (Carlisle and Loveday 2007, 22), which may jeopardize service quality under pressure to meet targets (Oliva 2001) or lead to a primary focus on contractable measures (Alonso, Clifton, and Clifton 2001). Alonso, Clifton, and Díaz -Fuentes 2017). Second, quality is often seen as a cost of performance attainment. For example, Bowman (2015) shows how rail privatization, as a means of reducing costs without sacrificing quality, can have unintended consequences or ambiguous results in terms of quality. Controlling quality is difficult due to the necessary condition of outsourcing, where quality must be specified in advance and bound by the contract. This condition may jeopardize quality aspects such as fairness, equity, and justice in service delivery, as these aspects are difficult to standardize and monitor (McGuire 2001; Van Den Hurk & Verhoest 2016).

High quality of public services versus standardization and equalization. High quality is a public service requirement that goes beyond standardization and equalization. First of all, in terms of service scope, high quality is a requirement for structural quality improvement of essential public services, non-basic public services, and life services. On the other hand, standardization and equalization are mainly for essential public services. Standardization conveys the value of fairness and democratic participation in public services in a technically rational way. Standardization as a policy tool can provide the impetus for implementation while providing institutional value to guarantee the comprehensiveness and continuity of service provision and eliminate dispersion (Yu

Jianxing, Qin Shangren 2015). On the other hand, equalization emphasizes the dimensions of equal opportunities, equal rights, equal outcomes, and structural equality (Jiang Xiaoping, Wu Jing 2012). Second, equalization and standardization of essential public services are the basis for achieving the goal of high-quality development of the public service system. The scope of essential public services is dynamic and changing. The mode of provision also adjusts accordingly, with the government and third-party sectors complementing each other, in which the relationship is constantly adjusted. By solidly promoting the equalization and standardization of basic essential services, we can better determine the scope and level of supply of non-basic public services and identify the diverse needs and precise subjects of living benefits.

Research Design and Findings

Research Methodology

Grounded theory is a unique methodology for building theory from empirical information (Strauss 1987), a process of theory construction that continuously evolves from fact to substantive theory and then to formal theory (Chen Xiangming 1967). Grounded theory is a qualitative research method under the naturalistic research paradigm, which uses a systematic procedure to focus analysis on a phenomenon and leads inductively to a conceptual framework and constructs a theory through these concepts and the connections between them to explain social phenomena (Glaser & Strauss 1967; Strauss & Corbin 2015). Many policies related to public services have been introduced in various departments and localities across the country, providing a large amount of accessible data for the study of grounded theory. One of the reasons for choosing the rooting theory is that there is a lack of research on the evolutionary process of quality connotation. This method is selected to explore the development and changes of quality connotation in different periods through grounded theory. Second, the relationship between quality and performance is complex and ambiguous, and abstracting the profound connection between the two through rooting theory coincides with the purpose of rooting theory based on data, interpreting the process, and identifying the law, and also meets its requirement of solving specific problems in particular fields. The suitability of the research method to the research purpose is one of the reasons for choosing this method in this paper. Based on this, this paper selects public service policy texts from the 12th, 13th, and 14th Five-Year Plans to explore the relationship between quality and performance and how the connotation of quality has evolved using rooting theory. The paper explores the relationship between quality and performance and how the definition of quality has evolved.

In rooted theory, theoretical sampling requires representative and authoritative research subjects. Through screening, 79 policy texts related to public services in the 12th, 13th, and 14th Five-Year Plan periods (2011 to present) were selected for this study. The coded policy texts are all from the State Council. The coded policy texts were chosen from the State Council's policy document database, including policies related to public services issued by various ministries and commissions of the State Council and different localities, which have high authority and representativeness.

The information in this article is mainly policy and regulatory documents. The primary selection is the various official policy documents related to public services issued during the 12th, 13th, and 14th Five-Year Plans, including implementation opinions, plans, programs, etc., covering A total of 79 policy documents were selected as materials for the public service areas of culture, sports, and education.

This paper's textual interpretation of the selected 79 policy text materials was conducted using Nvivo.11 software following the rooting theory procedure. The specific process includes two procedures: data collection and data analysis. In the data analysis stage, the text materials are firstly open coded to extract concepts from the original materials and develop these concepts in terms of attributes and dimensions to form the initial categories; the main axis coding stage is to further refine and distinguish the initial categories by repeatedly comparing and examining the concepts, to explore the connections and potential logic among the categories, and to extract the main categories; the selective coding stage is to identify from the main categories the core categories that can cover other The selective coding stage is to identify the core categories that can cover all different categories from the main categories, and form the connection relationship

between the core categories and the main categories and categories; finally, referring to the experience of related literature, the data used for the theoretical saturation test is generally 10 (Shu Hui & Hu Yi 2020), so this paper repeats the systematic coding step by randomly selecting 10 copies of the selected policy text, and after the sentence-by-sentence analysis and coding, no new concepts and categories appear, and the relationship between concepts and categories does not change substantially changes, that is, they passed the theoretical saturation test and have some realistic explanatory power.

Open coding is the process of breaking up, examining, comparing, conceptualizing, and categorizing information. This stage is based entirely on the analysis of the source material to unearth initial concepts and refine concepts through the operationalization process of breaking up the source material, assigning concepts, and recombining them. In this paper, 79 policy texts are imported into Nvivo11 software, and the original information is analyzed word by word according to the coding principles, from which concept categories are discovered, and 2207 original statements are summarized by eliminating duplicates and merging similarities to form initial concepts and clustering to develop 16 initial categories. Spindle coding, also called associative coding, is based on open coding, which analyzes the associativity of concept genera, establishes the relationship between concept genera, distinguishes primary and secondary genera, and establishes the connection between primary and secondary categories. After clustering the initial concepts according to the rules of spindle coding, the 16 subcategories obtained by open coding are integrated into the main category that can encompass and explain a more extensive range of information content. However, this stage does not fully demonstrate the relationships between the main categories. Selective coding, or core coding, is the process of generalizing the core categories from the formed conceptual categories to cover all of them. The core categories are overarching and encompass all other categories within a broad theoretical scope. After a careful review and comparison of the nine main categories, five core categories were obtained. These are shown in Figure 2.
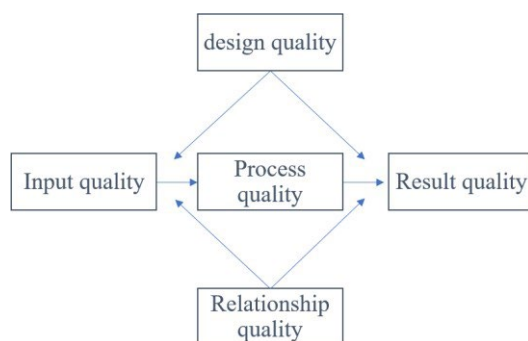
Figure 2. Core Categories and Their Connections

The Five Core Categories

Quality of inputs. Public services are welfare-oriented, and inputs are a fundamental dimension of quality. Although the traditional concept of quality emphasizes technology, process, and outcome, input is still an essential dimension of high quality in public services. Especially based on China's dualistic social structure between urban and rural areas, inputs account for a more significant proportion of the quality structure of rural public services. As shown in the policy text, in 2013, the General Office of the State Council's Guidance on the Government's Purchase of Services from Social Forces suggested that although the government continues to increase its financial input, the intermediate input per village is still limited due to a large number of villages. Moreover, the status of villages' access to financial support varies widely. As has been shown, the benefits of more decentralized local fiscal arrangements are often associated with a diversity of financial resources for producing and providing urban services. Essential benefits of decentralized fiscal arrangements are shared governance, inter-jurisdictional competition, and efficiency

in the production and delivery of public services (Ostrom et al. 1961; Tiebut, 1956; Berardo & Lubell, 2019).

Process quality. In early studies, service quality dimensions were divided into technical and functional quality (Gronroos 1982; 1984). Technical quality represents the customer's perception of the service outcome and is related to the actual service received by the customer from the service provider. Functional quality implies process quality and is associated with the way the service outcome is delivered. The classic SERVQUAL model in quality management research mainly concerns process quality (Dabholkar & Overby 2005). Policy texts reflect more process quality implications. For example, the Outline of the 13th Five-Year Plan further specifies the need to "establish a national list of basic public services."

Outcome quality. The definition of the term outcome quality was established in the 1980s (Gronroos 2000), and there is consensus in the literature that outcome quality significantly affects customer satisfaction (Brady & Cronin 2001; Dabholkar & Overby 2005). Specifically in the policy texts, outcome quality may refer to health improvement in the case of healthcare services and traffic and content in the case of Internet services. These outcome quality attributes are too technical and point to specific services. Brady and Cronin (2001) identified waiting time, tangibles, and price as attributes of outcome quality and then proposed a hierarchical service quality model.

Design quality. Fewer studies have focused on the design dimension within quality. Fewer studies have focused on the manufacturing domain. Since the 1990s, many programs aimed at improving the quality of product design have been widely implemented in manufacturing. The fact that design quality contributes significantly to other quality dimensions and performance is now generally accepted. In the public service system, design is manifested in the design of strategic programs and clarity of objectives in the 14th Five-Year Plan; regarding the equalization of essential public services, three primary policy paths are proposed to promote the construction of a standard system for essential public services, make up for the shortcomings of basic public services, and accelerate the equalization of essential public services, reflecting a holistic view and design thinking.

Relationship quality. They corresponded to the subjective elements of the analytical framework. It is worth noting that beneficiaries of public services occasionally participate in the public service process as recipients and providers of other beneficiaries. This distinctive feature of public services, which is not found in private services, suggests that beneficiaries of public services have characteristics of both citizens and consumers. The Action Plan to Promote the Formation of a Strong Domestic Market, which emphasizes the critical role of market players, gives full play to the role of the market and social organizations such as industry associations and chambers of commerce, encourages and guides the participation of social forces, expands the adequate supply of public services, and promotes the marketization, diversification, and quality of non-basic public services.

Evolutionary path of high-quality content

The vertical analysis presents different structures and evolutionary paths of quality connotation in different historical development stages. As shown in Figure 3, relevant policy texts during the 12th Five-Year Plan period mainly emphasized inputs and results; during the 13th Five-Year Plan period, the process and relationship dimensions were highlighted, and the focus on results reached its peak; during the 14th Five-Year Plan period, high-quality development was directly proposed as a clear concept with a more structural, balanced and oriented connotation.
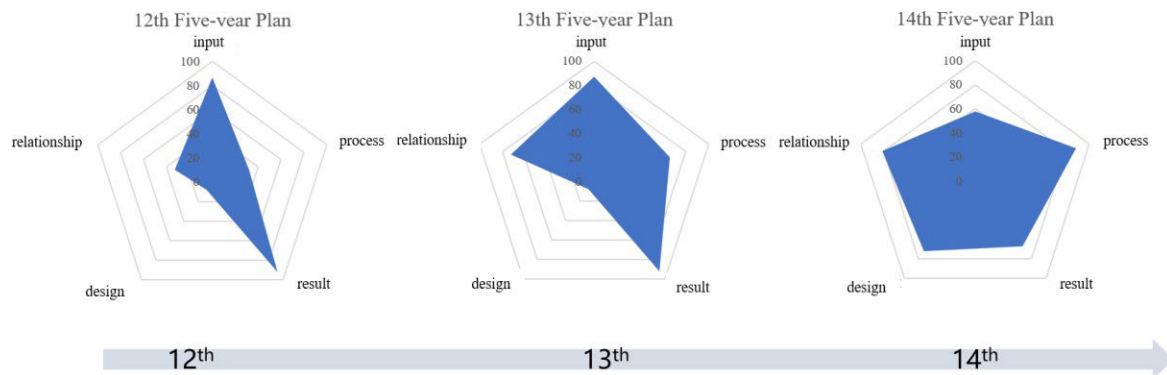
Figure 3.   High-quality dimensional evolution path

Conclusion and Discussion

As China's economic and social development level continues to rise, the boundaries between essential public services, non-basic public services, and living services will also change. The scope, level, and quality of the public service system will be steadily and orderly improved to meet the people's growing needs for a better life and achieve the resonance of public services with economic and social development.

First, a high-quality public service system presents a different quality connotation from traditional and total quality management concepts. The theoretical source of high-quality public services derived from the critical intent formed by years of development of product quality and comprehensive quality management, which is further shaped and guided by China's concept of high-quality development high- quality, has a multidimensional character.

Then, Through the analysis of policy texts, the study found that input, process, outcome, design, and relationship are five dimensions that constitute high-quality connotation. Among them, the process and outcome dimensions correspond to traditional quality management and are unified with t of available product and service quality. On the other hand, the input, design, and relationship dimensions are more characteristic of public services.

Finally, different quality dimensions evolve dynamically with historical development. The introduction of high-quality development during the 14th Five-Year Plan period brought attention to quality as an explicit concept. However, the implicit meaning of quality has always been present in formulating and implementing public service policies at different stages of development. In general, there has been an evolution from conforming quality to adaptive quality and then to more integrated quality.

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Bureaucratic Renewal? The Strategy Border of AI in the Public Sector

Yiran Bai

School of Management
Lanzhou University
Lanzhou, China
demosbai@163.com

Guoxian Bao*

School of Management
Lanzhou University
Lanzhou, China
baogx@lzu.edu.cn

* Corresponding author

Abstract

The current application of Artificial Intelligence (AI) in the public sector is both potentially beneficial and problematic to some extent, which provides a debatable space and tension for studying how AI should be applied in the public sector. Based on Salamon's theory of government tools, this review focuses on the adaptation of AI to the public sector through a comprehensive review of the existing literature, focusing on four aspects: the characteristics of AI technology applications, the current situation of AI applications in the public sector, the contradictions between AI and the public sector, and the boundaries of AI applications in the public sector, to explore the adaptability of AI applications in the public sector. Further, it proposes a future research agenda for the public sector application of AI strategies from applied exploratory research back to theoretical explanatory research, research on the degree of impact of AI application in the public sector, and research on the boundary between AI and the public sector centered on adaptability, and proposes research recommendations for making good use of AI as a digital technology tool to promote governmental governing ability and performance level.

Keywords: artificial intelligence, public sector, artificial intelligence application, application border

Introduction

Since the birth of the discipline of Artificial Intelligence (AI), technical theories have evolved and applications have been extended. The adoption of AI technologies in the public sector and the promotion of AI integration in public governance are becoming the key strategies for the development of each country. On the one hand, the current digital transformation has created a complex "wicked problem" for the public governance environment, and AI is a governance tool that can effectively improve the quality and efficiency of public services. For example, the use of AI; on the other hand, the arrival of the digital age has been accompanied by a corresponding shakeup in the political world, with the perception of public governance risks and threats arising from the application of AI in the public sector at all levels of government, such as economic issues related to the labor market (Montoya & Rivas, 2019; Wirtz et al., 2019), equity, security, privacy-related ethical and moral issues (Kuziemski & Misuraca, 2020; Valle-Cruz et al., 2019; Wirtz & Müller, 2019), governance issues related to transparency, accountability (Valle-Cruz et al., 2019; BenRjab & Mellouli, 2018), etc. The use of AI in the public sector is both potentially beneficial and problematic to some extent, providing a space and tension that can be discussed to study how AI should be applied in the public sector.

In the existing research literature on the application of AI to the public sector, in discussing the issue of how to make good use of AI as a digital technology tool to improve the level of governmental governance and performance, scholars have focused on the issue of data involved in AI (Janssen et al., 2020; Gupta, 2019; Wirtz et al., 2019; Sun & Medaglia, 2019), the public sector technical capacity problem (Ojo et al., 2019; Montoya & Rivas, 2019; Sun & Medaglia, 2019; Al-Mushayt, 2019; Wirtz et al., 2019), the AI decision outcome interpretation problem (Al Mushayt, 2019; Sun & Medaglia, 2019; Ojo et al., 2019), public sector organization and management issues (Sun & Medaglia, 2019; Ojo et al., 2019),

AI ethics and legitimacy issues (Valle-Cruz et al., 2019; Kuziemski & Misuraca, 2020; Toll et al., 2019) and the sociability issues arising from the application of AI to the public sector. It can be seen here that, on the one hand, there is a lack of consensus on how to deal with the challenges posed by AI to the public sector in the future (Wang & Siau, 2018; Wirtz et al., 2019), and on the other hand, the research on AI applications to the public sector is still stuck on the specific practical problems of AI or the public sector on one side, and there is still a breakthrough in theory.

In the application of AI to the public sector, AI essentially takes the form of a government tool. According to Salamon's theory of government tools (Salamon, 2000), the application of AI to the public sector first requires consideration of the goals of public action and the political environment. Second, the operational characteristics of the tool, i.e., AI as a government tool, need to be considered. Finally, it is also necessary to consider whether the government tool properties of AI are compatible with the goals of public action and the political environment. Therefore, based on Salamon's theory of government tools, this review, through a comprehensive review of the existing literature, lands on the adaptation of AI to the public sector left by existing research, focusing on four aspects, namely, the application characteristics of AI technology, the current situation of AI application to the public sector, the contradiction between AI and the public sector, and the boundary of AI application to the public sector, to explore the AI application to the public sector We propose a future research agenda for AI application strategies in the public sector, and propose research recommendations for the use of AI as a digital technology tool to promote governmental governance and performance.

Method

The PRIMA procedure, consisting of four stages of identification, screening, eligibility, and inclusion (Knobloch, Yoon & Vogt, 2011; Liberat et al, 2009), was used in this study to identify, classify and consolidate the literature related to the study topic.

In the identification phase, inclusion and exclusion criteria for the literature were set. The inclusion criteria include (1) public sector of AI applications including all fields and levels of government (2) focus on studies related to the characteristics of AI technology applications, the current status of AI applications in the public sector, the conflicts between AI and the public sector, and the boundaries of AI applications in the public sector (3) include public sector or AI-related terms and their abbreviations (4) literature published from 2000 -2022. Exclusion criteria include (1) duplication of literature across databases, with one retained (2) thematic focus on AI technology applications in the private sector (3) thematic focus on AI only, without reference to the public sector (4) literature published before 2000-2022.

Paper searches were conducted in Web of Science, ProQuest, Springer, Elsevier SDOS, EBSCO, IEEE/IEE, and Emerald databases, focusing on literature published from 2000-2022. The following keyword structure was used to find articles: ("public sector" OR "public administration" OR "government " OR "public policy" OR "public service") AND ("artificial intelligence" OR "AI" OR "smart" OR "intelligent information system" OR "intelligent application" OR "intelligent tool" OR " intelligent instrument"). This study underwent three rounds of extensive and meticulous search, and initially, 908 papers related to the topic of AI application to public sector research were obtained.

In the screening phase, duplicates were first removed using Endnote literature management software, obtaining 726 removed duplicate items. Next, the literature was browsed for titles, keywords, and abstracts, and the literature was screened according to the exclusion criteria and inclusion criteria, obtaining 175 results. In the eligibility review phase, the literature was reviewed by browsing the full text of the literature according to the exclusion criteria and inclusion criteria, 113 papers were excluded, and 62 papers were finally selected as the analysis material.

Next, according to the focus of this study, we will describe this study based on the following four aspects: AI technology characteristics, the current situation of AI application in the public sector, the contradiction between AI and the public sector, the scope of AI application in the public sector, and then propose future research directions on the strategy of AI application in the public sector.

Application Characteristics of AI Technology

AI originated from Alan Turing's 1950 paper "Computing machinery and intelligence" and his invention of the Turing Test to determine whether a machine is intelligent (Turing, 1950). McCarthy et al., 1955). According to the European Commission, AI refers to "systems that display intelligent behavior by analyzing their environment and taking actions with some degree of autonomy to achieve specific goals" (European Commission, 2018, p. 2). AI is the theory and technology related to the simulation of certain human intellectual activities through computers. Thus, AI is essentially the ability to process data and information embodying intelligence including learning, planning, prediction, and control to achieve goals. (UNESCO, 2020; Susar & Aquaro, 2019) Since AI works in a mode of autonomous decision-making based on learning, analysis, recognition, and prediction of different situations (Čerka et al., 2017), thus AI can interpret and process large amounts of data compared to traditional tools (Newell & Marabell, 2015), suitable for solving both routine and non-routine problems (Frey & Osborne, 2017; Brynjolfsson & Mitchell, 2017). It can be seen here that AI has the property of being an intelligent tool with independent and autonomous consciousness on the one hand (Fast & Horvitz, 2017) and the property of unstructured data processing on the other hand (Thierer et al., 2017).

Since the 1950s, AI has experienced the proposal and application of machine learning theory, the implementation of natural language processing, the rapid development of neural network applications, the bottleneck in the development of AI programs, and the leap in CPU arithmetic power, and is currently entering a period of rapid development. Terms of specific forms of AI applications include machine learning involving supervised and unsupervised learning (Smola & Vishwanathan, 2008; UNESCO, 2020), fuzzy logic (Klir & Yuan, 1995; Yen & Langari, 1999), case-based reasoning (Cortes & Sanchez-Marre, 1999), artificial neural networks (Krenker, Bester, & Kos, 2011), cognitive mapping (Eden, 1988; Golledge, 1999), language processing (Liddy, 2001), machine reasoning (Bottou, 2014), multi-agent systems (Ferber, 1999), including computer vision, image and facial recognition, internet-of-things and robotics, human-computer interfaces, virtual assistants, speech recognition, and autonomous machines and vehicles (Baheti & Gill, 2011; Lee, 2008; Radanliev, De Roure, Van Kleek, Santos, & Ani, 2020). The application areas of AI today include but are not limited to navigation systems (Liu & Tang, 2018), practical financial application systems (Bahrammirzaee, 2010), medical clinical decision-making (Bennett & Hauser, 2013), environmental monitoring (Hino et al., 2018), machine fault detection, etc. (Nasiri et (Nasiri et al., 2017). Among them, applications involving public domain aspects include public transportation (Kouziokas, 2017), public health (Qian & Medaglia, 2018; Ziuziański et al., 2014), public safety (Ku & Leroy, 2014), and public education (Fernandes et al., 2018), among others.

Current Status of AI Applications in the Public Sector

Public stakeholders have high expectations for AI applications in the public sector and devote considerable attention to the public goals of AI applications in the public sector. First, the focus on AI can bring significant improvements in efficiency and effectiveness in the public sector. Kuziemski & Misuraca argue that AI can free resource-limited organizations from mundane and repetitive tasks to focus on more valuable work (Kuziemski & Misuraca, 2020). Alexopoulos et al. argue that the adoption of AI can streamline the process of public sector activities (Alexopoulos et al., 2019), form automated processes (Valle-Cruz et al., 2019; Toll et al., 2019; Ojo et al., 2019), and thus reduce the administrative burden (Wirtz et al., 2019). Bullock et al. scholars argue that the application of AI can improve the efficiency of government operations (Bullock, 2019; Valle-Cruz et al., 2019; Gomes de Sousa et al., 2019; Toll et al., 2019), especially the efficiency that comes from machine learning (Alexopoulos et al., 2019). Moreover, the effectiveness of government and government system operations also benefits from the application of AI (Ojo et al., 2019; Bullock, 2019), which can further reduce government administrative errors (Valle-Cruz et al., 2019). Second, public governance expects AI to meet public sector economy needs to a greater extent. This is demonstrated by AI's ability to reduce the cost of running the government (Montoya & Rivas, 2019), improve the economics of e-government services, adjust resource allocation (Wirtz & Müller, 2019), and thus stimulate economic development (Montoya & Rivas, 2019) with greater competitiveness (Toll et al., 2019). Third, in terms of public service provision, public governance expects AI to improve the way the

public sector operates by improving service hours (Ojo et al., 2019), accelerating the process of handling resource allocation and transaction processing (Wirtz & Müller, 2019), expanding the audience of public services (Bullock, 2019) (Kuziemski & Misuraca, 2020), innovate public service delivery models (Kuziemski & Misuraca, 2020), and in turn improve the quality of public services (Ojo et al., 2019) to generate maximum public value (Wirtz & Müller, 2019). Fourth, public governance expects AI to play an active role in promoting interactive citizen participation in the field. Specifically, AI's analysis of complex datasets explores collaborative spaces for citizen engagement and cooperation (Toll et al., 2019), improves communication between citizens and government (Androutsopoulou et al., 2019), while enhancing government transparency (Valle-Cruz et al., 2019), and fosters citizens' understanding of the level of trust and satisfaction with the quality of public sector governance and public services (Kuziemski, M., & Misuraca, G,2020). Fifth, public governance expects AI to contribute to sustainability benefits in environmental terms (Toll et al., 2019). This specifically includes improving the management of natural resources and the environment through AI in the resource and environment sector to protect the natural environment (Fatima et al., 2020).

Facing the goals that public governance needs to achieve, AI is involved in public governance in the public sector in the following ways: first, AI can analyze and process large-scale public sector operational data (Ben Rjab & Mellouli, 2019) and use the ability of machine learning systems to self-improve (Alexopoulos et al., 2019) and make technical aspects of big data processing improvements (Wirtz & Müller, 2019). Alexopoulos et al. argue that the effective data available to the public sector today is a result of the use and exploitation of machine learning, which empowers the public sector to learn and process multidimensional data (Alexopoulos et al., 2019). Ben Rjab et al. argue that AI can be used to construct intelligent data processing networks for real-time modeling, analysis, and prediction of governance data (Ben Rjab & Mellouli, 2019). Second, in terms of governmental decision-making, public governance expects AI, especially machine learning, to play a role in providing predictive support to governmental decision-makers (Alexopoulos et al., 2019), while big data algorithmic systems supporting automated decision-making within public institutions (Janssen et al., 2020) can further improve governmental decision-making capabilities (Ben Rjab & Mellouli, 2019), provide more accurate decision results for governmental decisions (Ojo et al., 2019), help decision makers highlight potential areas of action, and improve the efficiency and effectiveness of government policy-making (Kuziemski & Misuraca, 2020). Third, in terms of risk monitoring and identification, AI can play a role in providing insight into complex and pressing issues given its learning and predictive capabilities (Ben Rjab & Mellouli, 2019), enhancing intelligent monitoring, assessment, and control of operational risks within the public sector (Gomes de Sousa et al., 2019), and effective risk identification (Ojo et al., 2019), improving the level of monitoring of administrative errors in the public sector (Ben Rjab & Mellouli, 2019), and further ensuring the smoothness and security of public sector administration (Fatima et al., 2020). For example, Bullock argues that the use of AI in the public sector can provide effective monitoring of internal operational fraud.

The characteristics of AI as a government tool can be further derived from the above ways of AI application in the public sector, which include, on the one hand, efficiency, ubiquity, and convergence.AI is based on intelligent algorithms of artificial neural networks that enable fast and efficient processing for unstructured data such as images, videos, natural language text, and audio (Han et al.,2021), and streamline public sector management processes (Kalampokis et al., 2022), automating them. In this sense, AI has efficiency. In addition, AI has ubiquity in public sector applications, which has two sources. One is AI's ability to learn, recognize, analyze, and predict deeply unstructured data with irregular data structure, not conveniently stored using two-dimensional tables, and high complexity (Meng et al., 2021); the other source is the learning function of machine learning and natural language processing. ai builds on this with upgraded technology (Lu, 2019) and increasing autonomous functions (Hengstler et al., 2016), and application scenarios are expanding (Strohmeier & Piazza, 2015), showing a high degree of ubiquity. At the same time, AI also shows strong convergent characteristics in the application of specific practices in the public sector. The processing of unstructured data and the generation of natural language break the boundaries of different application scenarios to a certain extent (Maynard et al., 2016), and also break the boundaries of input and output of information transmission, expanding the accessibility and applicability of public service information (Luxton, 2014).

The design of AI is based on precise scientific calculations, from big data to probability distributions to decision models, and the behaviors displayed by AI are those expected of standard rational decisions (Duch et al., 2007). However, sometimes this rationality tends to develop to an excessive level of rationality, and the dehumanization of daily activities (Valle-Cruz et al., 2019) tends to ignore the boundaries between the public and private sectors in cross-sectoral cooperation processes (Mikhaylov et al., 2018) on the one hand, and to present the public sector with excessive and inflexible control on the other hand (Valle-Cruz et al., 2019). Cruz et al., 2019). In addition, the application of AI in the public sector is deep in ethical and moral dilemmas (Wirtz & Müller, 2019), making it difficult to make value judgments. Due to the differences in value judgments between machines and humans (Wirtz & Müller, 2019), AI decision outcomes ignore consideration of human factors (Kuziemski & Misuraca, 2020), such as ignoring the demographic impact of decisions (Wirtz et al., 2019), ignoring human privacy rights (Valle-Cruz et al. …, 2019), ignoring the fairness of decision impact (Wirtz & Müller, 2019), etc. Building on the first two characteristics, AI as a government tool further highlights its instrumental characteristics. Although science and technology such as machine learning, natural language processing, and deep learning have rapidly developed along with rapid advances in computing power and algorithms, application scenarios still need to be expanded and there is still widespread resistance to data sharing in the public sector (Gupta, 2019). The institutional logic of competition between different sectors and levels of the public sector still exists (Mikhaylov et al., 2018), and strategic cooperation is fraught with opportunistic tendencies (Mikhaylov et al., 2018). Thus, the application of AI in the public sector is still at the instrumental stage and presents a strong instrumental character.

The Conflict Between AI and the Public Sector

Although AI has evolved tremendously over the past decades, the use of AI technologies in the public sector is still characterized by limited adoption and unclear effects. AI adoption in the public sector has been much slower than in the private sector (Desouza et al., 2020). In addition to the aforementioned resistance to data sharing among the public sector due to competing partnerships, there are other reasons for the limited adoption of AI technologies in the public sector. The immediate reason is that the experience of AI practices in the private sector cannot be directly replicated in the public sector (Fatima et al., 2020). A deeper reason is that the public sector has not been able to keep up with the changes brought about by AI; Ojo et al. argue that there is a lack of AI talent within the public sector (Ojo et al., 2019) and that there is a large gap between the education received and the highly technical skills required (Montoya & Rivas, 2019). At the same time, the results of decisions provided by AI for the public sector are complex in terms of interpretation (Al-Mushayt, 2019), and the public sector faces information overload from the role of machine learning (Alexopoulos et al., 2019), which makes it difficult to form correct interpretations (Toll et al., 2019). The decisions made by the public sector based on Big Data Algorithmic Systems (BDAS) may be incorrect (Janssen et al., 2020). Regarding the effects of AI applications in the public sector, (Al-Mushayt, 2019; Gupta, 2019; Sun & Medaglia, 2019) et al. argue that AI adoption may enhance citizens' trust but may also reduce citizens' trust in government. Ben Rjab & Mellouli argue that government applications of AI systems as a reference for decision-making when lacking transparency (Ben Rjab & Mellouli, 2019), and that the decision-making process presents a black box state (Liu et al., 2019), which poses a great degree of risk and crisis for the public trust in government.

In response to the less-than-ideal results of AI applications in the public sector, scholars have focused on the data issues involved in AI, the public sector technical capacity issues, the AI decision outcome interpretation issues, the public sector organization and management issues, the AI ethics and legitimacy issues, and the sociability issues arising from AI applications in the public sector. Data issues include data collection and storage (Gupta, 2019), data quality (Wirtz et al., 2019), sensitive data (Janssen et al., 2020), size of the available data pool (Sun & Medaglia, 2019), heterogeneity of data (Alexopoulos et al., 2019), the difficulties and challenges in data availability (Alexopoulos et al., 2019), data integration (Wirtz et al., 2019), and data security (Chen et al., 2019). The issue of public sector technology capacity involves weak awareness of tool use among public managers (Ojo et al., 2019), knowledge and skill gaps in tool use among public managers (Montoya & Rivas, 2019), education gaps in high technology skills among public managers) (Sun & Medaglia,

2019) and public sector AI talent and lack of experts (Al-Mushayt, 2019; Wirtz et al., 2019), among other aspects.AI decision outcome interpretation problems include issues such as opacity of AI systems, information overload, and lack of AI interpretability (Al-Mushayt, 2019). Public sector organizational and management issues include organizational resistance to data sharing, lack of strategic planning for AI applications (Sun & Medaglia, 2019), bureaucratic structural models, opportunism in strategic collaboration, and limited ability to handle large amounts of data (Ojo et al., 2019).AI ethics and legitimacy issues cover issues of dehumanization (Valle -Cruz et al., 2019), equity issues (Kuziemski & Misuraca, 2020), privacy issues, security issues, trust issues, integrity issues (Toll et al., 2019), etc. The sociability issues arising from AI applications in the public sector are about the impact of AI applications on the population (Valle-Cruz et al ..., 2019), the impact on the labor market and unemployment rate (Montoya & Rivas, 2019; Wirtz et al., 2019), the impact on the income gap (Montoya & Rivas, 2019) and the impact on the social drivers of innovation (Sun & Medaglia, 2019), among others.

However, the less-than-ideal results of AI applied to the public sector essentially stem from the inherent structural contradictions between AI and the public sector. The public sector serves the interests of citizens, and it emphasizes the pursuit of public values (Jørgensen & Bozeman, 2007). This is determined by the fact that the public sector inherently contains the value of publicness about the content of impartiality, fairness, and openness activities. However, AI, a governmental governance tool, has a strong tendency to dehumanize. Gupta et al. argue that the development of AI poses a great threat to human labor characteristics and labor markets (Gupta, 2019). According to the foregoing, AI exhibits characteristics of excessive rationality, difficulty in value judgment, and instrumentalization. These characteristics produce a result that even if AI emerges as a governance tool for government, AI's responsibilities are difficult to align with those of the public sector. Although AI can act independently and autonomously, its ability to bear the consequences of its actions is limited, and does not have the capacity and status to assume full responsibility (BenRjab & Mellouli, 2018). Combined with the technological nature of AI technologies characterized by an inherent lack of transparency in the technological black box (Liu et al., 2019), the application of AI in the public sector could exacerbate the asymmetry of power between government and citizens (Kuziemski & Misuraca, 2020). This would undermine to a greater extent the public values and public interest of the public sector that contain elements of impartiality, fairness, and openness, ultimately affecting the level of trust of citizens in the government.

At the same time, AI's efficiency, ubiquity, and convergence give it tremendous instrumental advantages. Therefore, before discussing how to use AI technology in the public sector, it is important to return to the fundamental question of the scope and boundaries of AI applications in the public sector around the adaptation of AI as a governance tool to the public sector.

Future Research Agenda

Some scholarly research has now developed a partial research agenda around the use of AI in the public sector. Among them, Kankanhalli et al. discuss the challenges that smart government should face with the combination of IoT and AI and the research priorities based on this (Kankanhalli et al., 2019). Gomes de Sousa et al. propose solutions for AI in the public sector (Gomes de Sousa et al, 2019). Dwivedi et al. discuss the implementation of AI in the public sector and outside the public sector in business management, science, and technology (Dwivedi et al., 2019).

However, the answers to the question of how the public sector can make good use of AI as a digital technology tool remain at a shallow level in existing research. The answers in the existing studies still focus on specific questions on the AI side or the public sector side and the social impact of AI applications in the public sector. This neglects the conflict and opposition between the inherent structural contradictions between the public sector's public nature and AI's dehumanizing characteristics, on the one hand, and the prerequisite assumptions and conditions for exploring the effective operation of governance tools, on the other. Thus, there is a theoretical gap in the existing research.

The future research agenda of this review complements these existing agendas by focusing specifically on the degree of adaptation of AI applications to the public sector. This research agenda builds on the aforementioned systematic literature review. It

includes recommendations in three directions for examining the boundaries of AI use in the public sector to further examine AI applications in the public sector.

First, the return from applied exploratory research to theoretical explanatory research. because of the power efficiency and generalizability of AI technology, most of the early research on AI applications in the public sector was applied exploratory, focusing on the practical problems faced. This has led to a narrowing of the researcher's vision and perception of a specific problem. Given the current risks of digital transformation in the public sector due to the "wicked problem" (Fountain, 2019) and the damage to publicness caused by the practical application of AI technologies in the public sector, there is an urgent need for an explanatory study of the theory.

Second, research on the degree of impact of AI applications in the public sector. Existing studies have paid a lot of attention to the impact of AI applications in the public sector, which is an exploration and analysis of the qualitative aspects of the types of impacts and influencing factors. However, existing research lacks quantitative exploration of the impact of AI in the public sector. The purpose of exploring the extent of the impact of AI in the public sector is to further investigate the direction and strength of the impact of each influencing factor to address the boundary between AI and the public sector. By adhering to the stable boundaries of AI and the public sector and flexibly grasping the fuzzy boundaries, the study of AI application in the public sector can further explore the adaptation of AI as a governance tool to the public sector and public governance to better stimulate the operational performance of the public sector.

Third, an adaptation-centered study of the boundaries between AI and the public sector. Currently, AI's understanding of the real world is based on the analysis of past data, albeit in various forms. It is a factual judgment to make predictions and responses to probabilistic future possibilities through deep extraction and analysis of past data features. This contains a priori the assumption that the past world is predictive of the future world. Since the observable world is not always repetitive in the temporal dimension, there is necessarily a "boundary" in the application of such predictions. Further, the world depicted by reliance on numbers is a " world as it is" rather than a "world as it should be". It is not only impossible but also unethical for humans to rely on AI to carry out their imaginary value judgments, which means that all places where value judgments are needed are its first boundary. But at the same time, it should be noted that this cannot avoid, and may even exacerbate, Max Weber's dark fantasy: the strictures of an overly rational bureaucracy may make the administrative process seem inflexible and extremely mean-spirited. In this regard, the avoidance of the overly rational arena is its second frontier. The current development of algorithms and their limitations on the possible application scenarios may not bring a real transformation to the public sector, but may simply be a more useful "tool" in the administrative process. The limitations of technology will become its third boundary.

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From Local Government Response to Central Government Promotion: The Solution to the "Digital Divide" for the Elderly—Based on a "Two-Stage Multiple Streams" Framework

Xuewen Mao*

School of Management
Lanzhou University
Lanzhou, China
maoxw@lzu.edu.cn

Luye Zhao

School of Management
Lanzhou University
Lanzhou, China
zhaoly19@lzu.edu.cn

* Corresponding author

Abstract

The problem of "digital divide" for the elderly has been prominent as the aging society enters the digital age, which, is intensified by the Covid-19, yet not put on the policy agenda of central government immediately. Based on a "two-stage multiple streams" framework, this paper amends the model by embedding time elements in problem sources, risk elements in policy sources, and institutional elements in political sources, while relaxing the independence assumption of three sources. Further take the policymaking process of "Notice on the Implementation Plan for Effectively Solving the Elderly's Difficulties in Using Intelligent Technology" as an example to testify its rationality. It is found that under the influence of paroxysmal public events, the instantaneous intensification of the three sources will highly couple to open the "policy window", leading to the formulation of policies from bottom-up to top-down; and the intensification changes of three sources from "transition state" to "emergency state" are affected by the embedded elements. The amended "two-stage multiple streams" model can better explain the process of policymaking, especially analyzing the difference in coupling strength caused by the changes of three sources under the emergency in Chinese context, which provides a new perspective to interpret the policy agenda setting in the risky society.

Keywords: multiple streams framework, policy agenda, digital divide, elderly, risky society

1. Introduction

The seventh national census in China showed that by the end of 2020, the number of the elderly over 60 had reached 264 million, accounting for about 18.70 percent of the total population, which is expected to arise to 482 million by 2053. China has become the country with the most elderly people, yet the aging degree is further deepened. Under this circumstance, digitalization and intelligence which has subverted traditional styles of life and production, has brought a lot of inconvenience to the elderly. The 48th Statistical Report on Chinese Internet Development released by China Internet Network Information Center (CNNIC) showed that as of June 2021, there were about 123 million people over 60 among 1.011billion netizens. Therefore, a large number of the elderly cannot adapt to the changes of new technologies, implying that the "digital divide" for the elderly needs to be bridged urgently.

The "digital divide" for the elderly is caused by the conflict between the aging society and the digital times, which was prominent during the outbreak period of COVID-19 pandemic and its normalized prevention. On February 11, 2020, the health code was officially launched to promote epidemic prevention and control. And since then, the

health code has become a necessity to go out, which brings much inconvenience to the elderly who do not have a smart phone, cannot operate, cannot see the screen clearly etc.

To bridge the "digital divide" and protect the freedom and rights to go out for the elderly, the General Office of the State Council formulates the policy named "Notice on the Implementation Plan for Effectively Solving the Elderly's Difficulties in Using Intelligent Technology" (hereinafter referred to as The Notice). The Notice emphasizes the importance of taking the specific life scene of the elderly into account while promoting the development of technology, avoiding one-size-fits-all approach, and preserving the traditional service mode. Although the conflict between the aging society and the digital times was intensified, this problem was first responded by the local government rather than received The Notice of the central government.

Above all, this paper will amend the"two-stage multiple streams" model, and based on the formulation of The Notice, to study how the "digital divide" for the elderly has been put on the central policy agenda during the COVID-19 pandemic. Firstly, it focuses on the changes in the strength of three streams and their interaction. Then analyze different policy results resulted from the changes of strength of three streams. Finally explain how the "digital divide" for the elderly was solved from the local government's response to the central government's promotion.

2. "Digital Divide" for the Elderly

"Digital Divide" was originally proposed in Powershift, later defined as the inequal situation between people who have the technology and who have not (Silva et al.,2005). Yet the technological inequality is just the first divide. With the development of the Internet, "digital divide" expands to the second divide which concern more with difference in using technology (DiMaggio, et al., 2004; Zhu et al., 2017). Furthermore, the problem of "digital divide" also exists in groups of different social stratum, ethnic, age and education degree, which involves issues about economics and human rights essentially (Norris P.,2001; Hu & Zhou, 2002).

The problem of "digital divide" for the elderly is contradiction rooted in the mingle of the aging society and the digital times. The advancement of information and communication technology since the end of the 20th century marginalizes the elderly, disturbing their social participation, daily travelling, psychological situation and so on. Due to their low acceptance for the brand-new things (Dong & Zhang, 2021), the objective and the range of using the Internet for the elderly are narrower than the young's (Jung J. et al., 2001). The degree of the "digital divide" will influenced by the psychological situation such as loneliness, and social capital etc. (Silva et al., 2005; Casanova Georgia et al., 2021); And the divide is manifested from the access, use, and knowledge aspects (Lu & Wei, 2021), which lead to the heavier wealth gap and class divide and social harmony (Yang & Cao, 2021). Hence, the problem of the "digital divide" for the elderly catches on increasingly.

Yet the conflict was further intensified by epidemic prevention means via big data during the COVID-19 pandemic, which was justified by many cases in which the elderly cannot show their health code because they do not have a smart phone, cannot operate it, or have difficulty filling personal information on smart phones due to physical limitations.   Present research has analyzed the manifestation, reasons, and social impacts of the "digital divide" for the elderly, but this paper based on the policymaking perspective, aims to give theoretical analysis of the solution process of this problem. On November 24, 2020, The Notice was first formulated as the legislative forms by the central government, which provides solutions and guidance to solve the problem of "digital divide" for the elderly. Based on the multiple strs framework, the predominance role of the political stream has been figured out (Peng, 2021), this paper will answer following questions to explain the setting process of policy agenda in the risky society in China: How did three streams develop and how did the problem was dealt with before the problem was noticed by the central government? During the COVID-19 pandemic, how does three streams interact from "transition state" to "emergency state"? How do the three source flows change and how do they interact? And under what circumstance can this problem put on the policy agenda of the central government?

3. Amendment of the"Two-Stage Multiple Streams" Framework

To better depict the policy agenda setting process under the context of paroxysmal public events, this paper localizes the "two-stage multiple streams" theoretical model by embedding time elements in problem stream, risk elements in policy stream, and institutional elements in political stream, relaxing the independence assumption of three streams, and exploring the interaction between three streams.

3.1 Proposal of the "Two-Stage Multiple Streams" Model

The multiple streams framework proposed by Kingdon is widely used in researching policy agenda and the long-term policy changes (McLendon, M. K., 2003), claiming that the problem which is put forward on the policy agenda needs the opening of policy window which is promoted by the mutually independent problem stream, political stream, and policy stream, together with the policy entrepreneurs (Kingdon, 2014). And the problem stream refers to the problems that governments need to solve, which is reflected in indicators, focus events and feedback etc. The policy stream refers to alternatives, suggestions and proposals proposed by policy community including officials, experts and scholars, the technological and valuable evaluation of which results in its different strength. The political stream reflects on the political situations involving the national moods, the government change, and the interest groups. Yet these three streams are mutually independent, and only converge in the specific environment with the promotion of policy entrepreneurs.

However, Kingdon constructed the model under the American society which does not accurately adapt to China. Chinese scholars further explore issues about influence factors, independence to three streams, as well as the role of policy entrepreneurs. Elements of time, risk and institution will impact temporal, distributive, complementary and systematic characteristics of policies (Wang, 2021; Pi et al., 2021); The political system of multi-party cooperation under the leadership of the Communist Party of China also matters. All those factors may lead to the differences in the sequence of three streams (Pi et al., 2021; Bi, 2007; Wu, 2014), the interaction of which results from various roles played by policy entrepreneurs in different fields (Pi et al., 2021). Considering that the role of policy stream and policy entrepreneurs were over-emphasized, Chen and Lin (2021) proposed a "two-stage multiple streams" theoretical framework by embedding the sequence of three streams and corresponding policy results. The model includes two stages: (1) In the first stage, three streams, the problem stream of which is the strongest, loosely coupled to open the "problem window", leading to various and flexible response. (2) In the second stage, three streams are strengthened and tightly coupled to open the "policy window", leading to the formulation of the policy where the political stream is of much more importance.

3.2 Amendment of the "Two-Stage Multiple Streams" Model

Yet the "two-stage multiple streams" framework proposed by Chen and Lin (2021) cannot accurately explain the policymaking process under paroxysmal public events. On the one hand, the evolution process, and the corresponding essential reasons of three streams are neglected, leading to the ambiguity of the sequences of three streams. On the other hand, the model does not take the central-local governments relationship into account, which, however, is one of the most significant features of Chinese administration.

Besides, the human beings are faced with a risky society full of nonlinearity, unambiguity, and wicked problems, where urgent response and normalized mechanism should be considered simultaneously. Liu and Gao (2021) differentiated this social stage from the "normal state" or the "emergency state" and defined it as the "transition state", the third social governance form. Therefore, this paper aims to explore the policymaking process in the "transition state" and "emergency state". For example, what are the features of the policy change in the "transition state"? How do these differences influence the policy results? In these two stages, how does the policy change and why? During these changes, what are the strength and interaction of three streams like?

To have a deeper understanding of the policymaking process under paroxysmal public events in China, this paper amends the "two-stage multiple streams" model (figure 1) by (1) embedding time elements in problem stream, risk elements in policy stream, and

institutional elements in political stream, to make the streams more systematic and consecutive which depicts the synchronicity and diachronism in the risky society of the "transition state" and "emergency state"; (2) relaxing the independence assumption of three streams. It claims that in the first "transition state", three streams of relative independence loosely couple to open the problem window, leading to autonomous response of local governments; In the second "emergency state", the policy stream and the political stream are stimulated by the problem stream, which facilitates the high coupling and open the political window, further setting policy agenda by central government.
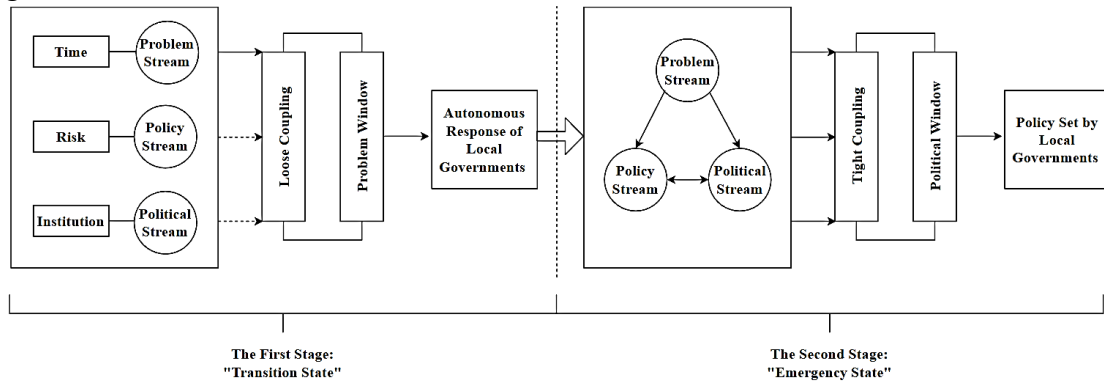
Figure 1.   Amendment of the "Two-Stage Multiple Streams" Model
Notes: (1) The thickness of the arrow line on the right side of three streams indicates the intensity of the corresponding streams. The thicker the line the stronger the stream's strength, and vice versa. (2) The solid line indicates that the corresponding stream is necessary, and the dashed line indicates that the corresponding stream is unnecessary. (3) Arrows between three streams indicate interactions between three streams, but above shows the most common interaction patterns.

Paroxysmal public events will stimulate three streams to become strong instantly. Yet the problem stream is always of the most significance and influence the policy stream and the problem stream in the specific situation. Then the prominence of the political stream promoted by the policy stream and the problem stream will facilitate the setting of the policy agenda and further the formulation of the policy. In this model, autonomous response of local governments is the policy results in "transition state". Only when three streams strengthen and interact frequently can the central government pay attention to this policy problem and formulate policies according to experience and lessons from local governments. In the "normal state", three streams are neither formed nor convergent, therefore the problem will not be put on the policy agenda, which rationalizes the consideration that put it outside the scope of this model.

4.Case Study: The Policy-Making Process of The Notice

Combined with the background of the risky society, this paper aims to explain the problem-solving process of the "digital divide" for the elderly by focusing on the contradictions between the elderly and the health code, regarding the formulation of The Notice as the policy results. Meanwhile, it uses the amended "two-stage multiple streams" model to analyze the process. Data come from the State Council of the People's Republic of China, Ministry of Industry and Information Technology of the People's Republic of China, Ministry of Transport of the People's Republic of China, National Health Commission of the People's Republic of China, and other platforms including Xinhua News Agency, Baidu Search Engine etc.

4.1 The Background of the Case

The Notice was publicized by the General Office of the State Council on November 24th, 2020, as is the first time to provide directions to address the "digital divide" for the elderly in the form of central and formal policy. On the one hand, it aimed to solve the inconvenience in going out for the elderly's inability to show the health code smoothly in

the context of the COVID-19 pandemic. On the other hand, it actively responded to the needs of the elderly, and alleviated the friction between the digital era and the aging society by embracing back to the government's motto of "serving the people". The "digital divide" for the elderly has been exposed since the end of the 20th century, with the concept of "smart senior care" proposed in 2012, "Internet + senior care" in 2015, both of which were advocating using digitalized technology to provide technical support and ideas for the elderly care. However, under the guidance of instrumental rationality, these policy initiatives ignored the adaptability of the elderly to digital technology and the conflict between technological development and traditional preservation, which expands the "digital divide" for the elderly. Under the COVID-19 pandemic, difficulties in the elderly's use of the health code intensified the conflict. The public health crisis further generates the information crisis of the elderly, and to bridge the "digital divide" for the elderly was of increasing importance.

During the pandemic outbreak stage and the normalized epidemic prevention stage, the phenomenon of difficulties in going out for the elderly caused by their failure in using the health code was frequent, but relevant policies were not introduced in time which can be justified by events happened in March 2020, Jiang Su Province and Hei Longjiang Province. Yet these events did not put on the central policy agenda, implying a game between the strict requirements of the COVID-19 prevention and control and the protection of the rights of the elderly. Under Chinese special situation of the relationship between the central government and the local government and discretion in local governments, the "problem window" was opened, and local governments responded to the problem autonomously. Until the conflict irritated public opinion and national mood, subjective sentiment was added into the objective events, which can be justified by the terms of "the shame of the digital age" etc., criticizing and accusing of ignorance of the rights and interests of the elderly. Therefore, the Ministry of Industry and Information Technology and the China Disabled Persons' Federation jointly issued the "The Guideline on Promoting Barrier-free Information" (hereinafter referred to as The Guideline) on September 27, 2020, which further opened the "political window" and laid a foundation for the formulation of the Notice on November 24.

4.2 The Description of the Case

4.2.1 The "Problem Window" in the "Transition State"

The conflict between the aging society and the digital times was not emphasized due to the wideness of the problem. Until the outbreak of the COVID-19, this contradiction was focused on the health code, which was officially launched on February 11, 2020, in Hangzhou to help the prevention and control of the epidemic and the resumption of work and production. By February 28, more than 200 cities had regarded the health code as a necessity to go out. However, the health code relies on Alipay, WeChat, government APP and other network platforms, as well as the basic operation skills in mobile phone. The elderly does not have smart phones, cannot see the screen of the mobile phone or cannot operate, resulting in the inability to use the health code smoothly, therefore, the problem stream begins to loom. In view of the severe COVID-19 epidemic before February 19, the central and local governments and media called for staying at home, and some areas even took lockdown measures, thus temporarily covering the conflict. With the slow down of the confirmed cases, local governments began to implement the resumption of work and production and carry out routine prevention and control work of COVID-19, including measuring body temperature and checking the green health code. By March 6, the number of new confirmed cases had dropped to 99, and the daily outdoor activities of citizens had gradually increased, which embodied the contradiction.

Cases concerning travel blocks for the elderly came out in March 20th and become focus events where proposals of the rigid COVID-19 pandemic and improving the overall situation hindered the outbreak of the nation mood. In this stage, the problem stream failed to interact with the political stream and the policy stream with the loose coupling opening the "problem window". Local governments autonomously responded to this problem combined with the COVID-19 pandemic situation and the technology capacity, in the form of retainment of traditional service, adaptability of technological application and appeal for actions of multiple subjects. For example, Chongqing opened online reporting channels so that the relatives of the elderly can apply for the health code. Ningbo

handed out the health code made from paper. Hangzhou realized the combination of the riding code with the health code etc.

4.2.2 The "Political Window" in the "Emergency State"

Yet in March 2020, the contradiction between the elderly and the health code did not attract the attention of the central government owing to the huge risk of the repeated pandemic and the collectivism under Chinese political system, leaving the local government's autonomous response.

Until the pandemic stepped into the normalized prevention and control stage, ethnical elements in this problem sprang out. In June 2020, an elderly person walked across the province because of the lack of the health code. In July, several elderly people who did not have smart phones in Harbin were criticized by the passengers when they got on the bus. These events exposed problems of "one-size-fits-all" policy implementation of local governments, the limitation of the scope of policy response, the single choice of policy instruments and so forth. Citizens began to discuss this problem with huge emotion and insisted that executives should be compassionate and flexible in policy implementation. Therefore, more provinces took alternative measures to check the health code, forming the policy stream. On 14 September, the "digital divide" for the elderly was emphasized on CCTV, an influential and official television program, which aroused millions of concerns with The Guideline proposed later 27 September. Thus, the focus events promoted the problem stream, further intensifying the political stream full of national mood and hastening the policy stream. Their tight coupling opened the "political window" and promoted the formulation of the Notice.

4.3 Case Analysis: The Setting of Policy Agenda

4.3.1 The Problem Stream

Embedding the time element in the problem stream, it is found that various indicators including the degree of the aging and information laid solid foundation for the changes of the problem stream, the strength of which was influenced by focus events, public feedback, and regulation of the pandemic development.

Data from the seventh National Census and the report released by CNNIC show that nearly half of the elderly aged over 60 in China still fail to bridge the "access gap", and those even who have used digital technology are still trapped in the "use gap". Research showed that the elderly use search engine, phones, and WeChat less than other groups (Huang, 2020). Unfortunately, this problem is too wide and fragmental to be noticed in the normality so that it cannot form the problem stream.

In the first stage, several incidents of travel obstruction of the elderly happened in March 2020 jointly constituted the focus events, which promoted the long-standing social problems to transform into policy problems in the "transition state", forming the problem stream and opening the "problem window". In the early period, the problem stream was blocked by the rigid pandemic situation, the instructions of pandemic prevention and control, and the collective appeal for lessening travel. Although the citizens disagreed with "one-size-fits-all" policy implementation, the consensus of "sacrificing personal interests and achieving collective interests" prevailing in Chinese society has temporarily shelved the interests of the elderly, and the role of the problem stream is greatly limited, which only triggers autonomous response of local governments.

In the second stage, the contradiction sprouted out with the relief of the pandemic when citizens began to reflect on the essential reasons behind the problem, trying to embrace the motto of "serve the people" and traditional virtues of respecting the elderly. Meanwhile, autonomous response in the "transition state" exposed a series malpractice: Firstly, autonomous response to the problem failed to be achieved in some regions, as the ambiguity of the policy objective enabled policy misimplementation; Secondly, autonomous responses of local governments were deficient in authority and legality, which may lead to more formalism. It is discussions of the citizens, the advocacy of the media that push this problem to be concerned by millions of people, further enhancing the severity and depth of the problem which in turn arouses citizen's anger and empathy, together with the central policy agenda.

4.3.2 The Political Stream

Embedding the institutional element in the political stream, it is found that the changes of the strength were affected by the national mood, political force, and the government change, all of which are closely related to the Chinese political system. The governance philosophy of the government determines the political stream in China (Wen & Cui, 2014), and always embodies the affinity to the people (Wang, 2021). This implies that the internal logic of the political stream is the government's motto which may be influenced by public participation.

The stability of the ruling party guarantees the motto of "serve the people", taking interests of multiple subjects into account. In the first stage, local government officials will risk dismission if they fail in epidemic prevention. The changes of leaders of local governments compelled them to implement the policy rigidly, thus resulting in "one-size-fits-all" policy results. And the advocacy of staying at home weakened the conflict between the interest of epidemic prevention and freedom of the elderly. Therefore, the political stream was too weak to function.

In the second stage when the pandemic was controlled successfully, national mood changes tremendously from rationality to subjectivity, especially the advocacy on CCTV, the political stream appeared. Moreover, the conflict between the elderly and the health code expanded to the contradiction between the elderly and the "digital divide" problem, which is the essence of the aging society and the digital times.

4.3.3 The Policy Stream

Embedding the risk element in the policy stream, it is found that the policy community who proposed alternative policy options shaped the policy stream, the logic of which was cognition and judgment on the epidemic risk and ethnical risk. The changes of the policy stream were rooted in the balance between the technical feasibility and the value acceptability. When the pandemic was severe, the policy stream was dominated by the epidemic risk. Until the COVID-19 was relieved did the policy stream prioritized the ethnical risk.

In the first "transition state", the policy stream is weak when prioritization was given to the pandemic prevention and control. So, resources were utilized in epidemic prediction, control, and deployment. For instance, the technological developers were devoted to solving problems of maintenance of the health code, real-time tracking of data, standards of code's color, and cross-provincial interconnection. Experts were busy in building epidemic trend model, the public emergency governance system, and vaccine development. Officials of central government were occupied in strategic deployment and strict prevention. The predominance of the instrumentality philosophy aimed to restraint the spread of the pandemic, under which circumstance, interests of special groups were weakened in the face of collective interests.

In the second stage, the policy stream was intensified simultaneously based on the autonomous responses of local governments in the "transition state", which can be classified as three classes including technological innovation, traditional service retainment, and social motivation, and the formulation of the Guideline. Autonomous responses from bottom to up enriched the policy set and provided room for the policy implementation. Particularly when the pandemic risk was diluted, the ethnical risk of social equity and respect for the elderly was emphasized instead, thus gathering the scattered policies in the policy stream. Based on the concept such as "smart senior care" and "Internet + senior care" etc., the Guideline was put forward to intensify the strength of the policy stream, further laying foundation for the formulation of the Notice.

4.3.4 The Confluence of Three Streams

In the "transition state" and the "emergence state", the strengths of three streams changed from weak to strong, together with differences in their relationship which resulted in different policy results. The evolution process and influence mechanism of three streams can be seen in Table 1.

Table 1. The Evolution Process and Influence Mechanism of three streams

			TḡdॠprṡŜṡʑȝ d	TḡdŜdᴂnĵ ĉ Ŝṡʑȝ d
Qᴄnᵢᵃȋdlj Ŝṡpdʑlj		Focus Events	Difficulties in Going Out for the Elderly (March—June)	Difficulties in Going Out for the Elderly (June—September)
		Public Feedback	Technical Problems in Policies; Take the Collective Interest as the First	Ethical Problems in Policies; Attention Paid to the Public Values
		Stream Strength	Strong	Strong
Qnᵏiṡhᴂʑk Ŝṡpdʑlj		National Mood	Take the COVID-19 Prevention and Control as the First; Worry	The Elderly Needs to be Considered in the COVID-19 Prevention and Control; Anger
		Political Force	The COVID-19 Prevention and Control Should be Rigid to Protect the Collective Interest	The Rights of the Elderly Cannot be Ignored
		Government Change	Officials of Local Governments will be Held Accountable for Failure in the COVID-19 Prevention and Control	Officials of Local Governments will be Held Accountable for Implementing "One-Size-Fits-All" Policies
		Stream Strength	Weak	Strong
Qnᵏᴂᴏᵛ Ŝṡpdʑlj		Technical Feasibility	Resources Were Prioritized for the COVID-19 Prevention and Control	*The Guideline on Promoting Barrier-free Information*
		Value Acceptability	Take the risk of COVID-19 as the First; Instrumental Philosophy	Take the risk of Ethnic as the First; The Philosophy of people-oriented
		Stream Strength	Weak	Strong
Tḡdॠnĵ ȍȋɧȝ ॠdȝᴘdd			Ĺnᵢnᵢdॠnĵ ȍȋɧȝ	Tȋȝ ḡṡॠnĵ ȍȋɧȝ
Qnᵏᴂᴏᵛ Řdᵣᵗ ḱṣr		Response Level	The Local Government	The Central Government
		Specific Manifestation	Retention of Traditional Service Mode; Innovation of the Technology Suitable for the Elderly; Mobilization of Social Forces	Formulation of *The Notice*
		Policy State	"Transition State"	"Emergency State"

Difficulties in going out for the elderly that happened in March 2020 revealed the contradiction between the elderly and the health code, opening the "problem window". At that time, citizens were aware of it, but few criticized subjectively and ethnically due to the severe pandemic situation. Limited attention was paid to the COVID-19 pandemic prevention and control, including vaccine research and development, epidemiological survey, and material logistics. Under this circumstance, the problem stream was strongest while other streams were weak and even failed to formulate. The relative independence of three streams led to their loose coupling, therefore, in the "transition state" the interest of the elderly cannot be met by the central government, leaving the local governments act according to specific circumstances.

In June 2020, conflicts between the elderly and executive officials embodied the urgency of the problem when the pandemic was weakened and the elderly turned back to normal life, especially their demand for frequent going out. In this way, the problem stream was strengthened. Meanwhile, autonomous response of local governments in the "transition state" has promoted the formulation of the policy stream, yet the limitation of the measures stimulated the outbreak of the national mood, with the political stream coming into being. The anger and suspiciousness of the citizens further evolving into the accountability of policy ethics, activated the policy stream, motivating the policy focus to transform from the epidemic risk to the ethical risk. Therefore, the interaction from "problem stream—policy stream—political stream" to "problem stream—political stream—policy stream" makes three streams highly coupled to open the "political window" (seen in Figure 2), pushing the policy into the "emergency state".
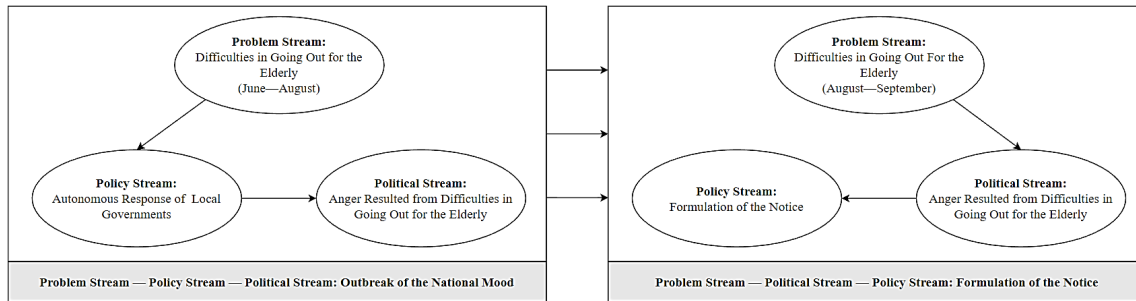
Figure 2. The Interaction Process of three streams

These two concentrated outbreaks of contradictions led to different policy results, which were related to the evolution process of three streams, together with their changes of interaction but fundamentally highly concerned with the development situation of the COVID-19 epidemic. Perspectives of time, institution, and risk can comb the development of the pandemic more clearly, providing a deeper understanding of the changes of three streams. From the "transition state" to the "emergency state", these three streams were evolving from independent to interactive, achieving the transition from loose coupling to tight coupling, opening the "problem window" to the "political window". Finally, the problem managed to get top-down promotion from the central government.

5. Discussions and Conclusions

5.1 Basic Conclusions

The paper depicts the setting process of policy agenda under the context of paroxysmal public events, analyzing the evolution process and coupling features of three streams by taking the formulation of The Notice as an example. It is found that three streams become stronger through two stages, which can be better explained by the embeddedness of elements of time, institution, and risk. Also, the combination of different strengths of three streams will lead to different policy results.

The problem window is opened by the problem in the first stage when the problem stream is of the most strength while the policy stream and the political stream are weak and even not formed. In this "transition state", three streams are relatively loose coupling to motivate autonomous response of local governments instead of the attention of the central government. However, with the problem stream stronger, the other streams are formed in "emergency state" though the sequences of streams are different. And then tight coupling to turn social problems into policy problems, finally pushing the central government formulation corresponding policies.

The amended "two-stage multiple streams" model can explain the policymaking process under paroxysmal public events in China, especially further unearths the changes and results of three streams. It may provide new perspective to decipher the setting process of policy agenda in the risky society.

5.2 Limitations and Future Directions

This research is limited by the idea of taking the health code as the start point. The Notice is formulated to relieve the conflict between the elderly and the health code, yet the health code is only a tip of the iceberg as to the problem of "digital divide" for the elderly, which implies the research's one-sidedness. In fact, The Notice not only solves the problem of health code use, but also promotes numerous policies in different fields to bridge the "digital divide" for the elderly.

This paper analyzes the formulation process of The Notice from the perspective of the contradiction between the elderly and the health code. Future research may further explore those questions: (1) the adaptability of the framework. More cases on other paroxysmal public events are in demand to testify the amended "two-stage multiple streams" model; (2) value judgment in policy implementation. The formulation of The Notice exposes the conflict between the instrumental rationality and perceptual value, which means more experience in policy implementation needs to be concluded to

improve the capability of government governance; (3) policy diffusion. The formulation of The Notice is one of the key points in the policy process, which is "bottom-up" policymaking. Later, local governments are driven by the central government from up to bottom and put forward various measures. Hence, tracking the policy can explain the internal logic of the policy diffusion, providing references for policy innovation.

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From Digital Management
to Digital Governance: Theory, Practice
and Reflection

Haixu Bao*

School of Management
Lanzhou University
Lanzhou, China
baohx@lzu.edu.cn

Intan Fitri Meutia

School of Management
Lanzhou University
Lanzhou, China
taorg20@lzu.edu.cn

Xiaohui Zhang

School of Management
Lanzhou University
Lanzhou, China
1193245353@qq.com

*Corresponding author

Abstract

In the context of the digital era, the government governance is transforming from digital management to digital governance. To clarify its process and discover the paradigm, the realistic performance and underlying problems, the present paper conducts a holistic analysis based on the "theory-practice-reflection model. It finds that, from the perspective of theoretical evolution, the transformation has five dimensions, while digital governance is the inheritance and development of digital management. From the perspective of practical development, the transformation is one from being driven by process to being driven by factors, from affairs management to demand service, and from vertical management to diversified participation, but digital governance has not surpassed digital management comprehensively. By combining the dual perspectives, it is found that there are three deviations in the process of transformation, including the government form challenge posed by the government's risk and responsibility avoidance and selective implementation, the governance model risk brought by traditional governance inertia and one-dimensional empowerment of digital governance, and the technical logic problem of technological utopia and simplism. Based on the findings, this paper finally reflects on these deviations critically*Keywords:* policy monitoring, community-based sanitation, cost-effectiveness, cost allocation, cost element structuring

Keywords: digital management, digital governance, Government form, Governance mode, technical logic

Introduction

Since the end of the 20th century, digital management is introduced into government departments to reshape government processes and optimize government services. Digital transformation with data-driven and digital governance as its core features has become the core issue of government governance reform. Scholars criticize the efficiency, market, decentralization, and competition in the new public management theory and believed the new public management has been difficult to adapt to the requirements of practice (Chen, 2009). The decline of new public management has promoted the emergence of digital governance theory that focuses on public participation and gives consideration to tools and value rationality (Wang, 2019).

The relationship between digital management and digital governance seems to be opposed to each other. Moreover, digital governance remained at the level of digital technology and could not escape the influence of digital management. What are the fundamental differences between digital management and digital governance in academic research? What is the practice of digital management and digital governance in China? Is digital governance imprisoned, and has the theoretical and practical dimensions not changed qualitatively? Based on the above issues, this paper will reflect on the transformation process to achieve the following three goals: first, clarify the relationship between digital management and digital governance from the theoretical

perspective; The second is to analyze the realistic motivation, practical performance and paradigm characteristics from digital management to digital governance from a practical perspective; The third is to reveal the theoretical and practical connection between digital management and digital governance from the perspective of reflection.

Theoretical turn from digital management to digital governance Policy Study, Monitoring and Cost-Effectiveness

As a subversive technology, digital technology has deeply affected many theories in the academic field and provided new opportunities for theoretical transformation. Whether the change of the theoretical paradigm of management is the impact of the digital age, the promotion of technological development, or the joint role of the two, deserves attention and discussion. It is precisely because the complex influence of multiple factors cannot be separated and the digital background is put in front of the management discipline, which makes the transformation analysis from digital management to digital governance more suitable for the current situation.

Digital Management and Digital Governance

In the context of the rapid expansion of technology, "digital management" is no longer the work optimization process of industrial civilization standardization under the stereotype, but the general name of management activities and management methods that use network technology, information communication, artificial intelligence, etc. to quantify management objects and management behaviors, and achieve planning, organization, coordination, management, innovation, and other functions (Liu and Zheng, 2003). However, because digital management will produce problems such as the suppression of efficiency on fairness, the indifference of technology to value, and the separation of purpose and means (Jia, 2020), the academic community has begun to advocate the return of the basic point of humanity, and there is a trend of transition from digital management to digital governance. British scholar Patrick Dunleavy systematically elaborated the "digital governance" theory (Han and Zhai, 2016), which advocates the transformation from traditional citizen participation to modern electronic participation in politics, forming a new form of citizen-government interaction. The application of digital governance was initially discussed in 2000 in China. It was not until 2005 that the theory and application started to develop simultaneously, and a wave of digital governance research was formed, represented by Zhu Qianwei (Han and Ma, 2016). Digital governance conforms to the logic of the new public management (Zhu, 2008). Through the reform of information technology, citizens are included in the governance of the country, forming a governance pattern of multiple subjects' participation, transparent government affairs, and improved government community relations (Meng and Guan, 2015), and becoming a social governance model with the complementary relationship with networked governance, to better achieve the goal of good governance.

More importantly, digital management and digital governance are not limited to a certain theory, but a collection of related theories characterized by the integration of "digital+management" or "digital+governance". From digital management to digital governance is a re-sorting of the management process in the context of the information technology era, taking the application and thinking of digital resources, a new production factor as the context (Lu, 2020).

Dimension and Transformation of Digital Theory

On the whole, the digital theory presents the transformation from the digitalization of management to the modernization of governance and can be divided into five dimensions. Based on the five dimensions of context feature function technology concept, the digital theory has transformed from digital management to digital governance (Figure 1).
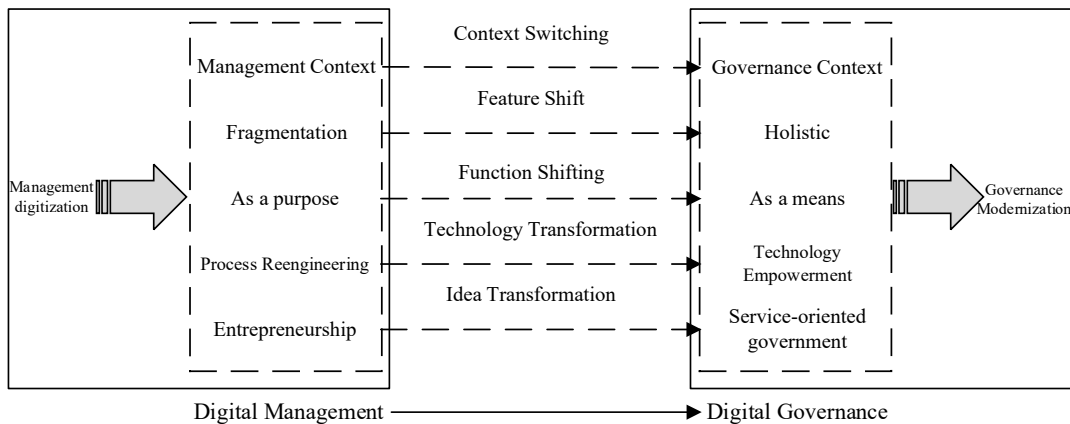
Figure 1. Theoretical transition from digital management to digital governance

Situation transformation from management to governance

Digital management consists of multiple, fragmented elements and can create what Hicks calls transfer, conflict, duplication, fragmentation, etc.. At the same time, digital management relies on the bureaucratic system, carries out the professional division of labor, and forms a legitimate authority based on power levels (Wang, 2006). On the whole, it operates efficiently according to the logic of "rules power action" (Zhang, 2011). And digital governance is trying to bridge the boundaries between various elements, and absorbing multiple subjects to participate in the governance process. From this, citizens' right to speech is activated and the same time, because digital resources have the characteristic of zero replication cost, the more people share their value, the more obvious it will be (Chen and Chen, 2013). The centralized government gradually abandoned the concept of unitary management, began to accept the idea of citizen participation (Zhang, 2014), reconstructed the relationship between government, market, and society, and then realized the transformation from management to governance.

Change from fragmentation to integrity

Digital management has led to a situation of independent management characterized by professional division of labor, functional division, and hierarchical control within the government, accompanied by the drawbacks of overstaffing, slow action, and low efficiency. Western countries put forward the concept of "integrated government", and called for integrating institutions, information, and services (Tan and Cai, 2010). Based on this integration demand, O'Reilly took the lead in proposing the concept of "government is a platform", which regards the government as a collective action mechanism in essence (O'Reilly, 2011). Government is a convener and facilitator of citizen action, working with citizens to create public value and respond to changing social needs.

Functional shift from purpose to means

Digital management is a management mode characterized by rationality, efficiency, and accurate calculation. Taylor's scientific management pushed this pursuit of efficiency to the extreme. Even after the rise of the network society, the application of digital management in the government is still based on information technology and contains the concept of instrumental rationality (Han and Li, 2017). However, "the uncertainty, unpredictability, and inefficiency of the rational system all originate from people" (Zhai and Liu, 2011). This "irrational rationality" promotes the return of value rationality such as democracy and respect for civil rights and calls for the number to be changed from end to means, and people to be changed from means to end. Digital governance emphasizes both efficiency and a people-oriented concept, which is an effective way to put the purpose and means in order.

Technological transformation from reengineering to enabling

Business process reengineering emphasizing the fundamental rethinking and thorough redesign of existing business processes by using advanced ideas and technologies (Ruan et al., 2020). Digital management has not realized the coordination between government departments and the interaction between multiple subjects. On the one hand, digital governance empowers individuals and organizations to enhance the interaction between the government and society; on the other hand, it empowers the government to form a "technology empowerment theory", so that technology can play a positive role in promoting (Chen et al., 2021).

Concept transformation from entrepreneurship to service-oriented government

The government gradually became overwhelmed with the complexity of administrative matters and began to advocate the use of entrepreneurship to reform the organization of government operations (Yan, 2009). The government has increasingly attached importance to the application of digital management in its work, so as to carry out all factors of public affairs management around the supply of public goods (Wu, 2017). However, with the awakening of civic awareness, the government found that the public not only expected higher administrative efficiency, but also hoped to get better public services. Digital governance brings the public into the governance process and provides them with better public services, implementing the concept of service-oriented government.

Practice from Digital Management to Digital Governance

China's high-quality development transformation depends on the centralized and unified leadership of the Party and is deeply affected by the urban-rural dual structure caused by history. The transformation from digital management to digital governance is no exception. In the process of transformation, a digital practice path of "central planning, urban-rural dualism" has been form. This paper will further explore the reality of digital management and digital governance, aiming to explore the relationship between the two, and summarize the digital practice paradigm in order to promote the in-depth development of the practice.

The Practice Pattern of Digital Management

Digital management has formed a model of government process-driven e-government at the level of central planning, which advocates management informatization and office automation; In the "urban-rural dual structure", the urban grid management paradigm of component affairs management and the rural informatization paradigm of government vertical management have been formed. Based on the existing research and construction status, it can be seen that in the urban-rural dual interaction, the rural digital management practice seriously lags behind the city, and in essence, it is a practice imitation of the city's early efforts to improve hardware facilities, and a relatively mature digital management model has not yet been formed.

Digital management under central planning: e-government

The purpose of e-government is to enable national institutions to fully use modern information technology to conduct office work and management in government affairs and to achieve the optimization and reorganization of government organizational structure and workflow. Although e-government has effectively improved the administrative efficiency of the government, it will also make the government show a fragmented, departmental state, and bring serious problems such as information islands. Moreover, under the guidance of the service supply paradigm, this pattern is deeply affected by the government's top-down promotion behavior, and the development level of e-government among regions is uneven.

Digital management under urban development: grid management

The demonstration and policy diffusion patterns in urban digital management should belong to grid management. The pioneer of grid urban management is Dongcheng District of Beijing, which has become the first pilot area of a grid urban management system in China since 2004. However, the grid city management is to

achieve the management of public security, community affairs and other public services. It is still a monitoring management thinking and one-way control logic. This urban management mode extends the bureaucratic system to the society and further compresses the space of civil society. It does not get rid of the top-down administrative power-sinking management mechanism of the government (Jiang and Jiao, 2015).

Digital management under rural development: rural informatization

In order to avoid the further widening of the "digital divide" between urban and rural areas, rural areas began to try to use digital technology to promote rural social progress and the development of agricultural informatization (Cui and Feng, 2020). This process mainly uses information technology to significantly improve the productivity of all factors such as labor. But in the agricultural and rural informatization pattern, farmers are deeply affected by traditional agricultural inertia thinking and their information literacy is low. Their status as a micro subject is gradually marginalized, and information management technology begins to dominate.

The Practice Pattern of Digital Governance

Digital governance has formed a model of digital government driven by data elements, which advocates the use of new information technologies to achieve the transformation and innovation of governance; In the urban-rural dual structure, a smart city model and a digital village model have been formed. However, due to the huge differences in resource endowments and other aspects, there is a large "digital gap" between urban and rural areas. Compared with the urban digital governance practice that has initially formed a mature governance model, rural digital governance practice is still in the exploratory stage and has not yet escaped the impact of digital management.

Digital governance under central planning: digital government

There have been such phenomena as the platformization and centralization of production, forcing the government to use digital technology. With data flow as the traction, establishing a data platform, conducting centralized approval of service items, and realizing process reengineering and department relationship remodeling has become an important topic of government reform. However, the current construction of digital government is still faced with such obstacles as inaccurate business planning, inconsistent event standards, and difficult sharing of data resources.

Digital governance under urban development: smart city

Since the 21st century, China's urban governance has experienced two paradigm changes: the grid digital city generated by information empowerment, and the full cycle and intelligent urban governance being nurtured by intelligent technology empowerment (Jiao and Shi, 2020). The smart city model guided by citizens' needs and services carries people's beautiful yearning for urban governance. In reality, there are challenges such as the need to strengthen digital concepts, improve top-level design, improve policies and systems, promote data governance, and expand digital inclusion.

Digital governance under rural development: digital village

Digital village is the expansion and application of digital technology and governance theory in rural areas. It stimulates the endogenous power of rural revitalization by encouraging villagers and other subjects to participate in rural governance. However, China's digital rural construction is still in its infancy. The imbalance between digital technology and specific rural situations has created multiple dilemmas in practice, such as the digital divide, industrial bottleneck, and deficit governance (Feng and Xu, 2021).
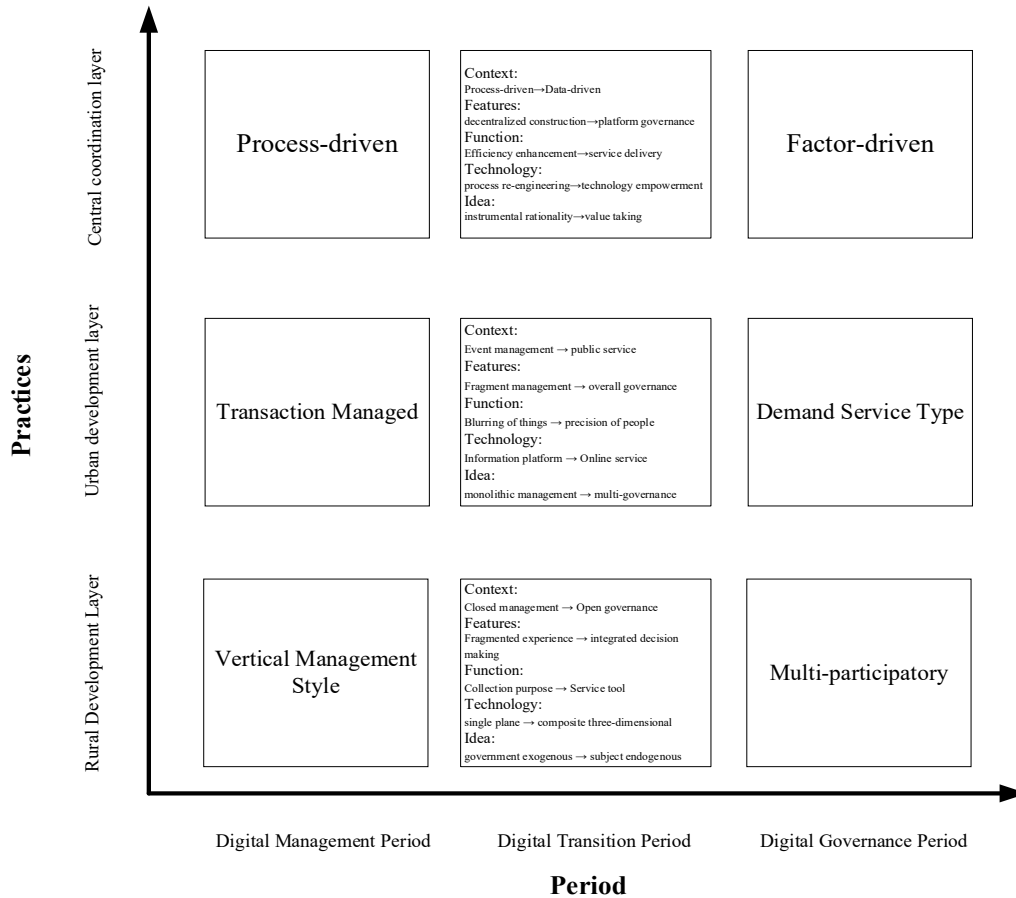
Figure 2. Paradigms and transitions in digital practice

The Characteristics and Paradigm Transition of Digital Pattern

Based on the comparison between e-government and digital government, grid management and smart city, rural informatization and digital village, this paper analyzes the mapping relationship between the transformation of theoretical dimensions in the practice pattern, and summarizes six types of practice patterns. (Figure 2).

From government process driven to data element driven

The digital practice pattern under the central coordination has experienced the transition from e-government to digital government, which is reflected in the paradigm transition from government process driven to data element driven. Digital government is a continuation of e-government, and it is a transcendence of e-government. There are differences between them: the context has changed from process-driven to data-driven; the characteristics have changed from decentralized to platform-based; the function has changed from enhancing administrative efficiency to providing quality services; the technology has changed from process re-engineering to digital empowerment; the concept has changed from instrumental rationality to both instrumental and value rationality. These are some problems which leads to the unrealistic transition in the short term. As a result, e-government and the digital government will coexist in national governance modernization for a long time.

Part transaction management to citizen demand service

The practice pattern under urban development has experienced the transition from grid management to smart city, which is reflected in the paradigm transition from component affairs management to citizen demand service. The differences between the two lie in: the management of urban components and events is transformed into the urban operation and public services; the fragmented management of components and events has been transformed into the integrated governance; from the fuzzy management

of things to the precise management of people; from the urban management information platform to the online service platform and urban data brain; from the unitary governance of government departments to the pluralistic governance. The smart city bears almost all the good ideas about urban governance, but there are still many difficulties in the process from digital city management to digital city governance. The organizational dilemma of weak overall action between levels and stages of digital city governance, and the value dilemma of "people-centered" value goal of digital city governance that has not yet been fully realized (Xiang and Xie, 2021).

From vertical government management to multi subject participation

The practice pattern under rural development has experienced the transition from rural informatization to the digital countryside, which is reflected in the paradigm transition from government vertical management to multi-subject participation. The difference between the two: from closed management to open governance; the decision based on scattered experience is transformed into the decision based on integrated data; the function from the purpose of information collection to the tool of service provision; the governance structure has changed from a single plane to a complex three-dimensional one; from government exogenous management to subject endogenous governance. However, digital rural governance is in its infancy, seriously lagging behind digital government and digital city governance. It can be seen that the digital village has its name, which is just called "governance".

Dimensional deviation between digital practice and theoretical transformation

We can find that the transformation process from digital management to digital governance has the following three dimensional deviations: (1) The conceptual transformation emphasized in the theoretical transformation will lead to the abuse, misuse and selective application of digital governance by the public sector in practice due to the biased connection between digital governance and the government's operational logic; (2) The situation transformation emphasized in the theoretical transformation will lead to the coupling imbalance between digital technology and social governance situations in practice due to the lack of values and multiple participation in digital governance; (3) The technological transformation emphasized in the process of theoretical transformation will become "negative" in practice due to the government's misconception of the power of digital technology. If the contradiction between theory and practice cannot be recognized and improved in the early stage, it may also bring unexpected side effects in the later stage, affect citizens' experiences and feelings, inhibit people's autonomy and participation, and damage people's rights and dignity (Zheng, 2021). It can be seen that it is urgent to reflect on the dimensional deviation from digital management to digital governance.

Reflection on the Transformation from Digital Management to Digital Governance

This paper reveals the alienation phenomenon while critically thinking about the three dimensions of deviation from digital management to digital governance, so as to effectively promote the modernization of national governance system and governance capacity.

Reflection on the form of government from digital management to digital governance

Mechanical change is troublesome to fathom the profound inconsistencies within the bureaucratic framework, and additionally difficult to break through the confinements within the unique intrigued structure. "Innovation strengthening" may lead to "catching a ride" and get to be "innovation negative vitality", which not as it were troublesome to move forward the government's administration effectiveness, but too will cause negative obstructions with the government's administration. Subsequently, the reasons for utilizing digital technology to convert the government organization mode and operation mode got

to be considered in detail to maintain a strategic distance from the deviation of administration.

The government avoids risks and responsibilities in the theoretical dimension

From the root point of view, under the influence of the pressure type system and risk society, the reason for the government to adopt digital technology is more to avoid political responsibility and social risks. Specifically, local governments lock governance at the technical level with a low-risk coefficient for a long time, tend to avoid the reform of governance structure level with the logic of "materialism", and rely on technological innovation to respond to institutional problems (Huang and Ji, 2016).The government tends to attach importance to the progress of technology and avoid the reform of supporting systems, forming a self-reinforcing reform logic of technology, leading to the de-embedding trend of technological innovation and system optimization (Peng, 2020). In addition, when emphasizing digital technology, the government will inevitably pay attention to technology upgrading, and invest financial resources in digital infrastructure construction, leading to the separation of reform and innovation from the needs of society, further forming a logical loop of self-reinforcement of technology, and the phenomenon of technology governance showing involution (Shi and Chen, 2022).

The practice dimension of government selective implementation

It can be seen that the implementation and promotion of digital technology by the government do not emphasize the full role of technology, but the political function of digital technology as a tool of political achievements, and whether it touches the complex interest structure. Digital governance one-sided emphasis on reforming the traditional government structure , and neglect the obstinacy and rationality of the traditional government system The mismatch between the government responsibility system and the requirements of digital governance has led to problems such as the unsmooth relationship between the power and responsibility of business departments and data management departments, an insufficient collaboration between online and offline processes and businesses, and the mismatch between the demands of all network communication services and the management system of all sectors (Jiang, 2021), making it difficult to achieve the goal of building a service-oriented government through digital governance.

Summary of reflection on the government form under the dual dimensions

From the analysis of the above two dimensions, it is found that in terms of dynamic factors, the theory tends to describe the government's digital transformation as the government's active renewal behavior based on the decline of new public management and the development of information technology. However, the practice shows that the government's transformation from e-government to digital government is more derived from the governance of environmental changes and the downward force of reform to avoid risks and responsibilities. The government tends to use digital technology to avoid governance risks. It remains in the remodeling stage of government processes by digital management technology, and there is a problem of disconnection between theory and practice.

Reflection on the governance model from digital management to digital governance

The promotion of digital transformation means that the scope and direction of digital government have changed. It no longer simply pays attention to the application of information technology but understands digital technology from the perspective of the organization. From the perspective of two-dimensional reflection on theory and practice, this part reviews the internal motivation and realization degree of the transformation from digital management to digital governance, which is a key link to the transformation.

Theoretical dimension of traditional governance inertia

Digital governance is the product of traditional management technology to build a more powerful organization. Among them, the dominant concept is closed rather than

open rights, a zero-sum rather than positive-sum interest pattern, and a mechanical rather than humanistic behavior model. More importantly, government governance has path dependence and behavioral inertia. Although the governance tools have updated from digital management to digital governance, digital technology is easily shaped and modified by the original system after being integrated into the government, urban, and rural management systems. Moreover, the flattening of government level and the openness of digital resources brought about by information technology will break the original pattern of departmental interests. The traditional governance inertia seriously hinders the promotion of digital transformation, and the phenomenon of implementing the old work content with new ideas appears, leading to the introduction of technology rather than use, and the use of technology rather than expertise.

One way empowerment of digital governance in the practical dimension

The applicability and potential of the "co-production" model in digital governance. For example, in the aspect of fact response, there is a chronic disease of "selective response" of the government in network politics; At the level of value response, the government is more judgmental than dialogical in facing the public demands and has the disadvantages of explaining the reasons rather than relieving them (Li and Yu, 2019). In addition, the unidirectional empowerment of digital governance will also lead to the alienation of power. A large number of "finger-pointing formalism, expressionism and bureaucracy" have been derived from grass-roots practice, and gradually evolved into "digital leviathan"(Yun, 2015). The state relies on information technology to put citizens under the monitoring system, but citizens cannot balance the state's monitoring system through digital democracy (Xiao, 2009). The technical authority and algorithm dictatorship generated by the "digital leviathan" is the driving force behind the formation of "digital refugees" in the intelligent era (Mei, 2021). Therefore, if digital technology only serves government management, no matter how advanced its technology is, it will ultimately not achieve people-centered governance.

Summary of governance model reflection under dual dimensions

Digital governance originates from the development of information technology, and more from its branch of governance theory, which is internally consistent with the requirements of China's governance modernization. To some extent, digital governance still has the shadow of digital management. In some sense, it has surpassed digital management.

Technical Logic Reflection from Digital Management to Digital Governance

The difference between digital management and digital governance in terms of technical tools is that the former relies more on information technology and the Internet, while the latter relies more on intelligent technology and big data. In this context, it is necessary to avoid the occurrence of technology dazzle. It is urgent to consider whether the crazy pursuit of digital technology is reasonable and whether the logic embedded in digital technology can bring good social governance.

Technological Utopia in the theoretical dimension

"Technology" as an inevitable product of rational, order-loving, and clear human consciousness, and linked technology with the process and behavior of standardization (Ellul, 2021). The popularity of technological utopia has led to the "hot" phenomenon of digital governance, and the rule of technology seems to replace the rule of people, which has helped totalitarianism to some extent (Li, 2022). There is not enough evidence to prove that these technical means can have a lasting beneficial impact on organizational democracy and problem-solve in the public sector. Technology empowerment is not technology omnipotence. Technology itself does not have subjectivity, and cannot rely on technology to solve all governance problems. The pursuit of digital technology should be limited to improving the efficiency of government governance.

Technological reductionism in the practical dimension

The technocratic governance model, which is dominated and fostered by technology, has constructed a technology reductionism, which simply regards any urban

problem as a technical problem (Jiang and Zheng, 2021). The problems existing in cities are a series of highly complex social relationships. Technological reductionism will bring many negative effects, such as the relationship between the state and society, and between people is constantly "materialized", and the "mystery" in interaction is gradually lost, becoming controllable and controllable (Herbert, 2014). This technological governance path will further worsen the situation of vulnerable groups and marginal groups in society. Moreover, due to the lack of its governance capacity, the government simply built an online service hall guided by technical indicators, which led to the situation of "small horses pulling big cars". Technological reductionism result in excessive dependence of governments on digital technology and technology lock-in of urban development, which is not conducive to the effective solution of urban problems (Jiang *et al.*, 2020). Therefore, digital governance cannot rely on technological simplism but should combine organizational, institutional, conceptual, and other elements to form multi-dimensional empowerment and systematically improve the level of urban governance.

Technical logic reflection summary under dual dimensions.

Although the transformation from digital management to digital governance has achieved the upgrading and transition of governance technology, the theory pays too much attention to digital change, leading to technological utopianism; Inadequate understanding of digital change in practice leads to technological reductionism. Digital technology is only an enabling method; it cannot be expected to solve all governance problems. In practice, digital governance should be left blank, and the true scale of technical governance should be effectively combined with the value scale in decision-making.

Conclusion

Digital management and digital governance do not mean a single theory, but a collection of related theories, which is a new sorting and new response to the paradigm change from management to governance in the digital era. From management to governance, from decentralization to integration, from purpose to means, from reengineering to empowerment, and from efficiency to service, the latter is not the abandonment of the former, but the inheritance and development of the former. In the practice line, digital management is dominated by "power standard"; digital governance is dominated by "citizen orientation". There are three levels of transformation between digital management and digital governance: from process driven to factor-driven, from transaction management to demand service, from vertical management to multiple participation. Joint efforts of both theory and practice are needed to make digital construction more convenient and intelligent.

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Panel 8:
Local Initiatives in Public Healthcare and Safety

Value Ranking and Tool Externality: The Dual Logics of Transnational Locust Plague Prevention and Control—A Comparative Study Based on Four Cases

Hongxia Luo*	Junfeng Duan	Guofu Jin	Yuhao Zhang
School of government Yunnan University, Kunming, China	School of government Yunnan University, Kunming, China	School of government Yunnan University, Kunming, China	School of government Yunnan University, Kunming, China

*Corresponding author

Abstract

Community-Based Sanitation (SANIMAS) Program, which purpose of The prevention and control of transnational locust plague has a long history. A large number of cases have the appearance of high heterogeneity, but they share the dual logics of value ranking and tool externality. According to this, they can be divided into compromise - expedient type, passive - confrontational type, linger - wandering type and love-matched type. Through literature research, field investigation and interviews, this paper compares four cases of transnational locust plague prevention and control in Africa and Asia since the 1940 s, and finds the mechanism of dual logics: the differences in value ranking play a decisive role in the achievement of transnational locust plague cooperation; tool externalities affect the cooperation process. The dual logics will not only affect the control effect, but also have spillover effects on government image, government-people relations and international relations. The dual logics and classification can provide a new analytical framework for international pest control.

Keywords: transnational locust plague control; emergency management; value ranking; tool externality

Introduction:

Transnational pest control is becoming an international emergency management problem

Locust damage is huge, and its outbreak and response are also highly variable. Locust outbreaks are affected by many factors, including geography, vegetation conditions, land use patterns, environmental sensitivity, availability of resources and strategies, prevailing winds, unsafe areas and rainfall patterns. Therefore, it is unrealistic to rely on a single control strategy of a single country . Moreover, locust plagues have the characteristics of cross-regional, cross-border distribution and migration. Their mobile logic does not take into account political boundary issues. The huge mobility requires bilateral, regional and international cooperation . If they are dealt according to the principles of administrative regions or national boundaries, they usually cannot handle it

In spite of this, the prevention and control of transnational locust plague has not been smooth in history, because it involves not only the value ranking of multiple countries, but also the technical cooperation of external evaluations. Therefore, the achievement and promotion of cooperation requires the coupling of subjective value selection and objective technical cooperation, which is complex and exploratory. For

example, global warming has facilitated the reproduction of locusts in recent years, while the COVID-19 pandemic has hindered expert work and humanitarian assistance, and the closure of borders has limited helicopter monitoring and control of locusts, making transnational locust control more difficult.

Literature review
History and research of transnational locust plague control

Transnational locust plague prevention has experienced a long exploration process. Awareness of international cooperation against locusts grew out of a plague of locusts in Algeria in the early 20th century[1]. After entering the 20th century, with the scientific and technological achievements used in locust control, European and American countries led the new method of locust control, bilateral, regional and international cooperation has become a trend[2]. On 14 November 1912, the progressive development of locusts led the Ottoman Empire to pass the Temporary Locust Act, and the provinces established provisional institutions under the control of the Ministry of Agriculture[3]. In October 1920, the International Institute of Agriculture convened the first international conference on intercontinental locust cooperation and produced the International Convention for the Control of Locusts and Grasshoppers[4][5] marking the beginning of the institutionalization of the international fight against locusts[4]. In the early 1920s, a growing number of Soviet government officials called for partnerships with Middle Eastern and Asian neighbors to tackle locust infestations, with a growing awareness of the life cycle of a locust from its harmless solitary phase to its harmful gregarious phase[6]. In 1924, the French entomologist Paul Vayssière suggested that the locust problem be solved through an international coalition[7]. In the late 1920s, the continued threat of locust swarms prompted European powers to explore scientific collaboration, in which Britain played a leading role[8]. In the 1930s, five international grasshopper conferences held in Rome (1931), Paris (1932), London (1934), Cairo (1936) and Brussels (1938) promoted the institutionalization of scientific research and international scientific control, resulting in the initial concept of regular monitoring of a small number of grasshopper species in locust-infested areas for prevention and control[9]. Among them, the 1938 conference was particularly international. Representatives of China, the Philippines, Argentina and Canada, which were not European colonies and their home countries[10]. In 1955, the colonial governments of Belgium, France, and Britain established the International African Migratory Locust Organization(OICMA)[11][12].

The need to deal with common problems prompts countries to cooperate, but the cooperation agreements is often accompanied by bilateral or multilateral games. For example, in the colonial era, locust invasion would bring serious economic and social problems to the colonies. The purpose of colonists' intervention and control was to maintain colonial rule to benefit themselves, and the colonies would also benefit

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[12] The desert locust (Schistocerca gregaria) is considered to be the most destructive migratory pest in the world. It usually lives in some desert areas with annual precipitation of less than 200 mm in Africa, the Near East and Southwest Asia. Under the stimulation of external environment, the locust swarm formed by this kind of locust has high density and mobility. Desert locust swarms can fly 130 ~ 150 km or more with the wind every day.

indirectly. Secondly, the range of activities of different species of locusts varies greatly (desert locusts cross continents, while red locusts and African migratory locusts are mainly regional hazards), which also affects the formation of anti-locust organizations. In 1931, representatives of Britain, France, Italy, and many African colonies attended the International Locust Conference in Rome, where delegates argued that international cooperation was essential to monitoring and controlling locust invasions, but political and financial issues hindered a formal agreement13.

Observing the practice of transnational locust plague prevention and control, the achievement of multi-subject cooperation is usually a process from divergence to consensus, which is influenced by the interest preference and value ranking of multi-subjects. The effect of locust killing also presents different external effects with the differences of strategies and tools used by various countries. Therefore, based on the subjective and instrumental characteristics of transnational locust plague cooperation, this paper puts forward the analytical framework of value ranking-tool externalities.

Theoretical frameworkvalue ranking and tool externality

In the study of western value philosophy, value ranking is a new research field. The representative theories include Max Scheler's four-level value style theory, Nicola Hartman's value type theory and John Dewey's value evaluation theory[14]. Among them, Dewey believes that value ranking has situational characteristics, and value presents priority differences with different situations, and there is no absolute value order. There are also miniatures of value ranking hidden between lines in Chinese culture. For example, ' benevolence ' is the core of Confucianism, ' Taoism ' is the foundation of Taoism, and ' all things are empty ' is the foundation of Buddhism.

In the transnational locust plague cooperation, the differences in the development degree, historical background, ideology and culture of the cooperation subjects determine the complexity of transnational cooperation. In this complex field, the cooperation subjects have different political, economic, cultural, religious, ethnic and other backgrounds. Therefore, the achievement of transnational cooperation is not determined by the priority of a single value, but also involves the complex value judgment and value balance among the cooperation subjects, and has a unique value hierarchy.

The research on externality in western countries has a long history. Marshall first put forward the concept of external economy and internal economy; inspired by it, Pigou constructed the theoretical framework of externality; on the basis of the above, Coase proposed that the clarity of property rights can achieve the internalization of external effects. Externalities can be divided into positive externalities and negative externalities according to the positive and negative effects of the behavior of the actors[15]. Due to the differences of times and comprehensive strength, the effect of transnational locust plague prevention and control has different spillover effects, namely externality, with the differences of science and technology development level, people 's education level, financial ability and locust killing tools.

Therefore, this paper chooses two dimensions of value ranking and tool externality to study international locust plague prevention and control cooperation. The two dimensions are used as vertical axis and horizontal axis respectively, resulting in four quadrants shown in figure 1.

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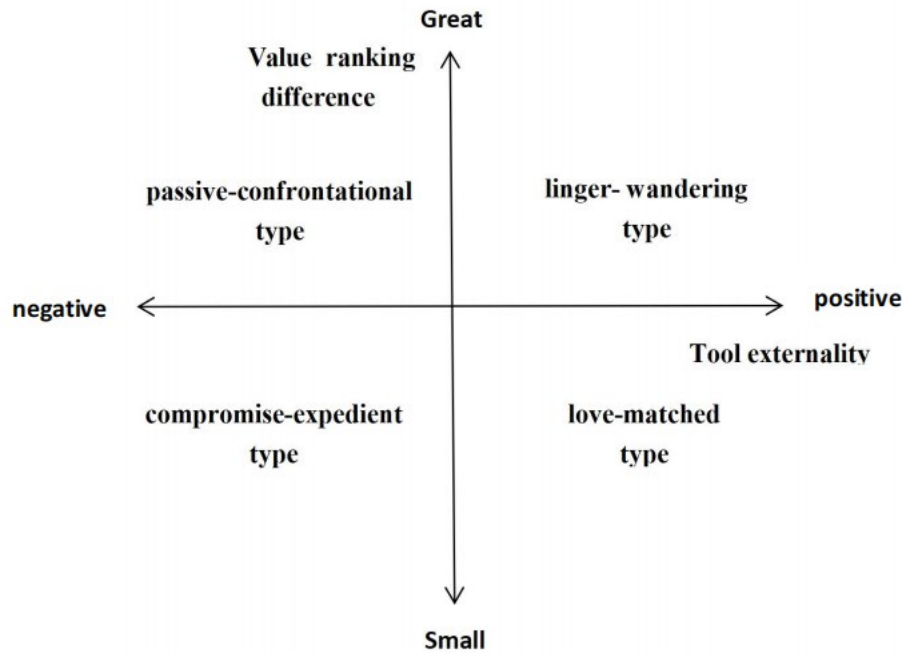
Figure 1. Value ranking and tool externality analysis framework

Case Analysis of Transnational Locust Control

Compromise-expedient type: Locust Resistance Practice in French Morocco

Case 1: In 1943 (during World War II), at a conference on the control of locusts in north-western Africa, Mr. Defrance, then head of crop protection in Morocco (French protectorate), stated that in 1942 the less toxic sodium fluosilicate for animals ran out during the campaign and had to be poisoned by the more toxic sodium arsenite. Although this has little economic impact on Morocco as a whole, it is mainly a psychological problem (related to the perception of local residents). Therefore, Morocco is more willing to accept 650 tons of sodium fluosilicate, but if it cannot be delivered, it can accept 325 tons of sodium arsenite. His British counterpart Boris Uvarov retorted: Considering the shortage of materials and high transportation costs, it is recommended to use sodium arsenite, because sodium fluorosilicate requires double doses and double tonnage. DeFrance repeats that Morocco prefers low-toxic sodium fluorosilicate, but in the face of the need for the empire to reduce tonnage, it obeys: Obviously, the use of sodium arsenite is possible, but we must overcome many local resistances.The representatives of the French National Liberation Front (CFLN)[16], which was occupied and surrendered, did not fully agree with the British proposition in terms of technical solutions, such as the usefulness and desirability of the army's participation in locust control, and the debate on early prevention and comprehensive control of locusts. Because all three parties faced the common enemy of fighting the Axis and the locust plague, Free France and French Morocco needed to win the support of the United Kingdom, made compromises.

Morocco, Free France[17] and Britain have a common goal against the Axis powers. Morocco's traditional economic base is agriculture, and locust invasion will lead to large

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[16] Resistance groups opposed to the surrender of France to Germany, mainly members of the French National Liberation Front (the French Liberation Front was formed by a coalition of the Free France led by General de Gaulle and the Civil and Military Command based in North Africa).

[17] During the Second World War, France 's internal affairs were divided, forming two governments. The Vichy government led by Bedan surrendered to Germany in 1940, and the northern part of France and the French Atlantic coast were occupied by Germany. General Charles de Gaulle, Deputy Minister of Defence, advocated the war of resistance against the surrender of the country and flew to London alone. In August 1940, with the support of the British government, the French government in exile ' Free France ' was born; in June 1943, the French National Liberation Committee (CFLN) was formed with other forces.

fluctuations in production[18]. For French Morocco, where locust plague is serious, 'keep food' has become the first value ranking beyond the loss of poisoned livestock. For free France, cooperative resistance to locusts can not only maintain good relations with the colonies, but also win the support of allies, which is a lot for free France. For the United Kingdom during World War II, cooperation against locusts not only increased the supplies and manpower against the axis countries, but also gained colonial legitimacy. From the value dimension, the priorities of the three countries are different, and the value order is also different. Cooperative anti-locust coupling their respective political, economic, military and other goals.

In order to support the fight against locusts, Free France actively organized the Nine-Nation Conference and established the Alliance of Scientific and Technological Charities (ONNA), hoping to rely on professional standards to achieve early prevention and oppose military intervention in the overall eradication of locusts. The United Kingdom in a state of war, out of shortage of materials and reduce transportation costs considerations, Morocco recommended the use of more toxic agents. Although Morocco has repeatedly reiterated that this will poison livestock, it wants low-toxic agents. But, given the urgency of protecting food crops, only compromise to Britain, with the guidance of free France, which has the technology and resources to kill locusts. Although the three partners have obtained satisfactory results, but from the use of high concentrations of drugs locust control tools, inevitably affected the ecological environment of Morocco.

Passive-confrontational type : locust resistance practice in British Somaliland

Case 2: In 1945, the locust plague that ravaged northwest Africa had not yet seriously affected British Somaliland, but reports of livestock poisoning were suspected of being a colonial plot by the British to destroy the livelihoods of pastoralists, leading to violent protests against poison baits that 'poisoned livestock and infected pastures and water sources'. Somaliland's colonial policies had led to overgrazing and soil erosion, adversely affecting the core activities of the local economy - sheep and camel farming. The Government has adopted two policies to protect the ecology: one is to reduce the number of livestock by encouraging their export to Arab markets and the other is to introduce grazing controls. Ironically, grazing restrictions mean that the area of pasture available for livestock will be further reduced, further exacerbating ecological damage. Therefore, people believe that poison bait is the colonists deliberately kill livestock and reduce the number of livestock in the pasture to protect the soil. Although the locust destruction team was instructed to exercise caution when placing poison bait, any case of livestock loss caused by poison bait should be promptly investigated and compensated as appropriate. But all over the country, protesters burned locust control camps and equipment, attacked locust control officials, which were encouraged and guided by the anti-colonial resistance movement. In March 1950, another swarm of locusts invaded the country. As in 1945, the people were skeptical and generally resistant to the control of locust invasions, and they attacked trucks carrying bait and teams releasing bait[19].

Due to the long-term colonial rule, the economy of British Somalia is very backward, and animal husbandry is its main economic sector[20]. Therefore, it is hoped that the economic losses of poisoned livestock should be avoided in the process of locust resistance. For Britain, the measure of putting poison bait in advance to prevent locust damage was to ease relations with British Somalia and consolidate its colonial legitimacy, but it was violently resisted. In the context of the anti-colonial movement, there have been irreconcilable contradictions between colonists and colonies, and value conflicts are inevitable and difficult to resolve.

In early May 1945, the British locust control department distributed and set poison baits throughout Somaliland to prevent and reduce risks in advance[21], poisoning local

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livestock and producing strong negative externalities. At that time, due to the vigorous development of the national independence movement in Asia, Africa and Latin America, Somaliland regarded it as a colonial plot to destroy its own livelihood. Although the locusts have not yet had a substantial serious impact on Somaliland, the pre-setting of poison baits has had a negative externality of livestock poisoning, and the 'primacy effect' has strengthened the antagonism between the two countries and triggered the spillover of violent resistance.

linger - wandering type : Locust-resistant Practice in Laos

Case 3: In 2014, 140 regions in Laos reported being affected by locusts. As the locust plague intensified, in June 2015, the Lao government requested the Chinese Embassy and Consulate in Laos for urgent assistance in preventing and controlling the locust disaster[22]. To this end, Yunnan Province provided Laos with materials and technical assistance for prevention and control, and dispatched professional technical teams to help Laos prevent and control the disaster, with good results[23]. In 2016, the Ministry of Commerce of the People's Republic of China supported Laos with pesticides, equipment, etc., and sent experts to train and teach them to dig locust eggs because of the poor use of the other side[24]. In 2018, the aid project was in a state of stagnation. It is understood that Laos was affected by the international influence. It believed that the pesticide locust control destroyed the environment and affected exports[24]. It refused Chinese assistance, and then the locust plague flooded and requested support from China. However, due to the previous refusal to accept aid, the central government has cancelled the relevant budget arrangements, Yunnan Province lacks outbound aid funds, and there is a time lag for the project to start again[24]. Although China restarted assistance in 2020, due to the impact of the new coronavirus pneumonia epidemic, the entry and exit of personnel and materials were not smooth, so technical guidance and material assistance were limited[24][25].

Geopolitics makes China and Laos depend on each other in locust control. Locust reduction is the common value order of the two countries. However, the two countries have different understanding of the cause and effect of locust plague and the value of drug killing locust : Laos, while letting the people overexploit and destroy the ecological environment, has been influenced by the international community, believing that drug killing locust will affect food exports and destroy the ecological environment, and even once rejected Chinese aid ; for China, scientific and rational use of pesticides will not undermine food security, but will protect crops and increase people's economic benefits. The value rankings of China and Laos are different, resulting in insufficient consensus, which ultimately affects the effect of locust prevention assistance, and even stage stagnation.

China and Laos are geographically close and friendly, which lays a foundation for Laos to learn Chinese advanced science and technology. As a traditional agricultural country, the Lao government's ability to organize and mobilize, the people's ability to receive education, and the ability to learn are difficult to adapt to the ever-changing locust situation and technology. It needs to seek help from China's advanced locust eradication experience and measures, but it believes that drug eradication will destroy the ecological environment and food exports. However, according to the actual situation, compared with the drug killing locusts in the mid-19 th century, modern chemical pesticides have the characteristics of high efficiency, low toxicity, low residue and easy operation. The scientific use of pesticides has less negative externalities on the ecological environment, and is more suitable for the country lacking ecological control technology.

love-matched type : Locust Resistance Practice in Pakistan

Case 4: Desert locust swarms arrive in southwestern Pakistan in March 2019. Because Pakistan's locust disaster areas are mostly desert and desert areas, sparsely

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[25] Case content from the article: Luo Hongxia, Wu Xian. 'Three-circle hybrid ' study on transnational locust plague control in China and Laos [J]. ASEAN Study, 2021 (03): 110-125.

populated, lack of monitoring technology and means, and serious lack of prevention and control capabilities, it is impossible to completely eliminate the locust disaster in the short term[26]. Pakistan informed China's Ambassador to Pakistan Yao Jing about the current situation of locust disasters in Sindh and Balochistan provinces, saying that it is in urgent need of pesticides and air aircraft support[27]. On February 24,2020, in response to the call for help, China sent a Sino-Pakistan cooperative locust control working group to investigate the disaster situation in the heavily affected areas - Sindh, Baluchistan and Punjab, and assist Pakistan in formulating a targeted cooperative locust control program[28]. On March 9, 2020, China's first batch of materials for the prevention and control of locust plague in Pakistan arrived in Pakistan, including 50 tons of malathion pesticide and 14 traction high-efficiency sprayers. Later, 250 tons of malathion pesticide and 36 traction high-efficiency sprayers were delivered to Pakistan[29]. On July 23, 2020, the Ministry of Food Security and Research of Pakistan accepted 12 T16 plant protection drones donated by the Ministry of Agriculture and Rural Affairs of China[30], which can help locate locust breeding areas and then quickly implement pesticide spraying.

Pakistan's annual demand for pesticides more than 74,000 tons[31], and even some highly toxic organophosphorus pesticides are still in use, its management called on pesticide companies to introduce more low-toxic, efficient new products to improve the use of pesticides and reduce the use of pesticides in large quantities[32]. The malathion pesticide provided by China has low toxicity and good effect, and can cope with the impact of locusts on Bafang agriculture. In addition, the plant protection UAV donated by China has the advantages of strong mobility, strong terrain adaptability and high safety. It can carry 16 liters of pesticides and spray an area of 150 acres per hour[33]. It can locate locusts in deserts and desert areas for pesticide spraying, which has the characteristics of saving time, saving labor and high efficiency of locust killing. In contrast, China-assisted locust-killing tools are less toxic and more efficient, reducing the spillover effects of locust infestation.

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Table 1.   Overview of Cases

	Case I	Case II	Case III	Case IV
Period	1941-1946	1945-1950	2018-2021	2019-2020
Location	Morocco(French protectorate)	British Somaliland	China-Laos Broader	china and pakistan
Background	World War II	Anti-colonial Resistance	Belt and Road Initiative; Control of COVID-19	Belt and Road Initiative; Control of COVID-19
Subjects	(CFLN) :created by London based France Free France) and the North Africa-based Commandment civil et militaire d'Alger; Colonial Morocco;Great Britain and the British Empire(Ally of France)	Great Britain and the British Empire(colonial power); Somaliland(the Colony)	China; Laos	China;pakistan
Interaction	CFLN,securing support from Great Britain and the British Empire, gained geopolitical legitimacy by forming a coalition of techno-scientific benevolence for locusts control.	Locust control led to animal poisoning and violent protests,reducing authority legitimacy.	Laos requesting reinforcements discontinuously; China responding positively.	Pakistan ' s Positive Help-seeking and China ' s Positive Response
cooperation type	compromise - expedient type	passive - confrontational type	linger - wandering type	love-matched type

Summary and discussion

The Difference of Value Ranking Determines the Achievement of Transnational Cooperation

People often have to sort and choose the value of multiple submissions[34]. The value ranking reflects the priority of national interests and determines the behavior choice of countries. In case one, the differences in the ranking of low-toxic drugs and high-toxic drugs among Britain, French Morocco and France triggered a cooperative game, but considering the practical need to reduce tonnage, the compromise and concession of French Morocco and France contributed to the cooperation. In the second case, the cognitive differences between British Somaliland and the United Kingdom on pre-setting poison bait and ' locust prevention ' policy have triggered large-scale local protests and blocked locust cooperation. In Case 3, Laos ' attitude towards pesticide locust eradication in differentiated cognition fluctuated with the severity of locust plague, which led to intermittent cooperation. In Case 4, both China and Pakistan agreed to use pesticides to kill locusts to reduce losses. The two sides share the same philosophy and cooperation is easy to achieve.

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Tool Externalities Affect the Process of Transnational Locust Cooperation

In cross-border locust plague cooperation, the difference of locust killing tools leads to different spillover effects, and positive externality is conducive to the continuation of cooperation. The history of positive externalities cooperation can not only form a common cognitive style and sense of belonging, but also strengthen the trust of both parties and improve the efficiency of cooperation[35]. In the case, French Morocco, British Somaliland, Laos and Pakistan are relatively backward in science and technology, and do not have the technology and experience of locust resistance, so they lack the choice of tools. The UK and China 's locust control technology is more advanced, which can provide material assistance and technical guidance for the above countries. Although the value considerations of donor countries and the willingness and ability of recipient countries to accept and use will affect the effectiveness and policy legitimacy of prevention and control, the technical guidance of donor countries is conducive to the exchange of information among cooperation entities, and objectively promotes the spatial transmission and in-depth development of locust control technology among countries. The external performance generated by technological progress enhances the trust between cooperative subjects and can improve the prospects of cooperation.

The great mobility and harmfulness of locusts make transnational cooperation in the prevention and control of locusts necessary. Based on the analytical framework of ' value ranking-tool externalities ', this paper selects four cases to present the value ranking differences of multiple subjects and the spillover effects of cooperative locust control in the process of transnational cooperative locust control, in order to provide reference and help for transnational cooperation under different social classifications. However, due to the lack of information, the interaction between the two cases of the French protectorate of Morocco and British Somaliland is not discussed. Secondly, in the transnational locust plague prevention and control, different stages of productivity development value sorting differences should be how to coexist, is to let the locusts subside, pesticide locust or biological locust, the article is difficult to determine. Again, microbial pesticides locust control technology has been more mature, information public relations based on technological progress can enhance the value of consensus and promote the process of cooperation. Finally, based on the principle of complementarity of capabilities, how countries with different organizational capabilities should be empowered and autonomous is also a question worth considering.

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The Governance of Coverage Health Service Supply Chain for Diabetics in Bangkok Metropolitan Administration (BMA): A Local Health System Analysis for Digital Transformation

Wiput Phoolcharoen

Research Division
Policy Research and Development Institute
Foundation (PRI)
Nonthaburi, Thailand
phwiput@gmail.com

Sombat Haesakul

Research Division
Policy Research and Development Institute
Foundation (PRI)
Nonthaburi, Thailand
sombatsh@gmail.com

Hasem Beema

Research Division
Policy Research and Development Institute
Foundation (PRI)
Nonthaburi, Thailand
Hasem.beema@gmail.com

Thanakom Wongboontham*

Research Division
Policy Research and Development
Institute Foundation (PRI)
Nonthaburi, Thailand
twongboontham@gmail.com

* Corresponding author

Abstract

This research has concerned the health service supply chain in the complicated health governance under the governing Bangkok Metropolitan Administration (BMA. It consists of three main objectives. First, the research aims to examine the existing health service system in the BMA. Second, the realized chain of service is analyzed on the strengthening and gap of the coverage health service system for the diabetics based on the role and function of the players. Third, the research is considering the role of digital health services to enhance the coverage health service for diabetics. The scope of this study is on the service for diabetics in the Romklao neighborhood in Ladkrabang. The research methodology is the system approach based on the WHO EU's 6 panels of health system. The panel of governance is focused as well as the services and finance, which are applied to the diabetic's service spectrum. This is the qualitative approach, and the data is analyzed by contextual analysis, multi-level and multi-sectoral governance, and role and function analysis. The data is based on the official document, in-depth interviews, and health service searching. The research has found that the health service supply chain for the diabetics in the BMA. The clinical service, under the professional standard, is solid, but preventive care is a considerable gap. Digital health about food, exercise, and literacy is important for the gap.

Keywords: health governance, health service, digital health

Policy Monitoring: Cost-Effectiveness of Community-Based Sanitation Program

Devi Yulianti*

College of Local Administration
Khon Kaen University, Khon Kaen, Thailand
devi.y@kkumail.com
*Corresponding author

Intan Fitri Meutia

Public Administration Department
Lampung University
Bandar Lampung, Indonesia
intan.fitri@fisip.unila.ac.id

Abstract

Community-Based Sanitation (SANIMAS) Program, which purpose of improving the quality of the environment, specifically in the management of household wastewater and open defecation designated for poor slum, induce many local governments in Indonesia to cooperate with the broad financial institution, notably the Islamic Development Bank (IsDB) to build the wastewater management infrastructure. It is supposed that the performance of the SANIMAS IsDB program, which operates in Bandar Lampung, meets the National Medium-Term Development Plan of the Republic of Indonesia's universal access target by maintaining the expected outcomes to achieve access to sanitation. Paying close attention to this policy, we narrowed our study to the cost-effectiveness of community-based sanitation programs in certain urban villages in Bandar Lampung with a financial loan from IsDB. Meanwhile, our objective is to monitor the input of cost allocation and inspect the cost structuring elements. Using qualitative research design to collect, integrate, and present data from various sources of evidence following a real-world setting from the participants interviewed, to field observations and the inspection of documents by triangulating analysis enhance the study's credibility and trustworthiness. Thereby, we found unequal prices, units, and work types in the cost allocation of the sanitation program. Indeed, this program relies on the large area and the appropriate primary and secondary costs incurred.

Keywords: policy monitoring, community-based sanitation, cost-effectiveness, cost allocation, cost element structuring

Introduction

Indonesia occupied the 2nd worst sanitation globally in 2017. It placed the second position above India with the worst sanitation level. This fact comes from Open Defecation Free (ODF) in certain places. The leading cause of this circumstance is the lack of sanitation facilities[50]. The sanitation facilities for toilets or waste storage, e.g. septic tanks, were poor in particular communities (Sigler et al., 2014; Venkataramanan et al., 2018). These facilities will not only impact the quality of the environment but also affect the recycling of waste and the availability of proper drinking water for the community. The poor sanitation in Indonesia is dominated by the rural or densely populated slum areas. Moreover, in reality, many urban areas' sanitation facilities are still below standard. This poor sanitation is reflected in the behaviour of open defecation (Bartram et al., 2012; Bateman and Engel, 2018) and the distance between the septic tank and people's wells which is less than 10 meters[51].

Sanitation is vital to health, child development, and social and economic progress. Safe sanitation, more specifically, includes substantive human rights essential for fulfilling

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[50] https://www.wovgo.com/2016/01/20/lawan-babs/fact-sanitation-di-indonesia-24/ accessed on 28th August 2018

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child rights and achieving reasonable physical, mental, and social well-being (Roaf et al., 2018; Biggeri and Cuesta, 2020). On the one hand, sanitation suffers from chronic under-prioritization, lack of leadership, under-investment, and a lack of capacity. On the other hand, most countries have national policies and plan to support sanitation, but few have allocated adequate human and financial resources to implement them. Donors tend to prioritise water over sanitation (WHO, 2020). The WHO and UNICEF publications of 2020 concerning sanitation within more extensive water and sanitation sector, for instance, in water resources management and river basin development, aid disbursements for sanitation systems can be done. Many countries made rapid progress in sanitation coverage, transforming lives, the environment, and the economy within a generation. As in the 1960s and 1970s, Malaysia, the Republic of Korea, Singapore, and Thailand produced rapid and remarkable results in achieving total sanitation coverage. More recently, India has created a mass movement that has dramatically reduced and almost eliminated ODF's undignified and dangerous practice, disproportionately affecting the rural poor. Since 2000, Cambodia and Ethiopia have decreased defecation by more than 50 percentage points. In comparison, Indonesia, the Lao People's Democratic Republic, and Nepal increased the use of at least basic essential services by more than 40 percentage points. This might mean governments in many other countries are helping individuals and communities move up the sanitation ladder towards universal access to safely managed sanitation services by mobilising communities, deploying a range of funding and financing mechanisms to build resilient sanitation services that make better use of scarce resources and recycling waste for economic and environmental benefits.

Fundamentally, the concept of open defecation-free communities is prominent (Dahal et al., 2014). In these communities, every household uses hygienic sanitation facilities frequently. Looking at WHO and UNICEF reports, many families did not realise the protective effects of community-wide soil coverage even though they invested in their toilets. Water is the most complex of natural resources to manage as it calls for good governance at all levels (Allen et al., 2006; Daniell and Barreteau, 2014), including understanding the roles and linkages between policies and institutions at various administrative levels. It requires the involvement of all stakeholders and their collective actions on short- and long-term outcomes (Borrini, 2000; Greiber et al., 2008; Lele et al., 2013; Cosgrove and Loucks, 2015).

Since the role of the government is very vital to achieving universal access as stipulated in Indonesian Government Regulation No. 122/2015 concerning wastewater management system procurement, therefore, the Regulation of the Minister of Public Works and Housing (MoPWH) of the Republic of Indonesia Number 04/PRT/M/2017 regarding the implementation of a domestic wastewater treatment system was issued to deal with broad sanitation problems. The government further created the SANIMAS (Community-Based Sanitation) program under the auspices of MoPWH in 2006 as appointed in Law No. 17/2007 also for the National Medium-Term Development purpose of being the legal mandate to MoPWH for improving the quality of the environment in the field of sanitation, specifically in the management of household wastewater and open defecation designated for the Poor Slums (PAKUMIS) area by emphasising community empowerment in the process. In addition to household wastewater, Djayasinga (2021) argued that wastewater is a public good in her research. She discussed that Indonesia's wastewater management services (IPAL) were not on the market. Her research shows that IPAL is a wastewater treatment technology that eliminates non-degradable biological and chemical pollutants.

Moreover, the IPAL program aims to provide solutions to clean water, assisting low-income communities in building communal IPAL. This public facility will treat household black water and wastewater to be returned safely to households and the environment by quality standards. This processed wastewater is the next source of clean water. Many local governments in Indonesia cooperate with the Islamic Development Bank (IsDB) to build the IPAL infrastructure. However, operational and maintenance costs are expected to come from community participation. Hence, the tariff is needed to cover the operating expenses of IPAL (which will be charged to the community, especially beneficiaries).

It is supposed that the performance of the SANIMAS IsDB program operating in Bandar Lampung meets the RPJMN universal access target by maintaining the expected outcomes to achieve 100% services for access to drinking water, 0% free of slum areas, and 100% services for access to sanitation. Paying close attention to this policy, we narrow our study to the cost-effectiveness of community-based sanitation programs in certain urban

villages[52] with a financial loan from IsDB. Meanwhile, our study aims to monitor the input of cost allocation and inspect the cost structuring elements.

We depart from analysing the Indonesian government spending a large budget to overcome the existing sanitation problems. Likewise, the UNICEF data for 2017 compiled in the procurement of funds for sanitation in Indonesia came from the national and regional budget allocation as well as the participation of the community and other parties. At the same time, the data retrieved from Stichting Nederlandse Vrigwilligers (SNV), a non-profit international development organisation established in the Netherlands, presented the data on community sanitation of Lampung province in 2017, reaching 80.92%. Still, there is a striking distinction between the data released by the Ministry of Health of the Republic of Indonesia and SNV, which stated that Lampung Province sanitation was 52.89% due to the different indicators for assessing eligible sanitation added.

The work on the 2018 SANIMAS Program in Lampung Province from IsDB with 425 million rupiahs allocated for each location recipient is channelled to each of the respective Community Non-Governmental Institutions (LKM). From the funds obtained, the LKM collaborates with City Management Experts (TAMK) and Field Facilitators (TFL) in each stage of the SANIMAS IsDB program. Our field study data revealed six varied locations of the 2018 IsDB SANIMAS program operating in Bandar Lampung. The six areas included Susunan Baru, Langkapura Baru, Sukarame II, Garuntang, Pinang Jaya, and Batu Putuk.

Langkapura Baru was the area with the highest percentage of appropriate sanitation compared to other urban villages, which was 73.2%, followed by Sukarame II at 70.80%, Susunan Baru with a rate of 64.80, and Garuntang with the percentage of proper sanitation around 60.98. Meantime, there were two areas with the lowest percentage of sanitation covered: Pinang Jaya was 50.24%, and Batu Putuk showed 43.70% of good sanitation. Almost all areas have the same sanitation problems. These included drainage, open defecation behaviour, and domestic community waste. Our research was located in two urban villages: Langkapura Baru and Batu Putuk. The reasons for choosing these locations were the highest and the lowest percentages of sanitation eligibility.

Further, we organise our article into some sections. Firstly, the introduction provides our study background, focus, and research aims. Secondly, we enclose a literature review of specific theories used in our article to discuss policy study, monitoring, cost-effectiveness and linking urban sanitation governance. Thirdly, we present our research methodology beginning with the research approach, methods, and analysis. Fourthly, we display and review the data in the section on findings. Ultimately, we summarise our investigation and theoretical views in the article's conclusion and discussion.

Literature Review

Policy Study, Monitoring and Cost-Effectiveness

Policy study is closely linked with the study of bureaucracy and public administration (Simeon, 1976). Richard Simeon argued that bureaucratic agencies as central elements in the policy-making process, and no policy study could ignore them. But he clarified that bureaucrats and politicians operated within a broader political framework, defined by such factors as prevailing ideologies, assumptions and values. Moreover, much of the literature on bureaucracy is concerned with efficiency and effectiveness. Accordingly, to be called policy, government actions must be accompanied by a statement of intentions or purpose (Howlett and Mukherjee, 2014). The domain of policy study must encompass both: to concentrate on explicitly stated actions and plans to rule government activity.

Before Simeon's study in 1970, Lowi defined three dimensions of fundamental policy in political science in his article about decision-making versus policy-making. First is the scope of government policy. What aspects or elements of social and economic life in society matter about which governments make decisions? What is the place of government in society? Second is the question of means. Which instruments or techniques do the government use to assure approval or compliance with their decisions? Lowi's

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[52] Urban villages include the native villages located and demarcated within town and city boundaries, plus unplanned village-like settlements defined by social relationships based on local sociocultural orders tied to a common and shared identity. Retrieved from https://www.adb.org/publications/emergence-pacific-urban-villages

emphasis on the essential element was characterising governmental decisions. The third is the distributive dimension. Who gets what? How are government activity's costs and benefits distributed among society members? To what extent does government serve as a mechanism to redistribute income or other benefits? One of the most apparent characteristics of modern society is how much the range of government activity has expanded. It is not simply that governments spend more money on more things. Reciprocally, Levin and McEwan's (2000) concerns that policy decisions in the public sector must be based on considering both the cost and effects of such choices, as cost-effectiveness refers to evaluating the alternatives according to both charges and consequences concerning producing some outcomes. They assumed that similar or identical programs could be compared and standard measures of effectiveness could be used to assess them.

Monitoring implementation is an integral component of the policy cycle. Policy monitoring can improve policy information among stakeholders and use techniques to provide feedback to reframe and revise policies (Wong and Watkins, 2009). Policy monitoring activities can collect and analyse data on developing and implementing specific procedures. It can also link approaches to particular outcomes and identify policy impacts. Policy monitoring data support advocacy efforts and guide the development of new, timely, and relevant policies. In line with Hardee, Irani, MacInnis and Hamilton's study in 2012 emphasises, policy monitoring should also include the identification of operational policy barriers that can be addressed through policy and program reform, and findings can support the improved implementation of existing policies. Numerous actors and stakeholders can influence policy movement from inception to implementation. Well-maintained documentation and review of all key stakeholders involved in a policy can help advocates for a given approach to address different capacities or interests of crucial actors (Jones, 2011). Whereas limiting stakeholder analysis only to government and officials may ignore significant groups that can support policy development.

Urban Sanitation Governance

Sanitation refers to general conditions related to clean drinking water and treatment and disposal of human excreta and sewage. Several sanitation levels are used to compare sanitation services within or across countries (WHO/UNICEF Joint Monitoring Program for Water Supply, 2017). The sanitation ladder defined by the Joint Monitoring Programme in 2017 starts with open defecation. It moves upwards using unimproved, limited, and primary, with the highest level safely managed. This is particularly applicable to developing countries. Providing sanitation to people requires attention to the entire system, not just technical aspects such as the toilet, faecal or wastewater treatment plant (Tilley, 2014). In her book on the compendium of sanitation systems and technologies, Elizabeth Tilley discusses that the sanitation chain involves the user's experience, excretion and wastewater collection methods, transporting and treating waste, and reuse or disposal.

Local governments in Indonesia are primarily responsible for delivering sanitation (wastewater) services. However, mainly due to governance factors, local governments invest little in sanitation services, and the delivery of services is weak (Chong et al., 2016). Drawing upon the research undertaken with a partnership led by the Institute for Sustainable Futures, University of Technology Sydney, and Partnership for Governance Reform, SNV Netherlands Development Organization, as well as Government of Indonesia partner BAPPENAS (National Development Board), it is recognised that institutional and governance arrangements for planning, budgeting, financing and making decisions about the delivery of sanitation services within and across levels of government play a significant role in inhibiting effective delivery of sanitation services by local governments. Therefore, weak governance may have a lower necessary investment than the lack of access to finance. This research sought to deepen understanding of the observation by investigating how sanitation planning, funding, budgeting, approvals, and administration affect and constrain service delivery at the local level. In recognition of the multi-sector nature of sanitation, cross-departmental sanitation working groups are expected to lead, coordinate and oversee a unique, national model for sanitation planning in local governments.

Methods

This is qualitative research to obtain information from direct interviews with informants who are some local officials and the community as part of the target group beneficiaries. Interviews were conducted by researchers from various informants and locations in table one to gather primary data. Direct observations are necessary to determine the conditions. Case studies were selected in both Langkapura Baru and Batu Putuk urban villages. We provide a review, analysis and photographs to supplement our discussion on monitoring the government cooperation assistance program. We inspect cases by triangulation analysis to enhance the study's credibility and trustworthiness (Yin, 2011).

Table 1.   List of Informant and Location

Informant	Location
Chief of TAMK	Housing and Settlement Agency of Bandar Lampung
The Empowerment staff of TFL	Housing and Settlement Agency of Bandar Lampung
The management staff of TFL	Housing and Settlement Agency of Bandar Lampung
The engineering staff of TFL	Housing and Settlement Agency of Bandar Lampung
Chief of LKM 'Cempaka'	Langkapura Baru Urban Village
Chief of KSM 'Cempaka'	Langkapura Baru Urban Village
Chief of LKM 'Putra'	Batu Putuk Urban Village
Chief of KSM 'Baru Jaya'	Batu Putuk Urban Village
Community	Langkapura Baru and Batu Putuk Urban Villages

Source: Processed by author, 2019

Findings

The 2018 SANIMAS IsDB program in Bandar Lampung was initiated to boost the number of proper targets for universal access in RPJMN. Nevertheless, the SANIMAS IsDB program is not the only program operating to advance the number of feasible sanitation. The head of TAMK Bandar Lampung disclosed the STBM SNV and Padat Karya as similar operating schemes. Among these arrangements, the SANIMAS IsDB was the program with the broadest regional scope. It was in consequence of the regional extension in Bandar Lampung and Pringsewu Local Governments, while in our interviews STBM scheme from SNV was executed in Pringsewu only. Moreover, in terms of recipients, the SANIMAS IsDB program reached the most community access.

Our document analysis discusses the SANIMAS IsDB to control the short or long terms problems by generating diverse program outcomes using budget and cost estimation to meet the community's long-term sanitation needs organised in several stages of work below:

Table 2.   Costs allocation of sanitation in Langkapura Baru

No	Works Types	Volume	Unit	Price (Rupiah)	Total (Rupiah)
1	Operational Costs	1,00	Ls	20.000.000,00	20.000.000,00
2	SPALD-T	56,98	M^3	2.648.510,46	150.913.714,88
3	Primary Pipes	484,00	M^1	169.580,86	82.077.136,67
4	Primary Basin	2,31	M^3	5.074.192,72	11.734.070,66
5	Secondary Pipes	440,00	M^1	242.186,02	106.561.848,39
6	Grease Trap and Front Control of Toilet	2,70	M^3	8.667.453,74	23.402.125,10
7	Other work	25,00	M^2	1.212.829,13	30.320.728,14

Source: Budget and Costs of SANIMAS IsDB of Langkapura Baru, 2018.

Table 3. Costs allocation of sanitation in Batu Putuk

No	Works Types	Volume	Unit	Price (Rupiah)	Total (Rupiah)
1	Operational Costs	1,00	Ls	20.000.000	20.000.000
2	SPALD-T	56,98	M³	2.731.226,22	155.625.270,00
3	Primary Pipes	696,00	M¹	130.560,44	90.870.065,00
4	Primary Basin	60,00	Unit	614.749,72	36.884.983,00
5	Secondary Pipes	220,00	M¹	149.455,39	32.880.186,00
6	Grease Trap and Front Control of Toilet	110,00	Unit	639.686,11	70.365.472,00
7	Other work	1,00	Ls	18.375.285,00	18.375.285,00

Source: Budget and Costs of SANIMAS IsDB of Batu Putuk, 2018.

Both tables exhibit the data related to the cost allocation of sanitation in Langkapura Baru and Batu Putuk distinctions, e.g. the divergence in volume, unit, and price for particular works types. From the SANIMAS IsDB budget and costs allocation in Langkapura Baru, we monitor the dominant budget allocation for works to build the SPALD-T, a centralised domestic wastewater treatment system, because of the contour and land characteristics in that region. Furthermore, it may affect the progress of the work, as seen in figure 1.

Figure 1. Wastewater Management Construction of Langkapura Baru and Batu Putuk
Source: Research documentation, 2019.

It is urgent to provide and distribute specific cost elements divided into primary and secondary costs. Cost element structuring is a procedure for classifying and describing costs incurred by adopting and operating a program. The product of cost element structuring is a list of activities, equipment, and supplies that require the expenditure of funds. We offer several types of work in a lump sum, for instance, administration and documentation. Yield in units of length – m1, e.g. project fence and pipe installation. Work in the unit area – m2, for example, pair of ceramics on construction. Yield in unit volume - m3, i.e. excavation for land contour. In short, the allocation of the possible cost could be adjusted as follows:

Table 4. Possible Cost Element Structures for the SANIMAS IsDB

Primary (direct) Costs	One-time fixed cost	Planning and Evaluation
	Investment cost	Land Facilities Equipment Initiating training
	Recurring (maintenance and operating) cost	Wages Maintenance of equipment Recurring training Payment for extended service
Secondary (indirect) Costs	Costs to other agencies Disruption of social institutions	

Source: Adapted from Dunn, 2018.

We also present a table of outcomes among findings to perform the 2018 SANIMAS IsDB progress from six locations to pursue the RPJMN universal target to attain 100% sanitation access.

Table 5. The 2018 SANIMAS IsDB Outcome in Bandar Lampung

No	Location	Program Area Coverage	Outcome
1	Susunan Baru	4,5 Ha	64,80 %
2	Garuntang	4,9 Ha	60,98 %
3	Batu Putuk	6,2 Ha	43,70 %
4	Pinang Jaya	4,8 Ha	50,24%
5	Langkapura Baru	3,2 Ha	73,20 %
6	Sukarame	4,1 Ha	70,80 %

Source: Field Facilitator of the IsDB SANIMAS Program, 2018.

We believe that the more negligible the program area encompassed, the less effective implementation undertaken. The contour and land characteristics generate the planning and distribution of financing-specific cost elements. Likewise, the availability of land grants affects the performance of the 2018 IsDB SANIMAS program in Bandar Lampung. As explained in detail by the head of TAMK Bandar Lampung, the limited availability of land grants in each area was one factor that hindered the progress of the program. At the same time, the SANIMAS outcomes studies from the MoPWH against IsDB objectives analysis display primary sanitation coverage in the project areas and awareness of hygiene, sanitation, and water is inconclusive.

Figure 2. Findings of SANIMAS Studies Against IsDB Indicators
Source: Final Report of SANIMAS, February 2021.

The 2018 SANIMAS IsDB of TFL Empowerment staff explained the target group for Bandar Lampung. He clarified that the planning was health promotion to schools in the program recipient areas. Meanwhile, consultations with residents were held occasionally in the receiving areas. Several pieces of documentation are summarised by TFL Empowerment staff when conducting health promotions in schools in the regions where the SANIMAS IsDB program was settled.

Figures 3. Promoting SANIMAS IsDB to Schools
Source: Research documentation, 2019.

The documentation of health promotion in elementary schools was carried out as a part of the SANIMAS IsDB program, PHBS (Healthy and Clean Behaviours) and the socialisation of caring for environmental sanitation. Moreover, our observation revealed that additional sanitation supporting facilities were still lacking and inadequate budget allocation for cleaning the wastewater management building (Interview Data on the 15th of November 2019).

Conclusion and Discussion

Following a qualitative paradigm, this paper contributes evidence and insight into the effectiveness of sanitation management and funding in several urban villages in Bandar Lampung, Indonesia, through the lens of policy study. Many local governments in Indonesia cooperate with the broad financial institution, one of which is the Islamic Development Bank to reach the universal access target of sanitation. Taking a closer look at this policy, bureaucratic agencies as central elements in the policy-making process should concern with efficiency and effectiveness. Moreover, to be called policy, government actions must be accompanied by a statement of intentions or purpose, as it is not simply government spending. As a consequence of this reason, the policy in the public sector must be based on considering both the cost and effects of such decisions. While monitoring implementation is an integral component of the policy cycle for some reasons on improving policy information from analysing data among stakeholders and providing feedback to develop and reform policies.

Our study underlines the needs assessment and programs planning less detail-oriented. Various resources were required to elevate the percentage of proper sanitation in Bandar Lampung. On top of that, there is inadequate progress in the work as a consequence of area involvement in centralised domestic wastewater treatment systems. These might hinder the process from being less efficiently inflicted by the contour and land characteristics. Additionally, community engagement is among the crucial necessities for selecting the location to emphasise community empowerment in the process mandated by the National Medium-Term Development Purpose. Undeniably, providing sanitation to people requires attention to the entire system. Besides, it is recognised that institutional and governance arrangements for planning, budgeting, financing and making decisions about the delivery of sanitation services within and across levels of government play a significant role in inhibiting the effective delivery of sanitation services by local governments.

Overall, we found unequal prices, units, and work types in the cost allocation of the sanitation program. Hence, the program's cost-effectiveness relies on the large area and the appropriate primary and secondary costs incurred.

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Panel 9: Emerging Issues in Public Affairs in the 21st Century

A Theoretical Modelling of the Relationship between the Knowledge-Based View Mediated by Transformational Leadership on Firm Performance in the Thai Airline Industry

Vissanu Zumitzavan

College of Local
Administration
Khon Kaen University
Khon Kaen, Thailand
visszu@kku.ac.th

Gamom Savatsomboon

Mahasarakham Business School
Mahasarakham University
Mahasarakham, Thailand
gamon.s@acc.msu.ac.th

Sarinthree Udchachone*

Mahasarakham Business School
Mahasarakham University
Mahasarakham, Thailand
Sarinthree.u@acc.msu.ac.th

* Corresponding author

Abstract

Senior management has been shown to be a significant driver in making it possible for organisations to make the best use of their resources. However, the effects of the knowledge-based view (tacit and implicit knowledge) on leadership styles (transformational leadership) and firm performance remain largely unexplored. Based on the Resource-Based View (RBV) and focusing on the perspectives of organisations' competitive advantages, the knowledge-based view, leadership styles, and a firm performance may be related, to some extent. In this research, a theoretical framework is modelled to test the mediation effects that the transformational leadership styles may mediate in the relationship between the knowledge-based view and a firm performance.

The quantitative research method will be applied in order to collect and analyse data. Thailand's scheduled airlines (Bangkok Airways, NokAir, Thai AirAsia, Thai Lion Air, Thai Airways International, Thai Smile, and Thai Vietjet Air) were selected as the unit of analysis. Structural Equation Modelling (SEM) was applied to discover the relationship of the variables in the model. The research findings suggest clear guidelines for senior management on how to apply and facilitate an effective knowledge-based view and appropriate leadership styles in order to improve a firm performance. Notably, these research findings contribute to filling research gaps in the literature and advancing insights into how the knowledge-based view directly and indirectly associates with transformational leadership and how the variables could help improve a firm performance.

Keywords: airline industry, firm performance, knowledge-based view, transformational leadership

Introduction

COVID-19 has had severe repercussions on the world, including the rising cost of petroleum and gold, the increasing consumption of food, and so on (Senbursa, 2022). The result is a changing and potentially perilous business environment that no single organisation can assuage. The logical order that most of the world population is used to is designed to prevent serious situations beforehand or to resolve problems when they occur but sometimes things may not happen in logical order. However, at present events in the

world of business may happen chaotically, influenced by extreme government policies like industry-wide subsidies and windfall taxes.

Tourism is one of the foremost industries maintaining the growth of Thai Gross Domestic Product (GDP); thus, after the pandemic emerging government policy is to stimulate an increasing number of tourists from all around the world to visit Thailand (Klinsrisuk, & Pechdin, 2022). Importantly, Thailand has long been distinguished as the land of smiles and as a destination for international tourists. Understandably, the more tourists begin once again to visit other countries, the result of a growing rate of travelers on the financial accounts of the airline industry could be a key indicator to represent the growth of tourism industry.

In addition, to adapt to rapidly changing surroundings and so survive, an individual organisation must constantly accumulate knowledge. In the view of knowledge management, as selectively explained in the intellectual concepts known as the Knowledge-Based View (KBV), two major categories of knowledge are defined. The first, referred to as Tacit Knowledge (TK), refers to, for example, calculation skills or capacity to understand and use different software packages on a computer. The second, referred to as Implicit Knowledge (IK), is related to individuals' skills, such as the ability to swim, drive a vehicle, or ride a bicycle. Existing research endorses that both TK and IK are useful in enhancing the levels of a firm performance (FP) (Ibidunni, Agbi, & Kehinde, 2022). Interestingly, early scholars believed that leadership was born, whilst more recent academics argue that leadership can be trained. Contemporary leadership theories such as Transformational Leadership (TL) (Bass & Riggio, 2006) proposed that, to some extent, there should be a relationship between KBVs and TL. Hence, to survive in the unstable business world, all organisations must realise that it is important to keep maintaining and improving their levels of knowledge, and applying the appropriate leadership styles is imperative (Seyal & Abd Rahman, 2014).

Hence, in this research, the relationships between KBV, TL, and FP will be tested in order to discover the gap between how the Knowledge-Based View is directly and indirectly associated with leadership styles and how the variables can help improve FP.

Literature Review

Knowledge-Based View

In the view of knowledge management, as selectively explained in the intellectual concept known as the Knowledge-Based View (KBV), there are two major categories of knowledge: Tacit Knowledge (TK) and Implicit Knowledge (IK). Existing research studies propose that both TK and IK are useful in enhancing the level of Firm Performance (FP) (Ibidunni, Agbi, & Kehinde, 2022).

Tacit Knowledge (TK)

Tacit Knowledge may be considered to comprise clear notions which individuals can learn directly and clearly. This type of knowledge may be learned swiftly; however, at the same time, there are limited time constraints for maintaining this kind of knowledge. For example, TK may be viewed as the way individuals learn how to memorise. The way to use aviation software is a clear process and could be described as a clear notion. However, if individuals have not used this kind of knowledge for a long time, they may not recall the entire process of how to use it. Olaisen and Revang (2018) have identified a practical practise for transforming individuals' tacit knowledge into collective tacit knowledge and thereby enabling explicit corporate performance.

Implicit Knowledge (IK)

Implicit knowledge can be seen as hidden knowledge which is difficult to learn, but once individuals attain proficiency in how to do it or understand it, they may recall this category of knowledge for a long time or even for a lifetime (Zumitzavan, 2022). For example, IK describes the pathways by which individuals can distinguish antiques from modern works of art. Individuals may learn how to identify older works and pieces from the more modern era of antiques, including fakes, and this classification of notions cannot easily be transferred or learned in a limited period of time.

Leadership Styles

There is a continuing need for empirical research in project contexts despite the already extensive study of leadership (Söderlund & Maylor, 2012; Müller & Turner, 2010; Tyssen et al., 2013). Transformational (TL), Transactional (TS), and Laissez-faire leadership styles (LF) are widely acknowledged to be part of the full-spectrum of leadership theory (Sohmen, 2013). As suggested by Gundersen et al. (2012) and Riva, Magrizos, and Rubel (2021), there is a scarcity of research into the relationship between the KBV, LS, and FP, despite findings indicating a strong relationship between leadership and firm performance, particularly in the airline industry.

Transformational Leadership

Transformational Leadership (TL) has widely been implemented in different disciplines, including the management discipline. Idealised Influence (II), Inspirational Motivation (IM), Intellectual Stimulation (IS), and Individualised Consideration (IC) are the four main doctrines of TL. II is the managerial behaviour that stimulates employees' purpose and resolve towards their leaders (Ogbonna & Harris, 2000). By concentrating on these four different categories, TL leaders or managers are taking an administrative approach highly related to the degree of encouragement of their employees' views, beliefs, and respects. This leads to applying the leaders' or managers' charisma and empowering the employees to attain better job achievement (Zhu, Sun, & Leung, 2014). This style of leadership involves intellectual capability, since, for example, the airline industry necessitates intellectual stimulation in addition to other leadership characteristics (Alafeshat & Tanova, 2019).

Aga et al. (2016) investigated the connection between transformational leadership and levels of success in non-profit organisations, based on the findings of previous academic scholars. They distributed survey questionnaires to 200 development project managers in Ethiopian non-governmental organisations (NGOs). Their findings suggested that team-building partially mediates the benefits of transformational leadership for each company's success. In addition, they discovered a favourable association between TS and success levels mediated through team-building. They highlighted that TS can contribute to different levels of success by supporting and emphasising team-building methods. Future research is proposed to investigate the relationship between TS and the degree of success in relation to other aspects of workplaces or organisations, and to reveal these connections.

In addition, Abbas and Ali (2021) revealed that TS appeared to have a greater impact on FP than TL. In addition, they found a positive association between LS and levels of success of the firm. More accurately, multiple decision-making and day-to-day activity management approaches may be indispensable in various contexts (Bass, 2000). Yahaya and Ebrahim (2016) established that there is a positive correlation between KBV, TL, and FP, particularly in for-profit organisations. In order to acquire greater levels of competitive advantages in the private sector, they investigated how to apply appropriate LS to influence employees' commitments.

As highlighted by Udchachone (2020), airline managers are indeed in charge of preparing their organisations for unstable surroundings. In particular, there is a positive correlation between KBV and LS, and how these two variables may influence FP (see, e.g., Zumitzavan & Michie, 2015; Zumitzavan, 2020; Zumitzavan, 2022). This research will assist in filling the gap in terms of the connections between KBV, LS, and FP to answer the research question: "To what extent are there associations between the knowledge-based view, leadership styles, and firm performance in order to improve the level of firm performance?"

Firm Performance

Based on organisational goals, subjective and objective assessments are significant components of measuring FP, according to Wall, Michie, Patterson, Wood, Sheehan, Clegg, and West (2004). Indicators like sales volume, net profit margins, return on investment, return on equity, and return on assets are used to evaluate objective measurements. The perceptions of stakeholders, managers, customers, levels of perceived organisational image and reputation, levels of success compared to competitors, and levels of employees'

dexterities are limited examples of subjective measures (e.g., Singh, Darwish, & Potočnik, 2016; Vij & Bedi, 2016; Wall, et al., 2004). There are multiple ways to evaluate a firm performance, and no one metric precisely covers all performance-correlated aspects. As proposed by Guest, Michie, Conway, and Sheehan (2003), financial performance is apposite for estimating the ultimate comprehensive performance of companies functioning in the same industry. In addition, FP can often be measured on a rating scale, with respondents able to score its importance or estimate it based on performance (Hapsari, Clemes, & Dean, 2017; Nejati, Nejati, & Shafaei, 2009). In this study, managers will be requested to relate their company's financial performance to that of other firms in their industry that are comparable to their own.

Linkages between Knowledge-Based View, Leadership Styles, and Firm Performance

Organisational learning (OL) serves a vital role in sustaining a firm and in completing its organisational objectives and goals, ultimately resulting in superior FP. Consequently, numerous scholars consider learning to be a basic part of competitiveness and bond it to the acquisition of information and the performance of the firm (Rawashdeh, Almasarweh, Alhyasat, & Rawashdeh, 2021). Similarly, Pellegrini, Ciampi, Marzi, and Orlando (2020) endeavour to determine how knowledge can boost the plan of firms, and they propose that firms are supposed to foster a learning environment to encourage their employees to continue to develop their notions and skills. In order to expand academic knowledge about firms, recent research has revealed that a manager's capability to assist employees, plus the encouragement of prolific companies and individual learning, need to be heightened (Kamhawi, 2012). In particular, managers are the key positions to encourage learning in firms, due to their collections of knowledge and skills, thus their leadership styles need to be investigated in order to ascertain to what extent there is a connection, in order to make it possible to increase a firm performance (Michie & Zumitzavan, 2012).

As highlighted by Neil Amstrong, "I think we're going to the moon because it's in the nature of the human being to face challenges. It's by the nature of his deep inner soul… we're required to do these things just as salmon swim upstream," (Scott, 2016). Once competitors overtake an organisation, at that point of time, the individuals or organisations being overtaken realise that there is a need to make a move. To determine different levels of the organisation, there are two primary competency measures in terms of assessing FP. That is, there are both subjective and objective criteria, according to Zumitzavan and Udchachone (2014). The former refers to the observations of respondents whilst the latter signifies objective data in the annual accounts and reports of firms, such as sale volumes, financial statements, and account records.

In this study, subjective measures will be utilised. In particular, the area of focus is a firm's financial performance during the preceding five years.
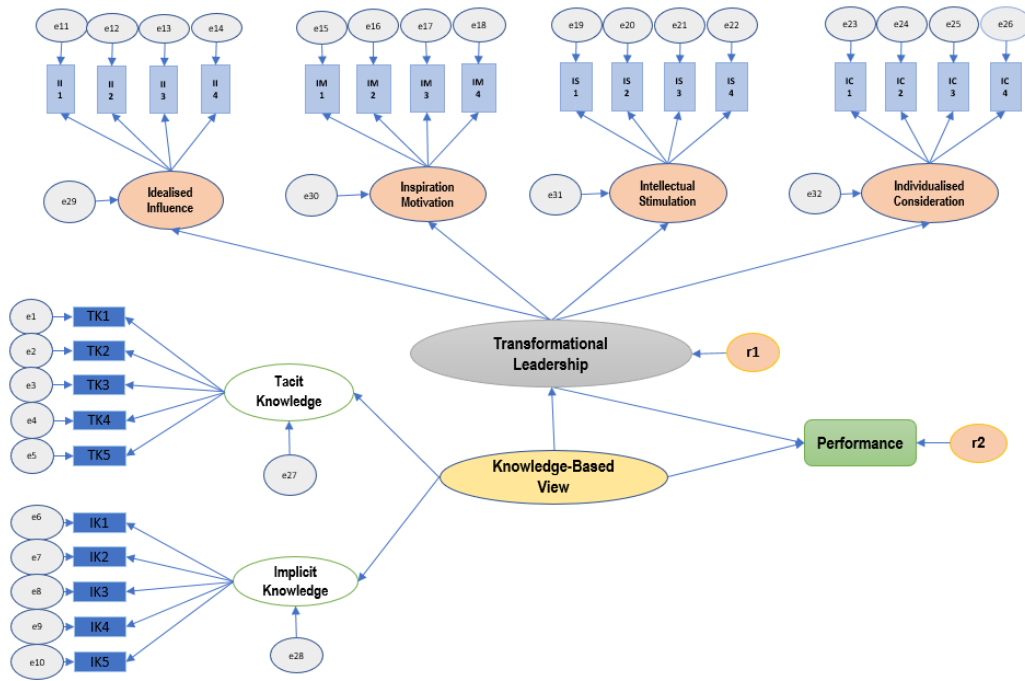
Figure 2. Conceptual framework

Assessing Theoretical Assurances

In business and management research, it is essential to understand the philosophical stance because this influences the manner in which research is conducted. Three major research philosophical approaches are considered in this paper: positivism, interpretivism, and critical approaches. This paper adheres primarily to a positivist epistemological position. This has made it possible to investigate which leadership styles are the most effective. Through a series of studies, philosophical paradigms, including deductive and inductive approaches, can be compared. These studies' descriptions do not suggest that one paradigm is superior to the others. Each review contains relative pros and cons specific to the researched research question (Malhotra, Nunan, & Birks, 2017). Thus, two philosophical approaches underpin the development of knowledge: positivism and interpretivism. Theories are applied to propose the research model and design, but data will be collected and theories will be applied grounded on how the data are analysed.

Research Methodology

To properly select the appropriate sample, the unit of analysis is scheduled airlines providing domestic flights in Thailand. Purposive sampling will be applied. In Thailand, scheduled airlines licensed by the Thai Civil Aviation Authorities will be selected (population), consisting of seven operators (number of ground base stations), namely Bangkok Airways (10), NokAir (27), Thai AirAsia (22), Thai Lion Air (14), Thai Viet Jet Air (11), Thai Airways International, and Thai Smile (13). In this study, 'ground base station' refers to a ground handling service for flights on the ground in each airport. These 97 stations are selected as the unit of analysis. Senior management will be asked to respond to a survey questionnaire since they hold the top position in command of each airline station. Thus, they are dedicated to serving as top management, and they hold responsibility for the day-to-day management of their firms.

Purposive sampling technique is applied to obtain data in this research. The population is 97*3 = 291 persons in the selected operators. The top management levels of the local workplace in each region throughout Thailand, composed of the Central Region, the East, the North, the Northeast, and the South, (i.e., excluding the West) will be asked to answer the questionnaire. All data will be kept confidential, and the data obtained will be used exclusively for academic purposes.

Hence, to ensure a reasonable rate of response, questionnaires will be distributed to seven different operators in the airline industry. Following Hair and Lukas (2014), there are six independent variables; thus, for the ratio, this is 291/6, equal to 48.5 or 49, implying that the ratio of 49:1 ensures a satisfactory level. Furthermore, the G* programme suggests that the appropriate number of samples is 102 for using Multiple Regression Analysis (see Table 1 in Appendices). In this research, an approximate sample size of not less than 102 is considered to be a satisfactory rate (Hair Jr, Howard, & Nitzl, 2020).

Conclusion and Discussion

This research is designed to investigate the connection between the KBV, TL, and FP within the airline industry. Scheduled airlines guaranteed by the Thai Civil Aviation Authority are the unit of analysis composed of seven operators, namely Bangkok Airways, NokAir, Thai AirAsia, Thai Lion Air, Thai Viet Jet Air, Thai Airways International, and Thai Smile. Senior management will be asked to respond to a survey questionnaire. Purposive sampling technique will be applied to obtain the sample. The expectation is that the findings will lead the research team to be able to answer the research question: "To what extent are there associations between the knowledge-based view, leadership styles, and firm performance in order to improve the level of firm performance?" The relationship between the KBV, TL, and FP will be examined, together with the mediation effects, and the research team will discover whether or not TL mediates the relationship between the KBV and FP.

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Appendices

Table 1. Analysis: A priori: Compute required sample size

Input:	Effect size f^2	=	0.15	
	α err prob	=	0.05	
	Power (1-β err prob)	=	0.85	
	Total number of predictors	=	5	
Output:	Noncentrality parameter λ	=	15.3000000	
	Critical F	=	2.3092018	
	Numerator df	=	5	
	Denominator df	=		96
	Total sample size	=	102	
	Actual power	=	0.8515972	

E-governance and the Deepening of Local Democracy in India through Panchayati Raj Institutions: An Exploration

Abhisek Karmakar

Assistant Professor
Department of Political Science
Galsi Mahavidyalaya
Galsi, Purba Bardhaman, West Bengal, India
Email: abhipolsc@gmail.com

Abstract

This paper aims at exploring the role of e-governance in deepening democracy and service delivery through Panchayati Raj Institutions (henceforth PRIs) in India. Basically, the 21st century is known for paperless or digital governance, popularly known as e-governance. The basic questions that may be raised are: Has the advent of digital governance enhanced the role of PRIs? What is the role of PRIs in service delivery in the wake of e-governance? Has the COVID-19 Pandemic enhanced the role of PRIs in ensuring fast, transparent and paperless governance? To answer such questions the present paper is an attempt to focus on the level of adoption, process and degree of execution of various Mission Mode Projects (MMPs) under National e-Governance Plan in order to ensure better, fast and transparent delivery of services in local rural sector in India. In the wake of this pandemic which has unfolded so many unprecedented issues so far it has become important to have a closer scrutiny of the role of PRIs to ensure paperless governance for the sake of deepening democracy by digging deep the principles of transparency, accountability and smart governance. The COVID-19 pandemic, being the biggest humanitarian threat so far, has once again brought the 'state', 'governance' and the mode of 'service delivery' into the centre of everything. Unlike neo-liberal or neo right theory of minimal state it has reasserted the role of governance and welfare state in every sphere of life. At the same time the pandemic has been an eye-opener regarding the enormous importance of paperless governance or digital governance in every sphere of governance. It may also be claimed that the pandemic so far has compelled the institutions of local democracy to introduce 'online governance' on several issues related to the execution of public policies.

Keywords: local government, democracy, digital governance, electronic governance, service delivery, rural development

Public Leadership in the 21ˢᵗ Century: Leader as a Gardener in Thailand's Public Sector

Rapeepan Phittayadilok

International College, Khon Kaen University
Khon Kaen, Thailand
rapeph@kku.ac.th

Abstract

Globalization is a worldwide occurrence that has been affecting every dimension of the world; cultural, economic, political, and environmental. In the 21st century, technological advancement is becoming more fast-paced which can bring both benefits and drawbacks. Both private and public organizations need to keep up with the pace of change. Leadership is served as one of the keys to the organization's success and essential skill for management in any kind of organization. However, leadership in the private and public sectors is not always the same. Consequently, the study of leadership in the 21ˢᵗ century is conducted. This paper finds out that gardening leadership is interesting to the current and future world, especially for public sectors. The paper illustrates public leadership in the 21st century, specifically within Thailand's scope. In the first part, background knowledge of the characteristic of the 21st-century environment regarding the Thai public sector is introduced. The challenges that future public leaders may face are also included in this part; transparency, internal collaboration, performance management, personal improvement, and innovation. In the second part, the leader as a gardener is explained. The third part is about Thai public sector context. The last part is an analysis of leader as a gardener in the Thai public sector. This part suggests how gardening leadership is appropriated to the Thai public sector.

Keywords: leader as a gardener, leadership, Thailand's public sector, 21ˢᵗ century public leadership

Introduction

Globalization is a worldwide occurrence that has been affecting every dimension of the world; cultural, economic, political, and environmental. In the 21ˢᵗ century, technological advancement is becoming more fast-paced which can bring both benefits and drawbacks. Both private and public organizations need to keep up with the pace of change. Many businesses utilize the technology to their products and can make more profits. However, public sector need to survive as well. The emerging of capitalism which is served as the characteristic of the 21st century world, broaden the gap between rich and poor. And this is the burden of public sector to deal the public problem. Public sector is significant to country and its people prosperity and well-being. The effective public organization is an urgent issue. Leadership is key to organizations success and essential skills for management in any kind of organization. Hence the study of leadership in the 21ˢᵗ century is conducted. Leadership can be derived from one's personality, knowledge, experiences, and attitude toward the future of one particular organization. So those make different styles of leadership. The paper illustrates the challenges that the 21ˢᵗ century leader may confront and study about the gardening leadership which the paper suggest to be the best suitable leadership style of public sector. Then, there is an analysis of Thai public sector context and gardening leadership as well as the future challenges that Thai public leader may face. At the end of the paper, it provides the practical implication to the public sector.

Background

In order to lay down the background knowledge of this paper, this part is divided into three sections; (1) context of 21st century and public sector, (2) conceptual application to Thailand's context, and (3) future public leaders challenges.

21st Century Context and Public Sector

21st Century Context

This era is generally called the 21st century and represents the globalized period. The article from Shishido (1993) defines the society in the 21st century as a capitalistic society and would face the crisis of resource scarcity. Even this paper is quite old; the prediction is state of the art. Shishido also mentions that globalization would affect a lot in the 21st century. The world would be narrower by the technological advancement of transportation and telecommunication.

Additionally, the borderless economy would be emphasized, but there would be a conflict between nationalism and globalism (Shishido, 1993). One country would seek to develop more while neglecting the environment. The growing of the economy is seen to harm the environment, which resulted in the scarcity of resources. For example, urbanization is one of the consequences of economic growth. When people want to earn more money, they possibly look for a job in the city. It causes a large number of people moving into the capital which leads to an expansion of urban area and invade forest or natural area. Another instance is about the pollution. Pollution is not only produced from industries but also urbanized city. When one country focuses to earn the economic growth (nationalism), one ignores to save the environment which belongs to everyone in the world (globalism).

Furthermore, in the era of technological growth, industries and business sector are adapting themselves to survive. The technology has played a crucial role in people's lifestyle and been part of their life. Moore (2016) states that one of the productions of digital disruption, as mobiles applications, now become an essential service which people require from the business. Moreover, citizens need it from the public sector as well. Hence, the public sector should be more innovative, adaptive, and provide faster services. Moore also suggests that the public sector should train employees to be able to take an intelligent risk which requires a new idea of its remedy.

In the perspective of people, the globalization creates generation gap. People in different generation have different life style. And this can cause the crash of generation when people need to live or work together. It generates some misunderstanding between people (Brown et. al, 2020). In the part of 21st century context provide an understanding of the external variable, which is significant to the leader to consider. The internal variable as the employees in working is analyzed. A generation is identified to understand the personality or working style of each generation. It can be defined by year of birth, age, place, and important events (Guha, 2010; Wey Smola & Sutton, 2002). Such activities are wars, new technologies, or significant economic transitions (Devaney, 2015). They likely influence and shape the characteristic of people in each generation. For example, Generation Y tends to be more impatient than people who were born before the internet age, because of the rapid changing in technology facilitates life faster and more convenient. Therefore, Millennials are fragile to things that take long time to reach (Beekman, 2011). During the 21st century, it is a mix of generations working in the workforce. However, Generation Y and Generation Z will dominate the workplace in the upcoming decade and are critical to the 21st century human resources (Stokes, n.d.). It is essential to understand who will be in the system and how leaders can perceive the nature of each generations. Employees are a driving force to an organization. A leader is a person who serves as a driver, and the car is as an organization. To be a good driver, one must understand all the function and engine of the vehicle. He also needs to be able to keep it working effectively and efficiently, as well as be capable of driving the car to the destination successfully and safely. And the working vehicle depends mainly on the engine, which serves as the employee in the organization. Moreover, gasoline is a motivation or incentive that makes the car working and moving. Everything is important.

Public Sectors

Public organizations are identified by their powers. Such powers include the rights to make and enforce the law. The main objective of public sector identity is to provide goods and services rather than to financially gain in comparison to private organizations (IPSASB, 2011). In general, the public sector differs in both constitutional actions and its functions. "*The governance of governments and other public sector entities generally involves the holding to account of the executive by a legislative body*" (IPSASB, 2011, p.5). This is the fundamental mindset when the organizations budget and make the financial report. The objectives of public sector are to provide goods and services to the public and those rely upon many factors such as political philosophy and the scale of the economy. The term "the public sector" refers to national governments, provincial governments, local government divisions and other supervisory bodies (IPSASB, 2011).

Another important body of public organization is its culture. According to Anechiarico (1998), organizational culture includes the common believes, values, and practices. It is an important driver in defining the health of an organization (Alom, 2020). The nature of public sector relies on its objectives and that can influence its culture. In different public institutions, there are many dissimilarities of values which depend on their fields of activity. They also have a collection of values fond to all organizational cultures (Rus & Rusu, 2015).

Conceptual Application to Thailand Context

Public sector in Thailand

Relationship of people in an organization is significant to define the characteristic of that organization. In order to understand that relationship, consider the society in the particular country is essential. Mulder (1996) studied about Thai culture which is predominated by Buddhism that has brought the concept of respect. However, Thai culture only emphasizes the respect to precedence and seniority. This originated class among Thai circumstance. Class has been rooting in Thai societies for long time and still exits nowadays. Younger are taught to respect older people and rich and higher status people are privilege. Rojanapanich (2010) precisely wrapped up the characteristic of Thai culture in regarding to the study of Hofstede's cross-cultural framework, that;

> "Because of the power distance dimension, young people are brought up to have great respect for their elders and not question them; society operates according to the 'old rules 'and when young people grow up they tend to perpetuate the system. Due to Thais rank highly on the uncertainty avoidance dimension, they do not readily accept change and avoid taking risks. The strong family and group bonds contribute to the culture' s low level of individualism. On the masculinity-feminity dimension it is the men who have the higher status" (p.22)

Thai governmental sector is seen to be very slow-paced developed. The style of the organization is conservative and traditional bureaucracy. The bureaucracy lies at the centre of Thailand's system (Nikomborirak, 2007). According to the study of Keerasuntonpong (2019), Thai governmental sector has a bad image in poor service and confusing workflow such as similar jobs are done by multiple departments. Due to the slow and unproductive service, some people are willing to bribe for a better quality or faster service (Nikomborirak, 2007).

Challenges that Future Public Leader May Face

Because of the speed of technological, social, and economic change in the 21st century, leaders may confront new challenges. According to Volini et al. (2019), the new context for leadership in 21st century includes; new technologies, a faster pace of change, changing in demographics and employment expectation, and changing in people expectation. Most of the people in the survey think that leadership in disruptive age require new qualifications that are significant to organization achievement. These new qualifications are abilities; to lead through more complexity and ambiguity, to lead through influence, and to lead more quickly (Volini et al.,2019). Even the study of Volini et

al. (2019) is based on the business or private sector, but there is some point that can be brought to adapt to the public sector. In their study, three significant areas are identified to represent the challenges in the organization. Moreover, from these three challenges, the author would like to add two more challenges; personal improvement and innovation

Transparency is pivotal to public sector. Volini et al. (2019) emphasize that it helps build trust and respect from people inside and outside the organization. It is a challenge for leaders to create transparency in public circumstance because a lack of transparency can cause corruption and ambiguity and can diminish public trust. Citizen engagement in one public policy is directly associated with the level of trust in political and public organizations. People can participate in public work and know its process. Trust is a significant resource that can decrease the conflict and confusion among citizens and public policy issues (Carreira, Machado, and Vasconcelos, 2016).

Internal collaboration exits when people in an organization work together as a team. The leaders are like the connection between them who encourage them to work and accomplish one goal together. Leaders also need to be able to solve the conflict among teammates. Moreover, leases have to put themselves as a part of a team. This area represents the ability of a leader to build a quality relationship in the workplace. The quality relationship in the workplace can improve teamwork, and it will be easier for the employee to work together. In the digital age, people are likely to prefer social media communication rather than face-to-face; this can make a gap between people in the workplace.

Performance management requires leaders to have the ability to drive strategy, deliver effective results, and manage the organization well. The performance management is a crucial source to lean form the mistake, and this can lead to organization success Volini et al. (2019) see that the evaluation of leader performance can create the environment that supports capacities such as dealing uncertain situation and lead through change.

For these three challenges that Volini et al. (2019) proposed, focussing on *personal improvement* is the fundamental matter that all leader should have. The personal improvement includes; physical and psychological well-being. To be able to manage ourselves is the most challenging thing for people, so do leaders. Healthiness creates the readiness to work. Emotional intelligence is one of the examples. Goleman (2003) mentions about five components of emotional intelligence; self-awareness, self-regulation, motivation, empathy, and social skills. First, a good leader has to know herself well; what her strength and weakness are. *Self-awareness* will help leaders to be true to themselves, learn from the past, and fix it. Second, leaders who can regulate themselves, such as action, emotion, or reaction to the situation. *Self-regulation* will help followers trust their leader. Third, a good leader can build her own motivation to work. *Motivation* helps people to work and accomplish the goal. A leader with motivation can generate motivation for followers. Fourth, a good leader needs to reach to people's heart by being empathic. Goleman (2003) emphasizes that empathy is significant or help leaders make a decision. Empathy can build a good relationship in the workplace. And the last one, *a social skill* that creates effective communication and teamwork. To be a good leader in the 21st century, personal improvement is a root of other challenges.

The last challenge is *innovation*. Innovation is resulted from the ability of leaders to utilize what they have, such as knowledge, experiences, and skill to create a new idea. Innovation requires expertise, creativity, and a broader perspective to find a new idea or method to solve the unsolved problem. Innovation skills include abilities such "creativity, critical thinking, communication, strategic thinking, and problem solving to find and develop creative solutions for the complex world" (Eich, 2018, p.1). In the 21st century, leaders cannot stay in the old way or do the same thing to get a different result.

Leader as Gardener

Freud (1927) indicated the the that groups of people require leaders to equip them with an identity and sense of purpose (cited in Higgs, 2003). According to the case study of Neil MacGregor, the British Museum's director, he is impressed by the way he reacts and communicates with his followers (Narasimhan & Barsoux, 2012). MacGregor remains the strong sense of purpose of public museum which belongs to every citizens. He repealed the entrance fee from visitors and initiated other sources of funding as donation instead. Additionally, MacGregor can distribute this senes of purpose to his adherents which Li

(2017) emphasizes that it increases the chance of employees to ameliorate their performance. This example shows that Neil MacGregor can represent the leader as a gardener. This part will analyze the type of leadership which is leader as a gardener. It is suitable for the external as the surrounding of public organization and internal context as the characteristic of the organization in the 21st century.

Leadership in the private sector is quite different from the public sector since the concept of the change-agent leader in the business sector cannot fit with the public organization (Frederickson & Matkin, 2014). As the above mention, the identity or objective of public and private sectors is different. The change agent leader may suit to private organization but not to public one. The change agent leader will deal with all struggles and initiate any possibilities for positive growth and profits. The change agent's duty is to develop a context of planned change (Westover, 2010). The change agent leader views organizational values and traditions as the problems that need to be fixed. Values and traditions of public organizations are derived from people. The leaders that try to change the values and traditions would challenge the democratic foundation of the organization (Frederickson & Matkin, 2014). On the other hand, the public sectors do not rely on the profits but rather on many other factors such as political ideology, economic growth, or accountability (IPSASB, 2011). In order to respond in need for a public leader, Frederickson and Matkin (2014) propose the concept of gardening leadership. There is an increasing interest in finding how the public leader can develop effectiveness in the public sector while working on the public problem. In order to achieve that mission, one must be a gardener. Public leader does not set a change as a goal but rather get the most out of the available resources for the public interest. This is metaphorically described as nurturing a plant. To grow up a plant, a gardener must understand resources; the soil, the weather, the seed, know how the plant can be looked after, and other necessary knowledge regarding that kind of plant. Frederickson and Matkin (2014) explain that;

> " Gardeners work with available resources—soil, water, seeds, climate. And so it is with public administration. In our better practices, public administration gardeners are shrewd managers of these resources, and among these resources, none are more important than the plants— the people. A genuine caring for and knowledge of each plant and an understanding of each plant's potential marks the difference between the casual planter of seeds and the gardener. Being responsible for the whole garden, the gardener must also know how all plants and groups of plants can be harmoniously related to making a beautiful garden. Plants need nourishment, water, sunshine, and encouragement. And the good gardener knows the limits of resources and the capacities of each plant and works carefully within those limits. So it is with public administration." (p.37)

The changes in 21st century can be one of the factors that public leader may encounter. Public leader needs to concern many dimensions not just the technological change. Also, leader as a gardener will understand how important organizational culture is and its roots. Anechiarico (1998) explains that the organizational culture is a form of collective value and behavior which are influenced by history, social perspectives and politics. Leaders as gardeners tend to respect that culture before they initiate change. This can help explain why gardening leadership is a key to succeed managing a public organization. One must understand the complexity of organization management as well as the changing world. Successful gardening leader will produce the best quality product to the society by effectively and efficiently driving the organization.

Analysis

This part is an analysis of Thai public sector context and gardening leadership as well as the future challenges that Thai public leader may face.

Since the public sector's budget is from the public, *transparency* is the requirement of public institution. Leader as a gardener needs to understand the nature of public sector that everything needs to be transparent in order to build trust from the people. This should be embedded to every party in the organization. The perception of Thai people to the public sector is not quite good. Because there are many questions from the public that cannot be answered from the government. That leads to lack of trust in

many public organization (Rojanapanich, 2010). Trust is important to the working in any context. Trust in one another, in our public organizations and in our leaders are all necessary components for social and economic development. It makes people to coexist and cooperate with and generate coherence among each other. More public trust can improve law-abidingness and taxations. It also creates respect for property rights and confidence to both internal and foreign investors (Perry, 2021). The gardening leaders will be careful that transparency is the foundation of country's solidarity and they will apply it to every working process.

In the term of *Internal collaboration*, Thai culture also impacts on public organizational culture that younger people need to respect the older ones. This is a hierarchical relationship between people. Leader as a gardener should understand this as the culture is crucial to an organization. Successful gardening requires time, endurance, and experience, so does public leadership. The gardening leaders understand that to change the culture may take time, is experimental and under to some ungovernable influences (Frederickson & Matkin, 2014). Nowadays, there is a conflict between generations in Thailand and one of the cause is that people cannot get along with one another due to age difference (Rojanapanich, 2010). Leaders should understand the values that each generation have and find the middle way to compromise. As a good gardener, leaders behave toward each person in the organization with his or her own ambitions, strengths, and personalities. Leaders do not standardize because they know that nobody is perfect. Then, leaders will find the way to put people in their best place for them to succeed.

For the *performance management*, Thai public organization is seen as slow-paced developed and the style of the organization is conservative and traditional bureaucracy. And this can result the unproductive work process and dissatisfy the public. Good gardeners know which process should take time and which not. They can sophisticatedly replan for a better performance of the organization.

It is not just only internal and external factors of public organization that gardening leaders know, but also their own performance. Leader as a gardener will be interested in *personal development.* They tailor their professional development and move the leadership from good to greater. Because the gardening leaders understand the uncertain world, they tend to update their knowledge and never stop learning. They understand their abilities as what are their strengths and challenges. In Thai public institutions, there are not many evidences to explain about the leader's personal development but there are many available seminars and activities for leaders to participate for improving themselves (Pimpa, & Moore, 2012).

Innovation is the last proposed challenge in this paper to analyze. As mentioned above, innovation skills consists of creative and critical thinking, effective communication, strategic thinking, and obstacle overcoming to generate and develop productive solutions for the complex world (Eich, 2018). Innovation skills of Thai people can be regarded to Thai education where is the root of Thai people development. In Thailand, several cultural norms have been seen as blockades to creativity in Thai students (Power, 2015). Hofstede (1991) suggested that factors such as the collectivism, the consequence of high-power distance relationships, and the strong connections to traditional ways of thinking (Mulder, 1996) can influence the innovation skills of Thai people. Children are afraid of punishment and they are likely not to make mistake or upset the oder people. Leader as a gardener will understand the different types of seeds and how to grow it productively.

Conclusion

The 21st century phenomenon mainly resulted from the globalization that has been increasing technological advancement. All countries around the world get affected too. An effective public organization is an urgent issue. The public sector is significant to the country and its people prosperity and well-being. The public sector needs to survive in this disruptive world. Leadership is key to organizations survival and success. It is an essential skill for management in any organization. The society in the 21st century is capitalistic and would face the crisis of resource scarcity. One country would seek to develop more while neglecting the environment. The growing of the economy is seen to harm the environment. Understanding the society of the 21st century is seen to be about the external factor. The paper also analyses the internal factor as the people in the organization that there will be a mix of generations in the organization, and this is important to a leader to

understand the diversity of generation. To be more specific, the characteristic of Thai society is identified to understand the public organization culture. Thai society emphasis on power distance that young people are brought up to have great respect for their elders and not question them; society operates according to the 'old rules'. Thai people are also not readily accept change and avoid taking risks, and strong family and group bonds contribute to the culture's low level of individualism. Moreover, there is still a gender issue that men rule the society. Thai governmental sector is seen to be very slow-paced developed. The style of the organization is conservative and traditional bureaucracy. After understanding the background of the issue, challenges that future leader may face are analyzed; transparency, internal collaborative, performance management, personal improvement, and innovation. All together with the challenges, the types of leadership which are suitable for the external and internal context of the 21st century is leader as gardener who get the most out of the available resources for the public interest.

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The Queerization and Straightization of Tokyo's Shinjuku Ni-chome Under the Influence of Leisure and Tourism–Implications for Local Governance

Bình Nghiêm-Phú

School of Economics and Management
University of Hyogo
Hyogo, Japan
binhnghiem@gmail.com

Abstract

A gayborhood's characteristics have essential impacts on the lives of lesbian, gay, bisexual, transgender, queer/questioning, intersex, and asexual people (LGBTQIA+). However, research on gayborhood characteristics is minimal. Those emphasizing this topic seem to separate the gays and the straight. In addition, the making of gayborhoods into leisure and tourism spots and the impact of this process on gayborhood characteristics have not been adequately considered. Moreover, the existing literature has mainly focused on Western contexts while neglecting Asian settings. Furthermore, studies on neighborhood characteristics, in general, have only investigated current conditions, overlooking the sequential development of neighborhood characteristics (time series).

Therefore, this paper examines the characteristics of a gayborhood in Asia (Tokyo's Shinjuku Ni-chome) using the social cohesion and time-series approaches. The paper investigates how the transformation of a gayborhood for leisure and tourism has impacted its perceived characteristics held by key gayborhood members. This study's findings will help enrich the literature about gayborhoods. They also are meaningful in planning and managing LGBTQIA+-friendly areas in Japan in the future, especially for leisure and tourism purposes.

Keywords: gayborhood, Shinjuku Ni-chome, characteristics

Introduction

With the relaxation of social norms and values, public attitudes toward lesbian, gay, bisexual, transgender, queer/questioning, intersex, and asexual people (LGBTQIA+) have become liberated. This situation creates a necessary condition for the existence of queer-friendly neighborhoods or gayborhoods, where "a visible and acknowledged, but not overwhelming, presence of gay and lesbian residents, businesses, and organizations" is observable (Gorman-Murray & Waitt, 2009, p. 2855). Diversity and mutual tolerance (social cohesion) are the most prominent characteristics of these neighborhoods, some of them are leisure and tourism spots in and of themselves (Greene, 2014; Hess & Bitterman, 2021).

Gayborhoods, in particular, and places, in general, are dynamic entities with their life cycles (Lotteau, Loubet, Pousse, Dufrasnes, & Sonnemann, 2015). Past characteristics and events of the neighborhoods can help shape the perceptions and behaviors (i.e., attitudes) of present gay individuals (Frye, et al., 2014). Similarly, those observed and occurred in the present may form the foundations for the attitudes in the future. An extensive time-series analysis, which spans from past to present and then future, can help identify an abundance of a place's characteristics that are important to its inhabitants and their historical connections. Unfortunately, prior studies on neighborhood characteristics have only investigated current conditions (Miller & Tolan, 2019; Williams, Haworth,

Blangiardo, & Cheng, 2019). They have overlooked the sequential development of neighborhood characteristics, especially the lost impressions of the past and the expected future features (time series).

Moreover, the existing literature about gayborhoods has mainly focused on Western contexts, such as America, Australia, Canada, and Europe, while neglecting Asian settings (Andrucki, 2021; Conner & Okamura, 2021; Spring & Charleston, 2021). Historically, Asian countries are not very open and tolerant toward LGBTQIA+ activities and movements. However, people in the LGBTAIA+ communities highly regard certain Asian cities and areas, such as Bangkok, Hong Kong, Manila, Shanghai, and Singapore (Yue & Leung, 2017). Japan has not been properly ascertained as an LGBTQIA+ destination (Wallace, 2020). The most prominent gayborhood in Japan, Tokyo's Shinjuku Ni-chome, has only been investigated by a handful of research (Mitsuhashi & Hasegawa, 2006; Susaki, 2021).

Therefore, this paper narrates the characteristics of Tokyo Shinjuku Ni-chome, a gayborhood in Asia, using social cohesion and time-series approaches. The paper explains how the transformation of a gayborhood for leisure and tourism purposes has impacted its perceived characteristics held by key gayborhood members from the past to the present and future. This paper is meant to plan and manage future LGBTQIA+-friendly areas in Japan, especially for leisure and tourism purposes. It will also help enrich the literature about gayborhoods.

Theoretical Framework

Social cohesion is regarded as individuals' attitudes toward their groups and other groups' members "as 'objects' of attachment and attraction" (Friedkin, 2004, p. 414). Social cohesion theory is similar to stakeholder theory because both consider the participation and involvement of various parties. However, the former is different from the latter in that it emphasizes two essential elements of social interactions (Duhaime, Searles, Usher, Myers, & Fréchette, 2004): (1) access to making a living and (2) access to a meaningful life. The purposes of interactions in stakeholder theory, otherwise, are rather vague. In addition, the attitudes of different stakeholders can be merged to form a cohesive opinion regarding the common topic in cohesion theory (Lalot, Abrams, Broadwood, Hayon, & Platts-Dunn, 2022). Considering the diversity of the gayborhood stakeholders (e.g., LGBTQIA+ and straight, and residential and business areas) (Andrucki, 2021; Conner & Okamura, 2021; Spring & Charleston, 2021), adopting a social-cohesion perspective to understand the gayborhood issues is deemed appropriate.

Chronologically, a place's past is often investigated to understand individuals' bonds with and attachment to their places, including gayborhoods (Cross, 2015). The present is examined to understand the association between place characteristics and inhabitant well-being (Miller & Tolan, 2019; Williams, Haworth, Blangiardo, & Cheng, 2019). The potential future development steps and practices, such as the discourses between present and future and between involved stakeholders, are also foreseen (van Dijk, 2011). An extensive time-series analysis, which spans from past to present and then future, can help identify an abundance of a place's characteristics that are important to its inhabitants and their historical connections.

Characteristics of a place can be in physical (functional) and psychological forms (Echtner & Ritchie, 1993). In gay neighborhoods, the physical characteristics can visibly be seen and touched, such as cultural amenities, bars, malls, shopping centers, and schools (Hayslett & Kane, 2011). Otherwise, the psychological characteristics, such as safety, must be felt or sensed (Duncan, et al., 2017). The people or social element, which is the basis of social cohesion, is remarkable. On the one hand, it can be functionally evaluated as a sociodemographic variable, such as the structure of the population in terms of education, place of birth, political view, and race (Everett, 2014; Hayslett & Kane, 2011). On the other hand, the social element can be psychologically assessed as the openness and tolerance towards other stakeholders' presence and activities (Hayslett & Kane, 2011), similar to the psychological characteristics mentioned previously. Interestingly, the interactions among the involved parties are the focus of most research on gayborhood issues.

Method

The Ni-chome block is an area of Shinjuku, the most extensive shopping district in Tokyo. It was a neighbor to the redlight district right after World War II (1947-1948) and later has become the gay town itself since the late 1960s (Toshio, 2020).

Although Shinjuku Ni-chonme has not been portrayed much in academic research, it is viral in Japan's popular culture. Therefore, this study began with a netnographic observation (Xun & Reynolds, 2010) of activities at Shinjuku Ni-chome broadcasted on two of the most influential social media platforms in Japan: Twitter and YouTube (StatCounter, 2022). Starting in 2013, the researcher followed the tweets and watched the videos posted on these two platforms regularly, given that these channels are open to the public.

The researcher kept mental notes about the significant contents involving Shinjuku Ni-chome, from sexual encounters to business operations. However, they noticed a significant change in content during the peak of the COVID-19 pandemic (2020-2021). Specifically, the business owners at Shinjuku Ni-chome became more engaged with their customers via Twitter and YouTube to sustain their existence and expand their online operations. They talked about the past and anticipated the future, in addition to mentioning their current situation. The customers also contributed new content, including talks, discussions, and interviews with business owners. Such a change provided appropriate social cohesion and time series materials for this study. Therefore, the researcher started collecting YouTube videos presenting relevant information concerning the research topic. They also used Twitter to validate the place and people appeared on these videos to guarantee their reliability when applicable (data triangulation; Oppermann, 2000). Six YouTube videos posted between 2020 and 2022 were identified due to this process.

The researcher also applied the archival research method to locate other materials available in the printed format (Hodder, 2017). Using CiNii (https://ci.nii.ac.jp/), the most prominent digital database in Japan, the researcher found three nonfictions published by three experts about Shinjuku Ni-chome from 2015 to 2020. These books portrayed the stories about and people of this gayborhood historically and cohesively. Thus, they provided additional fabrics for this study. Moreover, the researcher employed Google Search to seek interviews and opinions from business owners, customers, and advocators about Shinjuku Ni-chome. Another eleven articles published between 2012 and 2022 were discovered.

The materials primarily contributed by business owners and customers at Shinjuku Ni-chome were consistent with the social cohesion theory, which emphasizes the acquirement of a decent livelihood and the achievement of a meaningful life of a neighborhood's key stakeholders (Duhaime, Searles, Usher, Myers, & Fréchette, 2004). In addition, the comparative and predictive approaches hidden in these materials were compatible with the time series theory, which accentuates a neighborhood's past, present, and future (Harvey & Fernandes, 1989).

After all the materials were gathered, the researcher analyzed them to identify the time points when the images of Shinjuku Ni-chome were significantly changed. They employed consistency among the contributors' opinions as the identifying criterion (Harvey & Fernandes, 1989). In addition, they also noted the major incident that triggered the change (Gremler, 2004). The role of leisure and tourism in the change was identified in this process. The researcher coded the image of Shinjuku Ni-chome in each period by a coding scheme that included three elements theoretically suggested by previous studies (Duncan, et al., 2017; Echtner & Ritchie, 1993; Everett, 2014; Hayslett & Kane, 2011): types of bars and entertainment facilities (physical), clientele (social), and atmosphere (psychological). They analyzed the data twice to ensure intra-coder reliability (Kassarjian, 1977). They used their ten-year netnographic observation experience as the guideline to triangulate the data (Oppermann, 2000).

In the following section, the researcher retells the stories observed in Shinjuku Ni-chome from the early 1950s until the 2050s. They then analyze these stories from two theoretical perspectives: social cohesion and time series. They combine their observations with those of prior research to strengthen this paper.

Tokyo Shinjuku Ni-chome

The first gay bar in Shinjuku Ni-chome was Ipsetan, which opened in 1951 (Fushimi, 2019). The number of gay bars had increased by 80 times by the mid-1960s.

Informant 1 (A book author and bar owner): "Shinjuku Ni-chome was born by the sexual energy of gay men. By 1966, there were already about 80 gay bars. Shinjuku Ni-chome has been called a 'gay town' since 1969 in 'Green Letter,' a pamphlet introducing gay bars nationwide… [However,] before the 1980s, everybody was trotting between bars without being seen. Before the 1990s, customers crowded in the bars but not in the streets." (Fushimi & Sunagawa, 2019)

Informant 2 (A business representative): "In the 1960s and 1970s, a few gay shops existed in this area, including nude studios and Turkish bath houses. Since the 1980s, gay shops have been dominating Shinjuku Ni-chome." (Iris, 2022)

In 2000, the Rainbow Parade event transformed Shinjuku Ni-chome from a leisure area for gay people to a leisure and tourism destination for everybody, including both domestic and international individuals. Before the COVID-19 pandemic, there were about 400 and more LGBTQIA+-related shops in an area of approximately 300x350 meters. The pre-2000s period witnessed the queerization process of Shinjuku Ni-chome.

Informant 3 (A bar owner): "Shinjuku Ni-chome used to have the image of a scary place, but now more and more people want to go there thanks to the development of the Internet. Girls like gays. The number of tourist bars has increased because it is a [lucrative] business… [Nonetheless, gay-only bars still exist because] there are closeted people. They cannot come out at work or to their families." (Suzuki, 2020)

Informant 4 (A restaurant owner): "There are days when not a single customer comes. If I spend as much as I have, I won't be able to pay the rent or other fees. I decided only to spend 10% of my sales, and I still do." (HuffPost Newsroom, 2015)

Informant 5 (A YouTuber and customer): "I used to come here a lot ten years ago. I feel [that] it was [livelier] back then. You know, everyone is using apps these days. *I think a general feeling now is that people don't need to come here to meet anymore*." (Tokyo BTM, 2021)

In 2020-2022, the COVID-19 pandemic hit Shinjuku Ni-chome businesses hard. Many shops were closed. Others expand their online activities. Old owners are leaving the businesses, and new ones are coming. Old buildings, where small and old bars operate, have been demolished and replaced by modern structures, where more extensive and diverse concepts can be adopted. Many people fear the loss of Shinjuku Ni-chome's identity as a gayborhood. The after-2000s period has been noticing the straightization process of this area.

Informant 6 (A Twitter user and customer): "15 years ago, there were many male customers at the mix bars. But since about eight years ago, the number of male customers has decreased, per the increase of lesbian bars." (ssakagami7776, 2022)

Informant 7 (An anthropologist and customer): "In 2050, people may talk about the past of Shinjuku Ni-chome as a gay town. Like a story from the 1960s, it may be forgotten." (Fushimi & Sunagawa, 2019)

A Social-Cohesion and Time-Series Analysis

Gayborhoods are certainly created to provide a friendly environment for LGBTQIA+ community members. Starting from a single gay bar in the early 1950s, Shinjuku Ni-chome has become the downtown of gay bars and shops since the late 1960s and a tourist destination since the early 2000s. The bars and entertainment facilities have been expanded from for-gay-only parlors to for-everybody lounges. The number of gay bars

catering to different gay types has also increased, including twinks, bears, and BDSM (bondage, discipline, sadism, masochism), among others. Lesbian and transgender bars are not modest either. Per the diversification of bar types (the physical image element), the clientele has become more diverse (the social image element). Lesbians, transgender, and straight customers have also been frequenting this area. Shinjuku Ni-chome, thus, has transformed itself into a socially cohesive gayborhood, particularly for leisure purposes.

In addition, the atmosphere has changed from hidden and scary to open and lively, especially at night. Before, many gay men had to hide their identity from the public, even when they were together with other gay men. They feared encountering acquaintances, being questioned by police officers, and violating bar owners' unofficial yet strict rules. Now, LGBTQIA+ and straight people can comfortably walk, talk, and laugh in the streets. They are freer to express their selves and enjoy a good time at Shinjuku Ni-chome. Bar and other business owners accept a more hospitable and flexible approach toward a diverse customer profile. The sense of being not-fully-accepted that many lesbians had when being in gayborhoods in the past may be lifted in the present (Pritchard, Morgan, & Sedgley, 2002). Straight (heterosexual) female customers also frequent gay bars as gay men's friends or on their own (Hartless, 2018). These women may enjoy being in gay spaces because they can escape unwanted attention from heterosexual males. Heterosexual men can also relax and enjoy their nights at Shinjuku Ni-chome, even though the older generations might be anxious about their heterosexual masculine identity (Holt & Griffin, 2005). Other heterosexual individuals, including the local administrators, unofficially ascertain and respect the gay aspect of their neighborhood identity, similar to the situation in other countries' gayborhoods (Brodyn & Ghaziani, 2018; Frye, et al., 2014; Gorman-Murray & Waitt, 2009; Gorman-Murray, Waitt, & Gibson, 2008).

The transformation of Shinjuku Ni-chome's images under the influence of leisure and tourism activities is not surprising (Nghiêm-Phú & Shibuya, 2021). The existing literature suggests that leisure events, such as queer annual and pop-up festivals, can change the social and psychological atmosphere of a gayborhood, making it more accepting, accommodating, comfortable, connecting, inclusive, normal, safe, and solidarity (Bailey, 2022; Lewis & Hermann, 2022; Stone, 2022). They can also improve the gayborhood's physical appearance and economic performance with LGBTQIA+-oriented businesses and facilities (Gorman-Murray & Nash, 2017; Hattingh & Bruwer, 2020; Knee & Anderson, 2021). However, social technologies (e.g., dating apps) and diseases (e.g., COVID-19) may return gayborhoods to their starting point or transform them into new forms in the near future (Anderson & Knee, 2021; Miles, 2021; Renninger, 2019).

Shinjuku Ni-chome is not only functioning as the meeting point for gay men anymore. It indeed is the meeting point for everybody, for a sexual and intimate purpose or an entertainment and leisure intention. And with the aging of the original buildings and owners, new facilities will soon appear and new businesses will soon arrive. The identity of Shinjuku Ni-chome as a gay area is gradually fading. The gentrification process may disperse the LGBTQIA+ population and decrease the tolerance toward LGBTQIA+ and LGBTQIA+-oriented businesses (Doan & Higgins, 2011; Spring & Charleston, 2021). Hopefully, with the effort and support within the communities (the vicarious citizens), Shinjuku Ni-chome can be maintained and retained soon (Greene, 2014; Mattson, 2016).

Implications for Local Governance

This exploratory study on Shinjuku Ni-chome revealed that leisure and tourism could significantly transform the images of a gayborhood from a closed, gay-exclusive, and scary place to an open, inclusive, and lively area. Leisure and tourism have now become the new identity of this urban gay town.

The local government of Shinjuku district, in particular, and Tokyo, in general, should officially recognize the role of Ni-chome as a neighborhood where members of the LGBTQIA+ community can work, entertain, and express their true selves. Current urban planning only considers Ni-chome part of a larger area, undermining its cultural and commercial values. Only after such an approach is determined can other effective policies to support the businesses and customers be devised.

The businesses in Shinjuku Ni-chome, especially the older generations, must embrace the new identity of their gayborhood. Their clientele is changing, requiring new services and facilities to cater to their needs. Of course, the old customers, especially those who still are closeted and unfamiliar with online dating apps, must also be served. The

segmentation and selection of the targeted customers should be carefully considered and undertaken.

A Concluding Remark

Shinjuku Ni-chome will celebrate its 100 years of history in the 2050s. While many people are worried about its identity loss or change, many enjoy this gayborhood as an exciting and safe entertainment hub. Leisure and tourism have doubtlessly transformed this area's image and probably its identity.

The outcomes of this study, however, primarily came from exploratory netnographic observations. Many stakeholders who have not voiced their opinions on the Internet and other official publications might be excluded. Other significant events, such as the economic bubble burst and the outbreak of HIV/AIDS (Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome) in the 1980s-1990s and the constant infrastructural development of the Shinjuku district, have not been included in the examination process. These issues might lead to specific blank spaces in the whole picture of Shinjuku Ni-chome.

Future studies can apply other methods, including direct interviews and surveys, to fill these voids. Researchers can also examine other gayborhoods, in particular, and neighborhoods, in general, to further identify and confirm the significance of leisure and tourism with the transformation of such areas. A mixture of social cohesion and time series approaches can help reveal more insights into the governance of these areas.

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Panel 10:
Urban Planning and
Urban Revitalization

Impact of Urbanization on Urban Green Spaces and Buffer Greens in Patna

Fulena Rajak*

Department of Architecture and Planning
National Institute of Technology Patna
Patna, India
fulenarajak@nitp.ac.in

Sandeep Kumar

Department of Architecture and Planning
National Institute of Technology Patna
Patna, India
sandeep.ar@nitp.ac.in

* Corresponding author

Abstract

According to World Population Prospects 2019 United Nation, urban population is projected to increase 35% from 18.5% in 2020 to 53.5% in 2050. Which tells us that more than half of the population will be staying in urban areas by 2050. This will not only effect the urban agglomeration but also increase the population density from 464person/Km2 to 550person/Km2. By 2050 India will be the most populous country in the world.

Increase in urban population and density will increase the pressure on the open spaces of the city, resulting in encroachment and deterioration of the urban green space. These open spaces have not only physical, social benefit but also the environmental benefits. The buffer open space which includes the buffer zones of ponds and also the riparian zones of rivers and canals will also get impacted. These two type of prominent open spaces in a city one is for both recreational and environmental purpose i.e. parks and other public greens spaces and other has mostly environmental benefit i.e. buffer greens around water body, ponds, canals and rivers, are also decreasing in number because of urbanization. This paper focuses on these two main types of open spaces and the change in the open spaces in the old precinct of Patna in the state of Bihar in India. It was observed around 42 % reduction in green spaces and decrease in the number of water bodies in this zone. At last concludes with the recommendations and guideline based on various research and norms.

Keywords: open spaces, urban green spaces, Riparian zones, buffer green, informal green space

Urban Redevelopment Analysis of Khon Kaen Bus Terminal 1, Khon Kaen Province, Thailand

Thanatorn Klayjinda

College of Local Administration
Khon Kaen University
Khon Kaen, Thailand
thanatorn_kl@kkumail.com

Thanaphat Luechathananon*

College of Local Administration
Khon Kaen University
Khon Kaen, Thailand
thanaphat_lue@kkumail.com

Kanin Nimpisut

College of Local Administration
Khon Kaen University
Khon Kaen, Thailand
nkanin.nim@kkumail.com

Wimonsiri Saengkrod

College of Local Administration
Khon Kaen University
Khon Kaen, Thailand
wimondsa@kku.ac.th

* Corresponding author

Abstract

Khon Kaen Bus Terminal 1 was the provincial station of Khon Kaen province until it was closed on December 1st, 2017. Therefore, the announcement of the Khon Kaen provincial office, the bus terminal has shifted to Khon Kaen Bus Terminal 3 (New), which is located outside of the city area to solve various problems at the old location, including traffic congestion, air pollution, noise pollution, etc. Despite the fact that has a full potential infrastructure, it has been abandoned ever since.

This research used urban observation methods; gate observation and movement tracing to collect the data and information on user behavior, along with 5W1H analysis to create development plans for the project area. The research findings show that bus terminal 1 has much potential, which is full of city basic infrastructure that could be developed to be anything, including Transit-Oriented Development (TOD) such as 1) accessibility because it is located along the main road and has many entrances in the area, 2) this area is surrounded by government centers, public parks, and schools; and 3) several types of public transportation connect this area to Khon Kaen international airport, Khon Kaen Bus Terminal 3, Khon Kaen University, and other districts around. The data shown that most of the users are middle-aged (25–59 years old). From gate observation revealed that most of the users come to use the area on weekdays and enter the area by using their private vehicles. According to the Movement Trace, the users have access to the entrance point where there are various commercial activities occurred and it is used as a transit point.

In conclusion, this area has fulfilled the condition of Sub center Transit-Oriented Development and the researchers have suggestions as follows; 1) increasing walkability and cycling by developing the connected pavement with the surrounding areas, 2) decreasing private transportation by developing city public transportation system, 3) the old terminal could be renovated to be the new public transit center, 4) the local authorization should release mixed building use policy in project area, and 5) improve the quality of life of people by adding more green-open-space.

Keywords: transit-oriented development (TOD), urban renewal, Khon Kaen Province

Introduction

Khon Kaen Bus Terminal 1 is located on Pracha Samosorn Road, Khon Kaen Municipality, Khon Kaen Province, Thailand which is the center of regional government administration, education hub, medical hub and economics. It used to be the provincial

bus station of Khon Kaen Province until December 1, 2017. Khon Kaen provincial administration had announcement of changing the location of Khon Kaen Bus terminal 1 to the 3rd Bus terminal, on Mittraphap Road, Ban Kut Kwang, Mueang Kao Subdistrict, Mueang District, Khon Kaen Province which is about 9 kilometers away from the city center of Khon Kaen. The relocation of the bus terminal is intended to reduce traffic congestion, city pollutions in urban areas but the problems never been solved. On the other hands, the other problems occurred after moving the mass transit terminal away because the passengers who were the main user of this area had gone. As there are less user in the area, the other activities are lifeless. Even though, this area is full of potential for investment because there are completed city public utilities. The project area has good accessibility from highway and arterial road could connect to Khon Kaen University, Bus Terminal 3 (New) and Khon Kaen International Airport and also the old terminal building structure inside the station is still in good condition. From the above factors, this area suits for urban renewal development projects including Transit-Oriented Development (TOD) concept.

Transit-Oriented Development (TOD) could be regional planning, city revitalization, suburban renewal, and walkable neighborhoods combined in a transit node which helps the diversity of transportation systems, and it also offers a new range of development patterns for households, businesses, towns, and cities around the transit point. Therefore, the aims of the article are finding out the potentials of bus terminal 1 and giving suggestion for area development according to TOD concept.

Research Objective

1. To analyze the potential of bus terminal 1 and its surrounding.
2. To suggest guidelines according to the principles of Transit Oriented Development (TOD).

Literature Review

Transit Oriented Development (TOD)

The development of the area around the public transit station or Transit-Oriented Development (TOD) is an area with a mixed development style between being a residential area and a commercial area with an emphasis on design for maximum accessibility to public transport to encourage people to use public transport more. However, TOD development is usually located at central area as a station or a stop for buses, tram, trains, or other public transport. The TOD development principle emphasizes its location within easy reach of the public transport station within a walking distance of approximately 10 minutes, or within a radius of 500 – 800 meters from a station or stop. TOD should have spatial roles related to the station, the roles of being "Place" and "Node". The characteristics of transition areas could be neighborhood or mixed-use community that has the environments support or facilitate walking, biking, using public transportation and public space for supporting diversity of people in any class of society.

There are four types of Transit-Oriented Development (TOD):

1. TOD Urban Core is convenience to access the city center that is next to the train station. This type has highest density of commercial and residential uses.
2. TOD Urban Center also has high density of commercial and residential uses but less than TOD Urban Core.
3. TOD Urban General is located next to TOD Urban Center which has a ratio of residential and commercial stores of 50:50 along with green-open- space.
4. TOD Edge is the furthest from the primary station such as metro station. It could be reached by secondary public transport or personal vehicle which has a ratio of residential and commercial stores of 70:30 along with green open space.

Conceptual planning of Transit-Oriented Development (TOD)

Conceptual planning of Transit-Oriented Development (TOD) consists of walkability and cycling friendly network, connectivity in the area and surrounding by create network of mobility especially public transportation and non – motorized transportation. Creating compact city by promoting high density of land use and mixed of

usage in the development area where all of people in society could afford to live together. Walking improves the health of people in the city. In addition, the urban environment is favorable for pedestrians and urban people use pedestrians as the main means of transportation. It allows for social interactions and makes it easier to promote creativities areas. In inner-city or commercial zones where pedestrians are encouraged, crimes and accidents are more than 20% lower than in non – pedestrian friendly areas.

Urban Renewal and Development

The development of new urban areas is related to the management of overpopulated and revitalization of urban areas by giving new function for dilapidated buildings with new residences, public buildings, parks, roads, industrial areas, and more, which are largely stipulated in the comprehensive program. There are 3 concepts to renew the area as follows:

Urban Redevelopment

Urban Redevelopment or Demolition and rebuilding is the most transformative revival. This will be used in areas where economic, social, and environmental conditions have deteriorated beyond repair by demolishing the old buildings and then reconstructing them to meet the new objectives of the area.

Urban Rehabilitation

Urban Rehabilitation is modifying the usage of the building or area to increase the capacity of the original land by keeping some buildings and spaces out and modifying some applications following the current usage.

Urban Conservation

The main objective of urban conservation is preserving and developing the environment of the historic district and maintaining the atmosphere of the old neighborhood including the urban scape and adapting the old usage with the modern lifestyle.

Methods

This research is qualitative research. The objective is to analyze the potential of bus terminal 1 and its surrounding by using methods as follows:
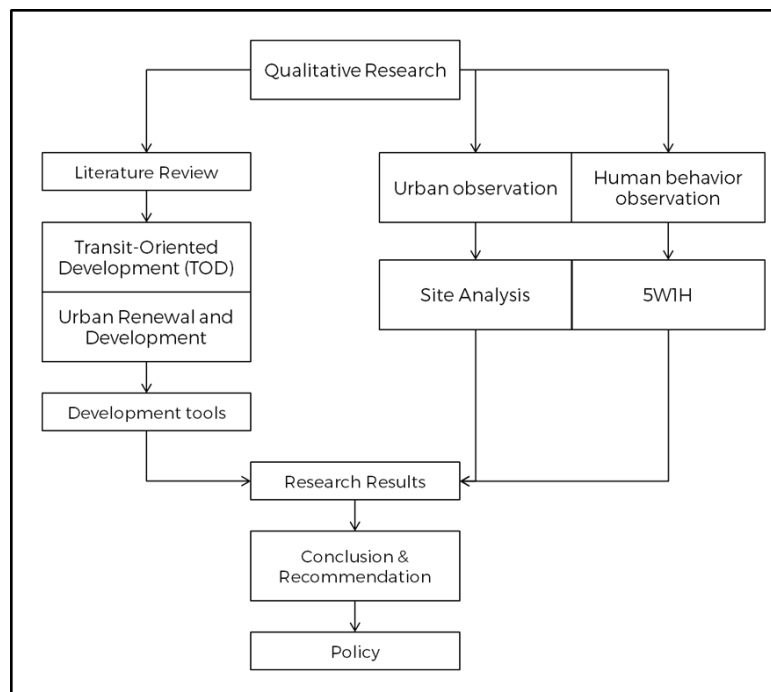
Figure 1.   Research Framework

Findings
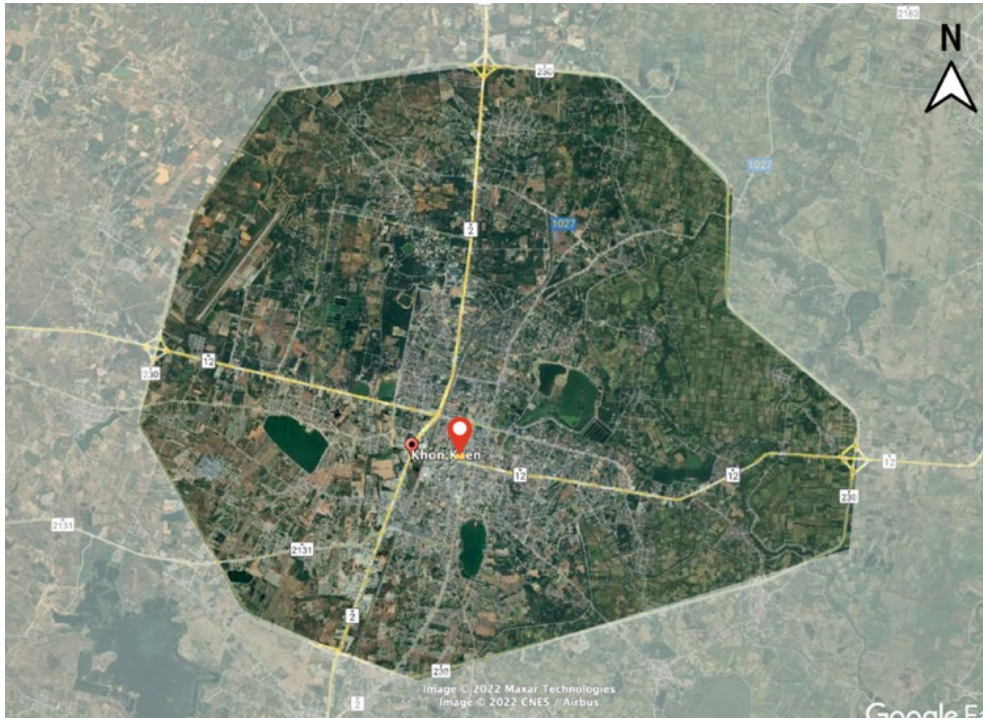
Figure 2. Khon Kaen Road Network

Figure 2 shows location of the Bus Terminal 1, Mueang Khon Kaen District, Khon Kaen Province that has a total area 50,000 square meters approximately, surrounded by roads in all four directions. Firstly, in the north is Na Soon Rachakarn Road, on the east side is Na Mueang Road, on the west side is Thepharak Road, and lastly in the south is Pracha Samosorn Road.

Building use Analysis
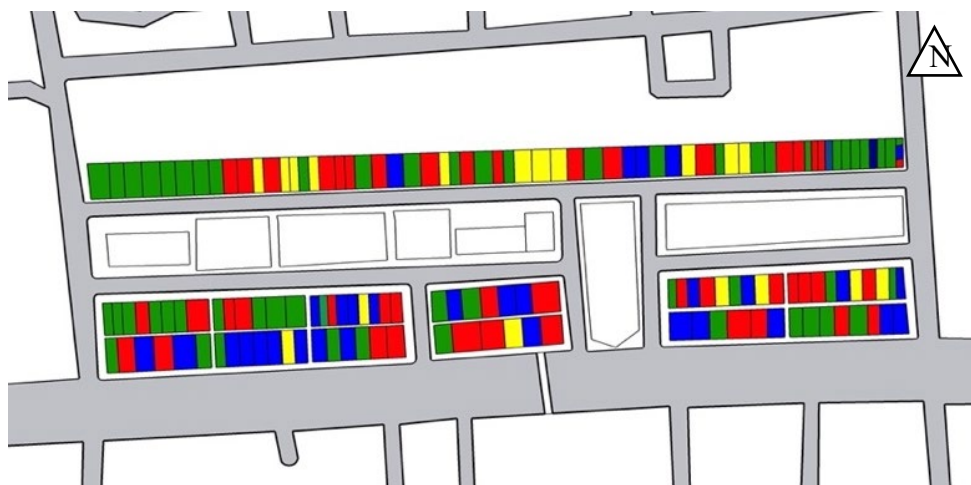
Figure 3. Building use Analysis.

In figure 3 building use analysis shows current usage of 152 buildings within the project area. The building is a 2-story townhouse style. Building use was contained of 18 residential buildings (12%), 33 commercial buildings (35%), 57 mixed buildings (23%), and 44 abandoned buildings (30%). Most commercial buildings are located on the side adjacent to Pracha Samosorn Road as it is easy to access. The residential buildings are located inside the project area; it is less affected by noise pollution. Most of the mixed-use

buildings are most at the corners because they could be well accessed. In addition, the group of abandoned buildings were caused by moving the bus station.

Movement Trace

Figure 4.   Movement Trace (weekday).

Figure 5.   Movement Trace (weekend).

From figure 4 and 5 show the passengers' movement and activities in the area on weekdays and weekends. The observations show that people parked their vehicles nearby the target area and walked to the target location. Most activities in the area are commercial activities and residential. The activities able to be sorted respectively as follows: wholesale stores, Talad Noi (Morning Market), lottery shops, restaurants, and other retail shops. It could be analyzed that people come to the area for buying merchandise and food from various stores, retail shops, and restaurants.

Gate Observation

Figure 6 shows the amount of mobility on weekdays. Notice that Gate 2 had the highest number of all type passengers passing through because it is the main entrance connected to Prachasamosorn Road and there are shops and restaurants. Moreover, at Gate 3, from 11.30 a.m. to 12.30 p.m., there was more mobility than at any other period because it is connected to the government offices so the officers and people who came to government center also came to this area during the lunch time as well.
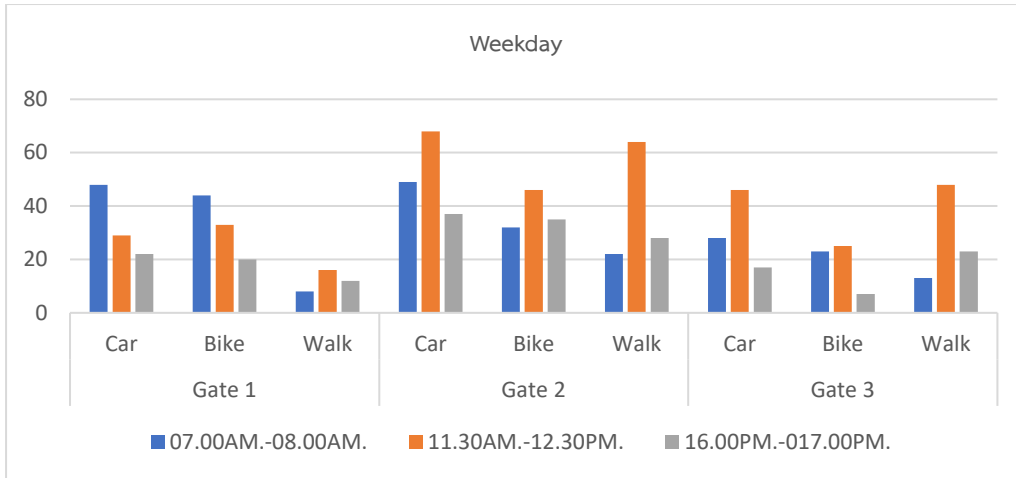
Figure 6. Gate Observation (weekday).
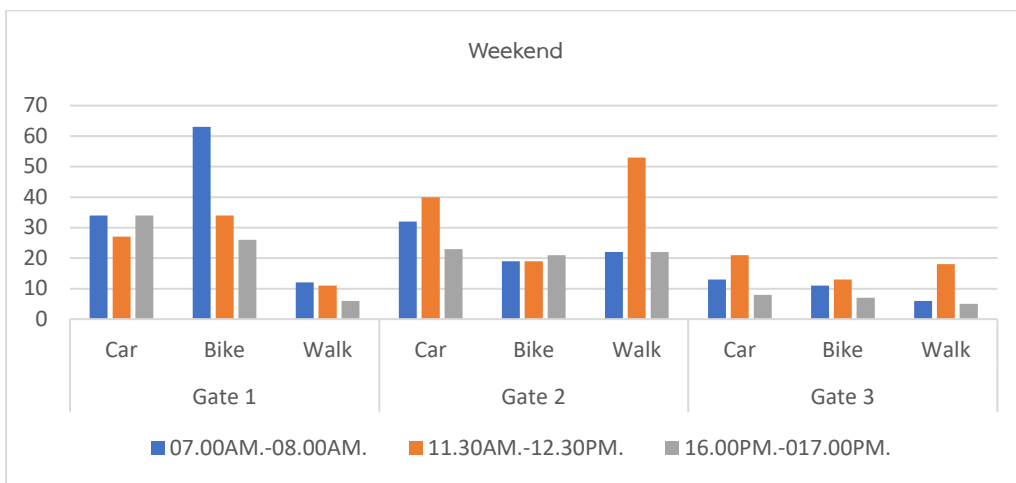
Figure 7. Gate Observation (weekend).

Figure 7 shows the amount of mobility on the weekend which is lower than the weekdays periods because government offices are closed. Interestingly, the results show that Gate 1 from 07.00 a.m. to 08.00 a.m. had the highest number of motorbikes during weekend because of Talad Noi (Morning Market) and the communities nearby. It could be obviously seen that at Gate 2 from 11.30 a.m. to 12.30 p.m. had the highest number of pedestrians because it is the main entrance that connects to the local mass transit (Rot Song Taew) which people use for traveling into the city center.

5W1H

5W1H is an analysis by asking questions to collect the information needed for analysis when used to analyze and design the city. The question should start with Who; which refers to the group of people in the study area. Secondly, What; which refers to analyzing what they need. Thirdly, Where; which mean the area or location of people in the study. Fourthly, When; stand for the time or whenever that people in the study usually use in that area. Lastly, Why; means the reason for each people in the study using the study area. In addition to the above, 5w is using for analyzing and solving problems. And H: How; stands for the way to analyze to get an effective method and suggestion for the study.

Who?	student	merchant	government officer	general people	local people	homeless
What?	Shopping / Parking / Node	Commerce	Shopping	Shopping / Commerce /Parking/ Node	Commerce / Resident	Resident
Where?	Bus terminal 1 and its surrounding.					
When?	07.00am.-17.00pm.				24 hr.	18.00pm.-07.00am.
Why?	Near academy	Variety of Shops	Government Complex	Variety of Shops	Surrounded by a community	Park

Figure 8.   5W Analysis

Conclusion and Discussion

The purpose of this research is to study the potential of bus terminal 1 by using qualitative methods, the literature review, Urban Observation and Human Behavior Observation. According to the research conducted into the data collection area using Gate observation and Movement trace, the results shown that most of the users are middle-aged, and mostly used their own vehicles to enter the area from the city's main streets easily since it is a main entrance of bus terminal 1. As a result, within the current area, there are specific activities such as transit station, commercial activities, etc.

From the results, Bus Terminal 1 is fulfilled with physical and socio-economic conditions as follows: 1) There is a main road connecting the bus station to various economic areas of the city. 2) The project area has many entrances and exits which make this area more accessible. 3) There are many types of public transportation passing by. 4) There is a mix of residential and commercial land use. 5) The area is surrounded by government offices, parks, and educational institutions, and 6) It has the original building structure that is strong and can be reconditioned.

In conclusion, bus terminal 1 can be developed according to the concept of Urban renewal, as well as bringing district level TOD to improve the project area to be more lively, suit with current functions and reach the need of people. According to methodologies, Bus Terminal 1, Khon Kaen Province will be a traffic node connected to others public transport that can be reached pedestrian and non-motorized networks. The compact city concept could be adapted to this area by create mixed use of building around the station. These will affect to the neighborhoods as they will change their travel behavior, reduce the use of personal automobiles and increase the use of traveling on non – automobile and public transportation which also helps reducing pollution that occurs within the city. In addition, the development of the station will help to improve the economy in the station and surrounding areas to grow even more.

Recommendation

From the analysis of 5W, it shows potentials in the development area and its surrounding. Therefore, 1H arises that the problem should be solved and suggested the guidelines for the authorizations within the project as follows:

Management

In term of an area management need integrated work of government sector and private sector as follows:

- Government sectors need to inform the correct knowledge and understanding of TOD development to people, including preparation of the laws and regulations to facilitate investors.

- Civil Society need to participate since the beginning of the project to get their opinion and approval for changing the function of the area to be transportation hub and change their behaviors to new functions such as walking, cycling, taking public transportation, and using other non-automobile.

Area development

TOD will change the direction of urban development to increase urban density with well management, non-automobile, and green open spaces, it will help the city decreasing carbon footprints which effect to urban environment overall in Khon Kaen as well as providing a green space. Moreover, it could be developing the area as follows:

- Promote travel by public transport.
- Promote non-automobile.
- Promote the construction of road and pedestrian networks.
- Allocate land use in combination.

From mentioned above, it could be seen that the management approach will have a positive effect on the bus station 1 and its surrounding. The main factor in implementing those recommendations is setting up development policies and committees who will be in charge of implemented it. Therefore, the local government must play the roles as a platform for private sectors and civil society to come and work together. This will lead the urbanization of Khon Kaen in an efficient direction and create more projects for better quality of life of people in the future.

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Road network Problems: A Case Study Village No. 12, Ban Non Muang, Sila Municipality, Mueang District, Khon Kaen Province Study

Watcharapon Aiamsarad*

College of Local Administration
Khon Kean University
Khon Kaen, Thailand
watcharaponuro@kkumail.com

Nattapon Phoonikom

College of Local Administration
Khon Kean University
Khon Kaen, Thailand
nattaphon_ph@kkumail.com

Tharatorn Theerathititham

College of Local Administration
Khon Kean University
Khon Kaen, Thailand
tharatorn_th@kkumail.com

Wimonsiri Saengkrod

College of Local Administration
Khon Kaen University
Khon Kaen, Thailand
wimondsa@kku.ac.th

* Corresponding author

Abstract

This article aims to explore the problems of incomplete road networks in the Ban Non Muang area of Mueang Sila Municipality, Mueang District, Khon Kaen Province. This area is a residential area located nearby Khon Kaen University which contained a lot of people and transportation traveling in this area day and night but there are problems with basic infrastructure that affect people's daily life such as traffic congestion, temporary flooding, damaged road which are caused by incomplete and under standard road network.

This paper used qualitative research methods by reviewing road networks and related theories and exploring and surveying The Ban Non Muang area to find and compare the current problems with road network theories and standards.

The research findings are 1) the problems in the Ban Non Muang area are traffic jams Floods waiting to drain during heavy rains dilapidated damaged roads There are no complete footpaths or footpaths in some areas. There are no drainage pipes that are so thorough that wastewater is released into the road. It also affects road users in the area. Causing accidents because of waterlogging on the road and causing the road to be slippery These problems are caused by 2) the lack of a complete road network that does not respond to local users. Lack of oversight from government public service providers and lack of maintenance involvement of the local people has caused the problems mentioned above. From the findings they have a common origin from one cause is an incomplete road network.

Keywords: Ban Non Muang, road network, problems

Introduction.

Khon Kaen Province is located at the central of Northeastern Thailand. According to its location, Khon Kaen is also a central of regional public services such as government offices center, education hub, economics corridor, healthcare, and hospital hub since 1960 when the central government established the government offices center in Khon Kaen. Another main factor that makes Khon Kaen grow rapidly is the establishment of Khon Kaen University in 1964 which effect to the community's development around campus. Ban Non Muang Village, Village 12 is one of communities was affected by the Khon Kaen rapid growth.

Village No. 12, Ban Non Muang, Sila Municipality, Mueang District, KhonKaen Province. Ban Non Muang has a total area of 7.5 square kilometers (4,960 rai), divided into a residential area of 4.27 square kilometers (2,669) and an agricultural area of 3.23 square kilometers (2,021 rai), with a total number of residential houses (2021), 3,568 households and a population. Total (2021) 2,644 people and there is still a large population of students from the province, so it is the area. It is a densely populated area with students, teachers, and the public having transportation throughout the day and night. Most lifestyles that use motorcycles or cars are the main way of commuting. Throughout the past, the community at Village No. 12, Ban Non Muang has grown rapidly, but the same thing that has almost never changed is the road network. As a result, there are many obstacles or problems in this area. (Preyakan Srikanjun. 2019)

Road network refers to the path of roads and intersections (Road Link and Intersection) together to form a network of different characteristics. This is the result of the city's design and the use of land within the city. Theoretical road network patterns such as Linear Network, Grid Network, and Ring-Radial Network, which are the main model of Thailand's overall network (Nirachorn Nokkaew. 2017) The road structure consists of a variety of public utilities such as sewers, water pipes, shoulders and footpaths. The size of the service varies according to the potential of the road. which the main problem is caused by the structure of the road that cannot support the use of people in the area.

The main problem is that traffic congestion has a huge impact on the population of communities roaming the area. The problem of temporary flooding during protracted heavy rains is caused by structural problems of roads without systematic drainage channels. And there is also a blockage of garbage around the sewer, resulting in flooding in the area. Problems with poor quality of roads caused deterioration and deterioration in many areas around Ban Non Muang. The problem of uninterrupted pavement quality and there is no regulation for roadside parking. According to the problems mentioned above, the researcher hypothesized that This was caused by the main problem in the road network, namely the potential sequence of the road that was not fully aligned with the potential of road users. causing various problems.

Therefore, the researcher is interested in studying the root cause of the current road network problem in comparison with the theory. Community Study Area, Village No. 12, Ban Non Muang, Sila Municipality, Mueang District, Khon Kaen Province to find suggestions and theories for solving further problems.

Research questions.

The incomplete road potential sequence of Village No. 12, Ban Non Muang, Sila Municipality, Muang District, Khon Kaen Province How does it affect?

Research objectives.

1) To study the road network and problem conditions in Ban Non Muang Community Area, Village No. 12.
2) To find solutions and suggestions for solving problems.

Literature Review.

Road Network System

There are 2 types of roads in the road network system which are 1) the roads for transport between the city and uptown, such as provincial highways, superhighway, tollway etc. and 2) the roads that access within the city area, such as sub-district roads, local roads, alley, etc. Both are classified by size into 4 different types as follows:

1) The highway is an important route for accessing the cities and transport between regions. It consists of various vehicles, such as trucks, buses, and cars, which travel between the cities. The highway within the city area could be a national highway that runs through the city, or a bypass road provided for long-distance travel, and it takes an average speed of 80km/hour. The right of way (ROW) should not be less than 60 meters and also have parallel routes to separate low and high-speed traffic before getting into the city. The highway or expressway must be controlled the access to city main roads and must not

create a junction within 1.5 kilometers. Therefore, the interchange for highways should be a tunnel or an overpass for crossing in the different directions.

2) The major arterial road is an important route within the city for transport between different areas and connects the highway and collector road with an average speed of 65km/hour to control medium connected route.

3) Collector road within the city help transferring load of traffic from major to minor roads and effect to land use control and regulations in each area. The speed limit for collector road is slightly low, averaging 50km/hour, and there is less control for the connected to other level of road.

4) Local road within the city area is directly entering to existing buildings or land continuously from minor roads. The size of local rood could be about 8-12 meters, which can use an average speed limit of 40km/hour. Local road helps people to travel between other residential areas and connects to other function which need for daily life in the city.
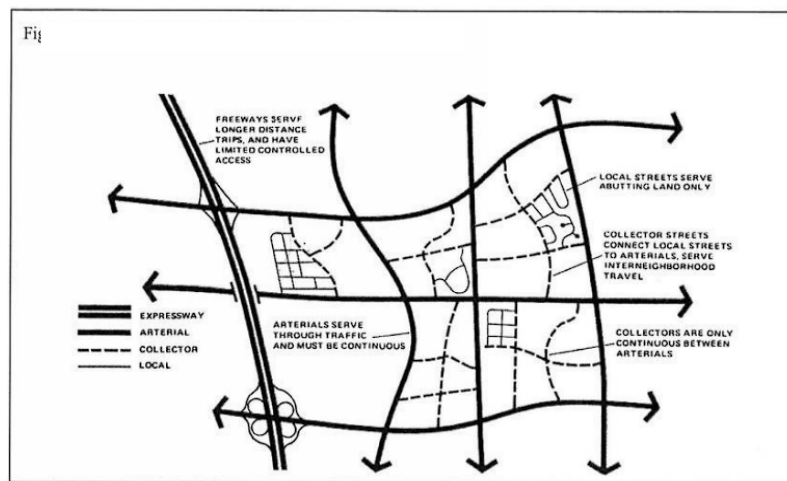
Figure 1.   Road Hierarchy
Source: Arterial Street Access Control Stud, Tri County Regional Planning Commission.

Urban Road Pattern

Urban road pattern can be classified into 3 patterns as follows:

1) Linear Network is suitable for mountainous, valleys, and hills with limited space. There are often straight through communities, and as civilization expands, there will be buildings on both sides of the major arterial road, as well as local street that branch off from it. This pattern of a road tends to have traffic congestion problems during city expansion due to the fact that it must support traffic within the community and traffic from outside that passes through the city to the destination.

2) The Grind Network is made up of vertically intersecting longitudinal and transverse roads. Each road is equally distant and wide. This type of road originated in the Roman period (450 BC) and became widespread again in the United States.

3) Radial Network is a road that separates the city center from the surrounding suburbs, and there is a ring road connecting to the radius road from 1 to 3 steps as a cobweb. The city that has a population up to 20,000 people should have one ring road, and the city with a population of 50,000 should have 2 ring roads. Furthermore, the nature of this pattern does not have to be circular, but it can be arranged according to the suitability of an area and landscape encircling the city, so that traffic and transportation into and out of the city can move quickly.

A. Linear Network   B. Grid Network   C. Radial Network
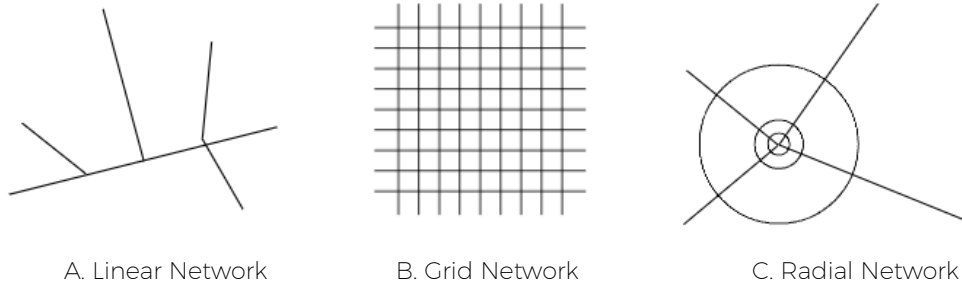
Figure 2. Urban Road Pattern
Source: Assist. Prof. Nirachorn Nokkaew: Deptartment of Civil, Faculty of
Engineering, Rajamangala University of Technology Thanyaburi.

The American Association of State Highway and Transportation Officials (AASHTO) and The Federal Highway Administration (FHWA) have established criteria for both types of secondary roads as shown in the table.

Table 1. Criteria for main minor road and general minor road

Criteria	Main collector street	General collector street
Rural Traffic Volume (Average Manual Daily Traffic: AADT)	300 - 2,600	150 – 1,110
City Traffic Volume (AADT)	5,000 – 15,000	1,100 - 6,300
Lane width (Meters)	3.0 - 3.6	3.0 – 3.3
Pavement width (Meters)	0 – 1.80	0 – 1.20
Distance of intersection (Meters)	90 - 200	90 - 200
Trip Average (Kilometers)	8 - 16	< 11
Traveling Speed (km/hour)	40 - 90	40 - 55
Number of local population (person)	1,500 – 10,000	< 1,500
Number of city population (person)	< 5,000	

Source: Chapter 5 Diagram showing the transport and transportation project.

The Road Elements

Pavement is an important part of roads in urban areas. A road pavement is different from a pedestrian walkway because a road pavement is including the setting of any equipment above or below, such as seating, public parking, traffic signs, billboards, electric poles, telephone booths, post boxes, trees, gas pipes, sewers, water pipes, fire hoses, etc. Therefore, the standard of the pavement width should not be less than 3 meters to completely support the standard of the road elements and basic facilities. The universal design must be applied for disability people their strollers, wheelchairs, elderly, and shopping carts. Furthermore, it should increase the width of a pavement by 1 meter with the condition that plants either use the pavement during the festival or a period in some areas for venders and temporary construction. In addition, the slope of the pavement on the length side should be 3% and the width side should be 2%.
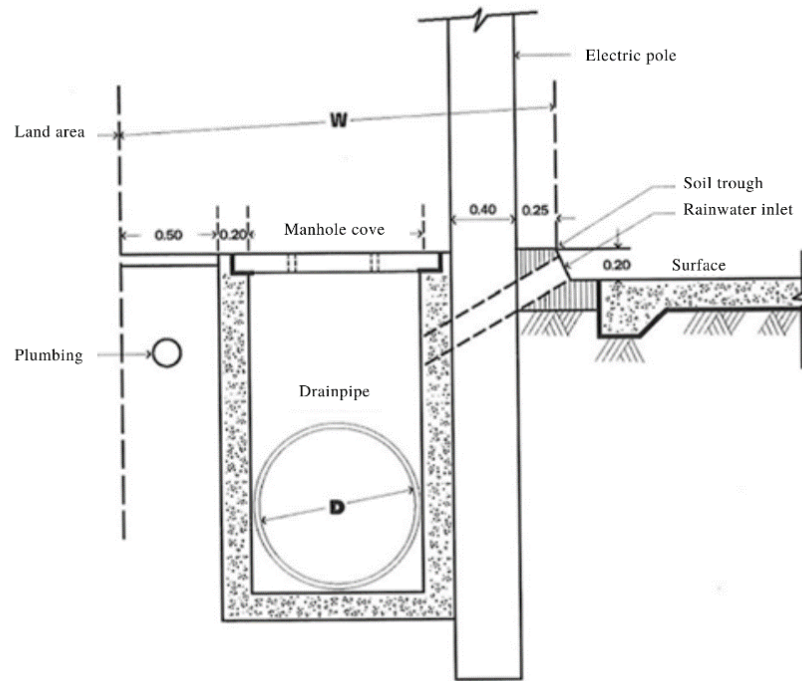
Figure 3. The Standard width of Pavement on The Road
Source: Chapter 5 Diagram showing the transport and transportation project.

Table 2. The optimal dimensions between the drain size and the width of the pavement

Drain Size (Meter)	Width of the Pavement	
	Lowest (Meter)	Suitable Width (Meter)
1.20	2.80	3.00
1.00	2.60	2.80
0.80	2.40	2.60
0.60	2.20	2.40
0.40	2.00	2.20

Source: Chapter 5 Diagram showing the transport and transportation project.

Research Methodology

This research uses a qualitative methodology to review the related theories in terms of road network, history of the area, current problems, and surveys in Ban Non Muang, Khon Kaen to compare the current situation with the road network theories for finding suggestions and solutions. In addition, the researchers have visited the area to observe the problems by using non-participant observation for research purposes.

Findings

The study reflects the change of Ban Non Muang community after Khon Kaen University's establishment in the nearby. As a result, there are various of populations moving into this area to work and study at Khon Kaen University, such as students, university officers, government officers, and other latent population who came to settle down and do businesses. From all previously mentions are causing rapid change in Ban Non Muang, Village No. 12, Sila Subdistrict, from the increasing of dormitories, medium to high density residences, and stores. Accordingly, the rapid change also caused an impact on infrastructure of the area that did not keep up with the growth of Ban Non Muang community as follows:

1) The population's growth, the increase of dormitories, and the change of city in an area

The establishment of Khon Kaen University nearby Ban Non Muang community made various of populations moving into this area. The statistics data shown number of Khon Kaen University students in the past 7 years from 2013 to 2019, the average number of students increasing each year in accordance with the population in Ban Non Muang, Village No. 12. However, comparing with net population of both set of data, we found out that number of the students who live in dorms in Ban Non Muang, Village No. 12 was not included in the number of net populations in Ban Non Muang, Village No. 12.
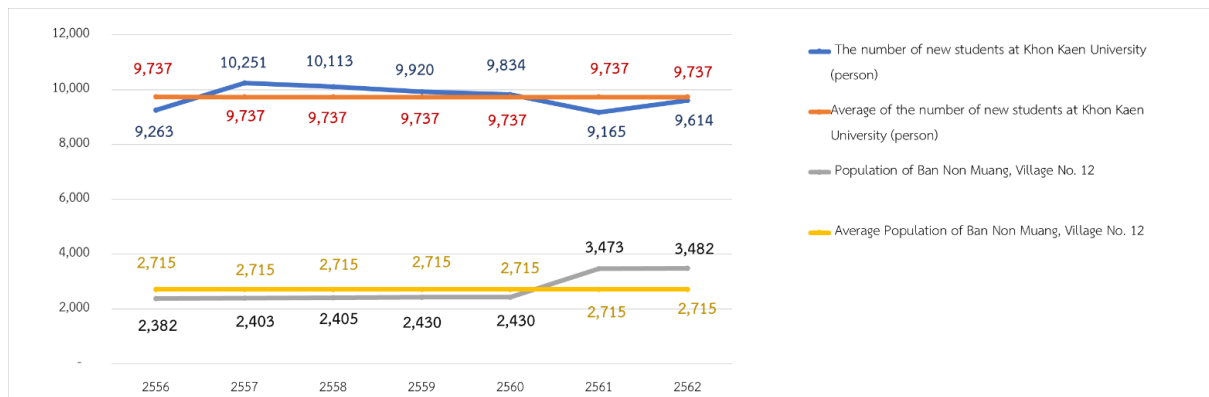
Figure 4. The increasing number of new students compared with the Ban Non Muang, Village No. 12 population from 2013 to 2019
Source: data collection by researchers.

2) Land and building utilization

The increasing and changing of urban areas from 2001–2022 shown that there is rapidly growth within 20 years. Form the figure 5 shows that the density of building, number of constructions, and existing community growth are increasing rapidly, especially in the area nearby Khon Kaen University with number of dormitories, stores, detached houses which change into dormitories, condominiums, apartments, and housing estates that can be seen from Figure 5

A   B.

A. Year 2001   B. Year 2022

Figure 5. The increasing number of dormitories and the urbanization
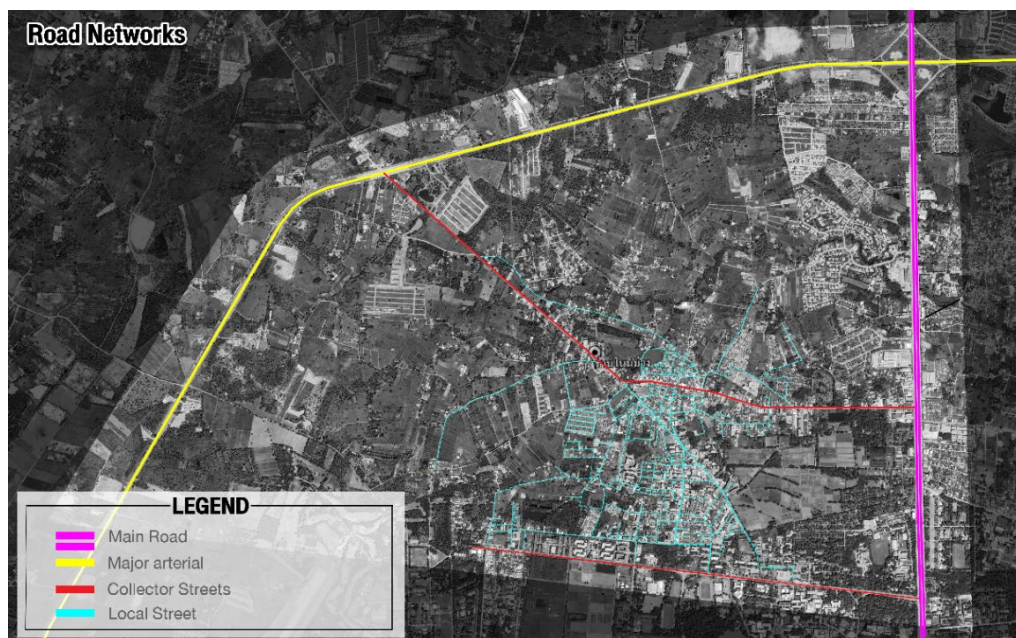Source: data collection by researchers

At the present Ban Non Muang, Village No. 12, located in the south next to Khon Kaen University contained with mixed building uses such as dormitory, commercial, agricultural areas and educational areas. From Figure 6, the stores are located along the road while dormitories and residences are located in other alleys that branch off the main road. The center of the village had changed to this area due to the density of dormitories. There are also agricultural areas belong to local people along the suburb of Ban Non Muang, Village No. 12.
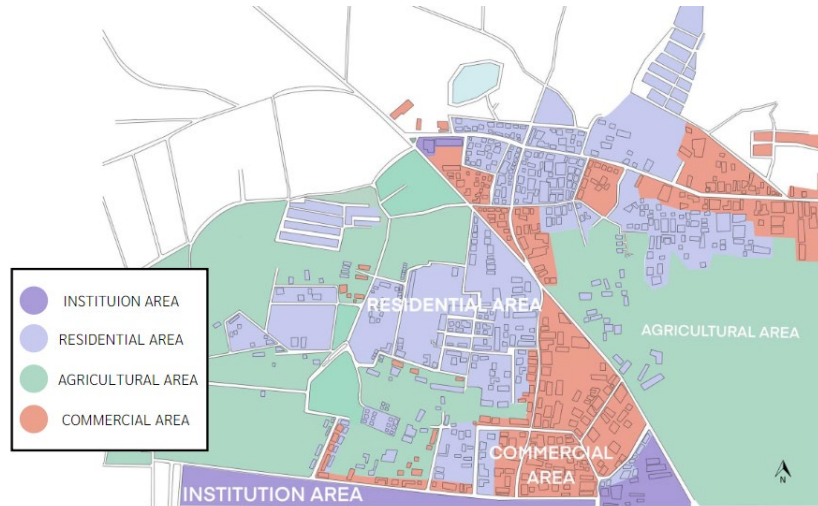
Figure 6.   Land use and Construction.
Source: data collection by researchers.

3) The road network system in Ban Non Muang

The Ban Non Muang Road Network consists of the highway, major arterial roads, collector roads, and local roads. Therefore, Mittraphap is the highway, the major arterial road is the bypass road, the collector road is 3065 road, and other local streets are Yothikarn Khon Kaen Ban Non Muang road, Soi Piman Condo Park, Soi Mor Daeng, Soi Tum Home, Soi Ing Mor, etc.

Figure 7.   Ban Non Muang road network
Source: data collection by researchers.

Most of the local roads in this area are made by concrete. The important local roads in Ban Non Muang Area are Soi Piman Condo Park and Soi Mor Daeng Road, which have Rights of Way (ROW) size of 6 meters and two traffic lanes and the road network system is a linear network, which has a total length of 7.32 kilometers, as above mentioned on Figure 7.

Road Hierarchy incomplete problem of the road network system

As a result, the study found that the road hierarchy in the Ban Non Muang area is unable to support the growth of the population. On the other hand, existing roads are local roads level such as Soi Piman Condo Park and Soi Mor Daeng Road, which have a maximum road size of only 3 meters per traffic lane and the width of the pavement is only 0.80–1.20 meters. Thus, that is unable to support the use of the population in that area because of the traffic jam, damaged road, and the fact that the water does not drain fast enough during the rainy season because there is no drainage area or sewer under the road. Lastly, the road hierarchy that should be added is an important local street with a road size up to 3.6 - 4 meters and a pavement width up to 1.5 –2.0 meters.

4) Other problems of the local road in Ban Non Muang area

The effects of old road network which does not keep up with the growth of Ban Non Muang community to people daily life could be described as follows.

1) The road surface condition is the biggest problem that people who passing by encountered the most. The road surface condition in Ban Non Muang, Village No. 12, was extensively damaged and deteriorated, not only damaged holes that water does not drain but also lacking public service in the maintenance and lacking participation from local people.

Figure 8.   The road surface condition
Source: data collection by researchers

2) The temporary flooded problem, which is an ongoing problem caused by the unappropriated drainage under the small roads. Some areas in Ban Non Muang Village, Village No. 12 had no sewers, and the waterlogging and clogged garbage on the road. Thus, temporary flooded problem causing road accidents on slippery roads and bad vision while traveling in the area. As mentioned above, the problem of lacking sewers has the origin of problem from road network structure that is not reach standard for good quality of life. Besides, there is not enough pavement space to cover drain or sewer underneath it.

Figure 9. The problem of waterlogging and garbage clogging into the sewers
Source: data collected by researchers/photo taken by researchers.

Figure 10. The location of traffic surface condition and flooding area
Source: data collection by researchers.

3) The garbage problem is another problem encountered in the area due to the roads size are unappropriated to access the area by garbage truck, unwell waste management which shown by the time of their service are not on time or not follow its schedule. The small local streets or Soi causing the problem of insufficient garbage collection, the waste and garbage are thrown on side of the road and that affects to flooding problems and contaminate the scenery because the waste clogs the sewers.

Figure 11. The waste clogged the sewer and the insufficient garbage management
Source: data collection by researchers.

Conclusion

The obvious evident of short-term maintenance is the damaged of the roads in the area. The road environment is not conducive to use safely. In addition, the lack of local community awareness on sanitation in Ban Non Muang as the results from observation. People thrown the trash or waste on the sidewalk as their inaccessibility of garbage trucks. As well as, the temporary flooding because of sewer area is small, causing the problem of clogged garbage and flooding problems. Assuming that the problem of latent population can be dealt with, the problem could be solved completely.

The establishment of Khon Kaen University affect to rapid urbanization of the nearby areas. Rapid urbanization without planning caused a lot of problems which impact on the immigration of people from different areas who come to do various activities within the area for their specific purposes, such as education, working and business. Furthermore, the latent population affects management and control for public services because from the statistical data shows that the number of students who live in dorm in Ban Non Muang is not included into net population of village, so it is impossible to calculate and provide appropriated service overall. The expansion of the city has clump formation characteristics, and it happens in large numbers according to the population, causing problems that are linked to access to the area. It was found that there were incomplete for the road hierarchy and could not give the full potential service to people. As a result, there are new local streets and alleys access to new residence or dormitory, meanwhile neither the population arrangement nor dealing with people failing to control the population, the government is unable to allocate a sufficient budget for the number of people in the area.

Recommendation

According to this research results and analysis, the researchers suggest that federal government should issue a policy regarding the relocation of the civil registration that requires when people move into new residential area, so the policy maker will be able to allocate a sufficient budget for the actual number of people in the area to develop and improve the problem mentioned above.

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New Trends for The Development of Thailand Tourism Industry under the Post-Pandemic Era

Chuanchen Bi*

College of Graduate Study in Management
Khon Kaen University
Khon Kaen, Thailand
chuabi@kku.ac.th

Xiaolei Wang

College of Graduate Study in Management
Khon Kaen University
Khon Kaen, Thailand
wxiaolei115@gmail.com

*Corresponding author

Abstract

The Kingdom of Thailand is one of the most famous tourist destinations in the world. Thailand's tourism industry has continued to innovate and grow in the rapid development of recent decades, and gradually occupies an important position in the international tourism market. However, the Covid-19 pandemic has seriously hit the tourism industry in Thailand. As the hotel and catering industry has been closed, and the service personnel of tourism-related industries have been largely unemployed, which has had a fatal blow to Thailand's tourism industry. With the relaxation of the epidemic control by the Thai government, the Thai tourism industry urgently needs to restore its former glory in order to achieve the purpose of boosting the economy. For this purpose, this article aims to find the opportunities and directions of the Thai tourism industry in the post-pandemic period, to seek the opportunities for the development of Thai tourism industry.

Keywords: New trends, post pandemic era, tourism industry, Thailand

Introduction

Thailand has been one of the top ten most popular tourist destinations in the world and a hub of strong tourism growth in Southeast Asia before the 2019 COVID-19 epidemic broke out.

The Tourist Competitiveness Report 2019 published on WEF revealed that Thailand ranks 31st on the worldwide tourism competitiveness list with 4.5 points, three places higher than before. From the perspective of ASEAN nations, Thailand is second only to Singapore in terms of tourist competitiveness, but Singapore ranks 17th in the world. Moreover, of the 14 indicators adopted to determine national tourism competitiveness rankings, Thailand's top indexes are the natural resources index (10th), the tourist service infrastructure index (14th), and the tourism price competition index (25th). Indicators requiring additional attention include environmental sustainability (130th), safety (111th), and health and hygiene (88th). In addition, four variables, including natural resources, pricing competitiveness, infrastructure for air travel, and environmental sustainability, are falling. Tourism provides around 20% of Thailand's gross domestic product (GDP) and employs approximately 4.4 million people, or 11.7% of the labor force. The majority of Thailand's tourism revenue comes from international visitors. The preceding statistics demonstrate the significance of tourism in Thailand prior to the COVID-19 pandemic.

Literature Review

Tourism in Thailand is vital to people's well-being. Thai residents and long-term foreigners living in Thailand should take an active role in tourism projects because of the positive effects they can have on employment, public infrastructure construction (China-Thailand high-speed rail project), logistics industry improvement (highly in line with the

belt and road initiative advocated by China), and the early promotion of Thailand 4.0, Digital Thailand, and other policies.

In 2020, Xiao Huafang said that Thailand was referred to as a "smiling country," and Thailand's worldwide standing has improved in recent years. Two straight years, U.S. News & World Report recognized Thailand as the "most enterprising country in the world." Three consecutive years, the Bloomberg Global Misery Index classified Thailand as "the happiest economy in the world." Thailand has a free-market economic policy and an export-driven economy that is primarily dependent on China, the United States, and Japan. In the past few years, Thai Prime Minister Prayut has proposed economic reform, promoted Thailand 4.0 Policy and Digital Thailand, developed a new economic model, made Thailand a regional investment hub in the ASEAN region through an open economic model and international financial system, and transformed Thailand into a developed nation within five years. Thailand 4.0 Policy aims for a more equitable and diversified method of economic growth. The quick growth of tourism can increase tax revenue, allowing the government to further expand the country's infrastructure, speed up the implementation of the "Thailand 4.0" and "Eastern Economic Corridor" programs.

In 2019, Xu Qiuyue demonstrated that Thailand is a fantastic tourist destination thanks to the country's abundance of natural beauty and cultural attractions. The country's tourist industry had its start in the 1960s, and by the mid-1980s,it had become the sector with the highest foreign exchange earnings. Since the 1990s, Thailand has seen a boom in its tourism industry, which now accounts for 7.1% of the country's GDP on average and generates 70% of the national income across the country (except Bangkok). Providing income for most low-income groups and lowering the Gini index, tourism has grown to become Thailand's greatest source of foreign exchange income and a crucial pillar of the country's economy. Many early tourist strategies in Thailand prioritized economic, cultural, and environmental concerns in the pursuit of economic development; assisting the poor and working to reduce poverty are, at best, secondary objectives. In recent years, however, the Thai government has made significant efforts to encourage the integrated growth of the country's tourism industry and domestic social economy. The goals of Thailand's Ninth Five-Year Plan for National Economic and Social Development are to increase employment, decrease employment pressure, address people's immediate living requirements, strengthen social cohesion, and keep Thailand's tourism industry competitive internationally. The plan gives instructions for the entire economy based on the growth of tourism in particular. The Ministry of Tourism and Sports of Thailand has developed a tourism development strategy (2005-2008), which includes increasing the income of the poor and improving income distribution, focusing on community development, and strengthening ties between tourism and local residents to improve income distribution.

SWOT analysis:

Self-analysis (SWOT analysis) examines the advantages, disadvantages, opportunities, and threats that affect businesses or individuals. The outcomes of SWOT analysis can be fully turned into action plans.

S (strengths) is an advantage, W (weaknesses) is a disadvantage, O (opportunities) is an opportunity, and T (threats) is a threat. An enterprise's strategy, as envisioned by the whole framework of enterprise competitive strategy, should be a natural synthesis of its capabilities (i.e., its strengths and limitations as an organization) and its opportunities (i.e., environmental opportunities and threats).

Analysis of the strategic environment is crucial in the process of strategic management. An organization has little chance of developing a practical plan if it is based on erroneous knowledge.

SWOT analysis. The strengths and weaknesses of a company can be rapidly and correctly identified by the SWOT analysis. The ultimate purpose of analysis is to better align an organization's internal state with its external surroundings so that a more well-informed plan may be developed.

S Enterprise can get its advantages from products, services, sales channels, brand effect, and other aspects;

W The disadvantage of enterprise stems from a lack of internal resources, limited managerial skills, and immature technology;

O External opportunities confronting businesses, such as prospective rising technology, inventive concepts, advantageous legislation and regulations, etc.

T Increasing raw material costs, shifting demographics, a contracting macro economy, and other external factors that pose a risk to businesses;

Whereas an organization's internal strengths and weaknesses can be improved upon, external opportunities and dangers are based on variables beyond its control.

Common misunderstandings of SWOT analysis

The problem is being described too broadly; instead, we should focus on providing a precise definition.

The description of SWOT analysis sometimes lays particular stress on subjective opinions and ignores the factual basis. Therefore, we need to utilize objective facts and information from reputable sources to establish benefits and drawbacks through a variety of benchmarks and comparisons.

As a static analysis method, SWOT is limited by timeliness to a great extent, so it is necessary to pay attention to industry trends and update SWOT analysis results in time when using SWOT Due to the significant timing limitations of SWOT as a static analysis method, it is important to keep abreast of market trends and update SWOT analysis findings on a regular basis.

SO strategy

It can maximize its own advantages, make the most of external possibilities and deploy offensive tactics.

WO strategy

It can offset a deficit by seizing external possibilities and adopting a reverse or novel strategy.

ST strategy

It shall utilize its advantages to confront problems, take the initiative to employ its advantages against external dangers, and employ active defensive methods.

WT strategy

The danger it faces is its own detriment. In light of the fact that the bad things come in succession, it shall embrace a more conservative defense strategy while compensating for its deficiencies and seeking solutions to external threats.

Research method

This study primarily employs the second-hand data collection method and the participatory observation method in qualitative research to examine the current state of Thai tourism after the epidemic, and the SWOT analysis to determine the benefits and drawbacks of Thai tourism in the major global tourism markets. These are the specific research methods:

The primary goal of this paper's research is to examine the trend in which Thai tourism has developed over the past two decades by consulting a substantial amount of Thai tourism research documents and statistical data from significant research institutions during that time, obtain first-hand accounts from Thai citizens regarding the effects of the epidemic on the country's tourism industry, then identify a new direction for Thai tourism development.

Participatory observation method. It is required to know the latest information and feedback of Thai tourism by visit the research location in person to understand the current situation of Thai tourism after the epidemic.

SWOT analysis. It is primarily utilized to comprehend the extent to which Thailand's tourist business is affected by the worldwide open tourism market in the post-epidemic period.

Research innovation

This paper aims to examine, from a novel angle, how the tourism industry in Thailand has fundamentally changed in the wake of the epidemic, and whether a novel tourism concept exists, so as to learn from the existing tourism maturity research results

in Thailand and identify a new tourism breakthrough point. Future study is anticipated to address and rectify the limitations of this paper.

General situation of study area

Basic overview of Pattaya area

Pattaya is situated in Banglamung District, Chonburi Province, in the eastern region of Thailand, 150 kilometers from Bangkok, with apparent geographical benefits. Pattaya has a total land area of 53.44 square kilometers, a total water area of 154.66 square kilometers, a Grand Island size of 4.07 square kilometers, a total beach length of 15 kilometers, and a Zhongtian Beach of 6 kilometers in length. Numerous new tourist flats ideal for long-term travellers in Thailand are being constructed in this neighborhood.

Pattaya can be divided into four parts: North Pattaya, Central Pattaya, South Pattaya, Zhongtian Beach.

Along Beach Road in the north of Pattaya, there are numerous five-star hotels and large shopping malls, and the diverse business offerings along the beach have been extended to Bar Street, which is Pattaya's most popular tourist destination and the place where tourists from all over the world congregate. Consequently, the bar street in the south of Pattaya is the city's richest and vibrant neighborhood.

Figure 1. Study area

COVID-19 's influence on Pattaya tourism and the latest situation of Pattaya tourism

COVID-19 pandemic's influence on Pattaya tourism has the following three aspects.

1. Tourism is an industry that is susceptible to external factors, and their effects on tourism in Pattaya include the pressure of travel agency withdrawal, the pressure of housing property rent, the pressure of salary payment, and the enormous impact on the employment and labor market of local tourism professionals.

2. Rebuilding the local tourism ecosystem in the wake of the COVID-19 pandemic is a massive undertaking that will require substantial investment from both the government and influential economic actors. Concurrently, the appropriate government agencies should introduce and support new tourism policies to promote the transformation of the development mode of tourism and to set a solid foundation for the sector's long-term success.

3. The most nuanced effect of the COVID-19 pandemic is its effect on international travel. Tourist interest will not return to pre-pandemic levels until the global economy has fully recovered from the effects of the pandemic. Therefore, government agencies should implement programs of support to help struggling businesses in the tourism industry.

From what we can tell, the current state of Pattaya's tourism industry has been greatly improved by the Thai government's decision to end its ban on visitors due to the COVID-19 pandemic and reinstate its pre-epidemic entry policy on October 1, 2022. This has allowed the tourism industry to retain the vast majority of its workforce. Although the number of visitors from Europe and America has increased, it will take some time for the number to return to what it was prior to the pandemic. At the moment, American and European backpackers make up the majority of visitors to Thailand. Team visitors are minuscule, but China, Malaysia, India, and Russia are Thailand's most significant tourist markets, with Chinese visitors making up the majority of these. 11 million Chinese visitors came to Thailand in 2019 (accounting for 27.6% of the total number of foreign tourists in Thailand). China occupies significant market share in Thailand's tourism industry, and this monopoly cannot be challenged. Thailand's tourism sector is significantly impacted by China's tough regulations for controlling epidemics. Given that China fully liberalizes the epidemic control, some Thai specialists anticipate that the number of foreign tourists in Thailand will revert to the amount before the epidemic in 2024. Thai tourism industry professionals are therefore extremely concerned about China's pandemic policy.

SWOT analysis

S: Thailand's tourism advantages

S1: Thailand's comprehensive strength advantage

Thailand is ranked first among the major ASEAN members and 28th overall in the IMD's 2021 World Competitiveness Report. Figure 1 demonstrates that Thailand's tourist sector is second only to Singapore in the ASEAN region as a whole, but no other nation in Southeast Asia can match Thailand's special advantages in terms of tourism project development. Thailand's Pattaya is one of the tourist locations where there are more foreign visitors than Thai ones. In the decades since it began to develop, Pattaya, world-renowned as a travel destination, has become more and more popular with tourists.

Figure 2.   IMD's 2021 World Competitiveness Report

S2: The characteristics and uniqueness of Thai tourism

Thailand is rich in tourism-related goods and benefits from abundant natural resources, including its distinctive long coconut beach, fatty seafood market, unique bar culture, Thai massage, beauty services, and Thai cultural performances, all of which are the main draws for travelers from around the world to Pattaya, Thailand.

S3: Thailand's Unique Culture

Thailand's distinctive culture, which includes old Thai traditional shows, Thai costumes, Thai boxing, Thai cuisine, and its traditional Buddhist culture, draws tourists from outside the country in addition to its tropical traditions and breathtaking surroundings. The majority of Thais are devoted Buddhists, and Buddhism's influence is seen in the friendliness and tolerance of the Thai people. Thailand has a long history of Buddhism that has an enormous impact on every facet of Thai culture. The smiles of the Thai people, together with the country's cultural and aesthetic structures and namaste are what draw tourists from elsewhere.

W: Disadvantages of Thai Tourism

W1: While Thailand's natural tropical scenery is a major draw for travelers, it also suffers greatly from the effects of tourism. However, as more and more people visit Thailand from all over the world, the country's natural ecology is suffering. Noise, water, air, and traffic pollution are just some examples of environmental contamination that cannot be remedied quickly. But COVID-19 pandemic is a double-edged sword, demonstrating that he tourism business in Thailand has taken a major damage due of the COVID-19 outbreak, yet the country has been able to exploit this crisis to improve its natural landscape.

W2 Customs Industry in Thailand

The Thai customs sector is steeped in tradition. Thailand has the largest customs market in all of Asia. This is a known fact despite the fact that it is against the law in Thailand.

W3 Rising Prices in Thailand's Tourist Destinations

The rapid growth of tourism in Thailand has led to a rise in prices in the country's most popular tourist destinations, such as Pattaya. Although the cost of living in Thailand is low compared to the rest of the globe, some visitors may be put off by the rapid price increases they'll experience at popular attractions.

O Opportunities for tourism in Thailand

O1 The world tourism market is recovering

As COVID-19 is gradually and globally liberalized, the desire of people everywhere to travel abroad over the previous three years will be totally released in 2022, and tourism will see exponential expansion around the world. Tourists from all over the world, including the open Europe, the Americas, Southeast Asia, India, and other countries, will choose Thailand as one of their top destinations. Meanwhile, travel restrictions within China are being gradually eased. The tourism industry in Thailand is predicted to recover to pre-epidemic levels by the middle and late of 2023.

O2 Thailand's Location as a Transport Hub in Southeast Asia

With the Southeast Asia's robust economic recovery, Thailand has emerged as a key player as a regional transportation hub. Economically, neighboring countries like Laos, Cambodia, Vietnam, and Myanmar are also on the upswing. This is the frosting on the cake for Thailand, an old economic power in Southeast Asia, since it will diversify the visitors who visit Thailand for tourism and vacation, increase the number of business meetings and business vacation travelers, and raise the tourism consumption level.

T Threats to Thailand's tourism industry

T1 Threats to the political environment

Since the 2006 military coup, Thailand's political climate has been volatile. Although people who have lived in Thailand and long-term foreign residents may feel minimal effect from the coup, it is a ticking time bomb for the country's tourism industry.

T2 pandemic

Even though the majority of countries have declared the COVID-19 epidemic over, the virus has not disappeared entirely from human society. Thai tourism has always been vulnerable to the worldwide flu pandemic. The 2002–2003 SARS pandemic and the 2009 H1N1 pandemic both contributed to a decrease in tourist numbers. The fact that this viral strain shares genetic material with swine flu, bird flu, and human flu has a major negative effect on tourism in Thailand.

SWOT analysis results of tourism development in Thailand in post-epidemic era

S + O Advantages and Opportunities of Thailand Tourism

On the basis of years of mature experience, Thailand's tourism industry should make the most of its advantages, such as its unique geographic location and natural resources, the government's long-standing support for tourism, and the benefits of people participating in the industry, to capitalize on people's strong desire for travel following the global epidemic and upgrade the tourism industry abandoned during the epidemic. After the outbreak, we must firmly embrace the tourism market's dividend.

1 Relaxation of visas for entry into Thailand (such as free landing visa and free tourist visa within a certain period)

2 The government gives preferential treatment to enterprises and individuals engaged in tourism industry

W + O Disadvantages and Opportunities of Tourism in Thailand

Thailand's tourist business has grown over the past few decades thanks to the development of its natural tourism attractions. It is difficult to attract repeat visitors if there is a bottleneck in the development of tourism's natural resources alone since it costs a lot of money to maintain and innovate. The integration of Thai cultural tourism projects with Thailand's distinctive culture must therefore be strongly promoted.

1. Develop and promote the natural scenery tourism in northern Thailand to understand that Thailand is the reputation of "granary" in Southeast Asia

2.Seize the opportunity of world tourism recovery to broaden new sources of tourists

S + T strategy

Thailand should fully use the benefits of being a Buddhist nation and let the "yellow robe country" and "smiling country" provide visitors a sense of security and comfort to lessen the elements that endanger tourism.

W + T strategy

The government needs to encourage the growth of tourist diversification since Thailand's tourism business is threatened by its own drawbacks, such as the industry's simplification and problematic customs. More promotion of Thai traditional culture is required if Thai tourism is to grow sustainably.

Combining this with a SWOT analysis reveals Thailand's tourist sector has distinct advantages over that of other Southeast Asian nations. Other Southeast Asian nations struggle to match Thailand's natural resources and cultural tourism advantages. One of the things that draws travelers from all over the world to Thailand is the country's openness and inclusivity. Even though tourism is one of Thailand's main industries, there are still plenty of issues that need to be fixed. The Thai government still has work to do in terms of infrastructure development, early political situation stabilization, upkeep and improvement of tourism services, and growth of the sector's originality and creativity. At the same time, the government needs to strengthen environmental protection to promote the sustainability of tourism.

Research Conclusion

This paper takes the tourism industry in Thailand as its study target and the Pattaya region as an example to conduct a SWOT analysis of the sector and derive the following conclusions:

Thailand is a cornerstone nation in Southeast Asia and the leading destination for foreign tourists and business investigations in the region. It occupies a vital position among ASEAN member states, and no other nation can take its place. Thailand's economic standing is unparalleled in Southeast Asia and among ASEAN member states. The rapid growth of Thailand's tourist business over the past few decades has been spurred by economic growth and the government's strong support for the industry, which is favourable to the industry's macroeconomic recovery. Opportunities continue to outweigh challenges, and Thai tourist industry institutions must take this chance to rebuild tourism. Tourism resource development in Thailand still has a lot of development space and untapped potential. However, Thailand's tourism business has numerous underlying difficulties, such as political instability, an excessive expansion of customs and industries, and drug problems, which will negatively impact Thailand's international tourism reputation.

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Xu Qiuyue Practical Case of Tourism Poverty Alleviation in Thailand

Xiao Huafang Analysis of Economic and Trade Development between China and Thailand

Panel 11: Tackling Economic Challenges with Digital Innovation

Rural Taobao: An E-commerce Channel for the Precision Poverty Alleviation in China

Chuanchen Bi*
College of Graduate Study in Management
Khon Kaen University
Khon Kaen, Thailand
chuabi@kku.ac.th

Wei Yang

College of Local Administration
Khon Kaen University, Khon Kaen, Thailand
weiya@kku.ac.th

*Corresponding author

Abstract

Poverty reduction still being a major issue for the developing countries to focus on and whose success, or otherwise, will directly affect upon the achievement of development of the nation. China has made significant advances in poverty reduction since the launch of its reform and 'open door policy' in 1978, however, the poverty issue is still obviously present, especially the gap between the rich and the poor. The Central government of China launched a new strategic plan for poverty alleviation called 'precision poverty alleviation' in 2015, it is aimed at taking targeted measures for poverty alleviation. How to help the poor lives in the rural region to share the benefit of precision poverty alleviation under the digital era been considered by the government and academics. This paper mainly focusses on rural Taobao, an e-commerce channel for precision poverty alleviation. Specifically, this paper is divided into three themes based on the focus topic. The first theme overviews poverty alleviation in China, the processing period and the gap between the previous strategy and the poverty alleviation situation. The second theme describes the importance of rural Taobao for precision poverty alleviation, explores the development models and discover the role for the related stakeholders. The last theme offers academic discussion and future predictions related to this Rural Taobao, as an E-commerce channel for precision poverty alleviation in China and other developing countries.

Keywords: Rural Taobao, E-commerce, Precision Poverty Alleviation

Introduction

Along the human development history, poverty issue has been the most serious and remarkable in the world, whether it's been solved will directly impact the development of human beings. In the 1940s, UN has announced poverty alleviation as the most serious issue to be concern for the coming new century. However, almost 70 years passed, the poverty issue maintain the serious status in the world. According to the UN report, over 1.3 billion populations still under the UN poverty line, which is average spending lower than1.5$ per day, almost 18 millions people die because of the poverty. China, as the biggest developing country, the poverty issue also serious.

Rural products which produced by the rural people, not limit to the rural fresh vegetables, meats, fruits, also the rural handicrafts, been chased by the urban citizens in China. How to apply the e-commerce to help the rural products sell to the urban area, to let the rural citizen get rid of poor, and how to let the rural citizen purchase the urban modern products been focused on the government officers and academic scholars.

With the development of the internet technology, the internet accessibility been dramality increased, even in the rural area, over 59% of rural citizens able to access the internet. E-commerce, born with the internet technology, been focused by the Chinese government. In 2015, by the first national government announcement, indicated 10 major methods for the poverty alleviation, e-commerce is one of them.

China Poverty Situation

China has the one of the largest territories in the world, due to the difference cultural, social development process in the different region, China has the large number of the poverty population in the world. In order to achieve the MDG from the UN, China government use different policy to support the poverty alleviation since 1970s.(Li Zhou 2004, huanfeng 2017)

1) 1978—1985. This period was believed as the first period for Chinese government to solve the poverty issue. 1982, Chinese central government set one region which consisted of two states named Gansu province and Ningxia Hui Autonomous Region as the pilot test. This pilot test achieve the great outcome, the poor population deducted from 250 million to 125 million.

2) 1986-1993. After the pilot test, China central government set one special team 'Economic development team for the poverty region' to lead the national poverty alleviation. This team offer several policy which including: free tax, offering free education, offering technical support, etc. for the poor population for the poverty alleviation. During this period, the poor population deducted from 125 million to 80 million in whole China.

3) 1994-2000. In this period, China central government set 592 national poverty district, which plan to solve the poverty issue before 2000. During this period, the poor population deducted to 30 million.

4) 2001-2012. This the most successful period for the poverty alleviation in China. After China become the member of World Trade Organization (WTO), which contribute the poor region along the coastal line.

5) 2013 till now. The president Xi, announce the new policy to help Chinese poor population get rid of poverty situation in 2013. The new policy named 'precision poverty alleviation'. The main purpose of 'precision poverty alleviation' is to use the strength of each industry to help the poor region to achieve the UN MDG.

E-commerce as a Tool

Generally, e-commerce refers to the transaction activities of goods and services carried out by organizations, companies or individuals using the Internet as the media. However, among the academic scholars has not formed a unified opinion on the specific internal definition of e-commerce. Different scholars or institutions have different definitions of e-commerce. American scholar Watson(Watson, Berthon et al. 2013) believes that "e-commerce is the transmission process of information flow, product flow, service flow and capital flow through computer network, telephone or other electronic means". For the e commerce, this process has many advantages, such as reducing the cost of sellers and improving the efficiency of commodity circulation. Therefore, e-commerce is not only a scientific and technological concept, but also a concept of commodity circulation. Compared with the brief overview of Watson The United Nations Department of Economic and Social Affairs (Laquian, Development: An International Perspective et al. 2011) also explained the main content of e-commerce, which is considered three parts, Extranet, and Internet.

E-commerce and precision poverty alleviation

Under the background of the China's precision poverty alleviation policy, in order to implement the requirements of precision poverty alleviation, some scholars(zhu 2016) and local governments have proposed the concept of e-commerce for precision poverty alleviation. E-commerce for precision poverty alleviation is actually the specific application of the concept of precision poverty alleviation in the field of e-commerce business. It is to use scientific and effective procedures and methods to accurately identify the target objects of e-commerce precision poverty alleviation according to the poverty alleviation and development conditions of different poverty-stricken areas and the conditions of different poors. Precise assistance and precise management to achieve e-commerce precision poverty alleviation for 'poverty alleviation must reach those who truly need it, and poverty must be fully eliminated'.

As a specific application of precision poverty alleviation within the field of e-commerce, e-commerce precision poverty alleviation has its own unique methods and

contents. Specifically: firstly, through certain procedures and methods, determine whether precision poverty alleviation can be carried out through the development of e-commerce, what form of e-commerce projects can be developed to carry out for the precision poverty alleviation, and who is the target object of e-commerce' precision poverty alleviation; secondly, on the basis of effective poverty identification, through the analysis of the target objects of e-commerce precision poverty alleviation, put forward targeted e-commerce assistance measures, including "what to support?", "who need support?", "how to support?"; lastly, e-commerce's precision poverty alleviation should also carry out precise management of all aspects of poverty alleviation to ensure the effectiveness and sustainability of e-commerce poverty alleviation identification, and truly achieve the goals of "Poverty alleviation must reach those who truly need it, and poverty must be fully eliminated". Therefore, the understanding of e-commerce's precision poverty alleviation should be carried out from the following aspects:

a. Firstly, e-commerce precision poverty alleviation aims to achieve "poverty alleviation must reach those who truly need it, and poverty must be fully eliminated ". Through a series of methods and measures, e-commerce precision poverty alleviation focuses on the areas where precision poverty alleviation can really be carried out by applying the projects according to local conditions and to helps those "people who could be helped". , in order to increase the benefits and development opportunities of the poor, and improve the ability of the poor to get rid of poverty.

b. Secondly, e-commerce precision poverty alleviation is a new attempt for the poverty alleviation. As a development-oriented poverty alleviation requires certain conditions to support. Not all places in China are suitable for development-oriented poverty alleviation, and not all poor people are suitable or able to participate in development-oriented poverty alleviation. Therefore, it is necessary to effectively distinguish the target objects of poverty alleviation. E-commerce poverty alleviation emphasizes "differential treatments", "adapting measures to local conditions", and "implementing policies according to poor people", and adopting different e-commerce precision poverty alleviation and development countermeasures and assistance measures for different regions and different poor groups; Effective procedures and methods are used to accurately identify the poors. Therefore, e-commerce precision poverty alleviation can effectively solve the problem of "inaccurate poor", moreover, it could improve the orientation and pertinence of poverty alleviation, to improve the effectiveness of poverty alleviation in the real practice.

c. Thirdly, e-commerce precision poverty alleviation emphasizes the sustainable development of it. The realization of poverty alleviation by the poor through the development of e-commerce depends on the benefits brought by local e-commerce. E-commerce for the precision poverty alleviation will achieve nothing, unless it focusses for the sustainable development. Therefore, e-commerce precision poverty alleviation must be based on the sustainable development and the three dimensions within this concept. When analyzing the feasibility of e-commerce poverty alleviation projects in poverty-stricken areas, market-oriented e-commerce projects should be developed with market competitiveness; the impact by using the e-commerce towards local should be minimized the negative impact towards local Cultural and ecological, so the local poors could keep the economic benefit sustained.

d. Fourthly, the e-commerce precision poverty alleviation could also share the economic benefit towards the non-poor. Although e-commerce precision poverty alleviation emphasizes precise positioning of the poor, and e-commerce precision poverty alleviation resources are tilted towards the poor, "whoever is poor should be helped" and "whoever is very poor should be paid double attention", but e-commerce poverty alleviation is not all about philanthropy. The realization of the goal for the e-commerce precision poverty alleviation requires the joint efforts of the whole society. E-commerce precision poverty alleviation should also share the benefits towards the non-poor, and non-poor people can also obtain corresponding benefits by participating in e-commerce.

The role of e-commerce for precision poverty alleviation

In China's poverty alleviation practice, e-commerce precision poverty alleviation is a new topic. In the practice and research of e-commerce precision poverty alleviation, both scholars and government should focus on the development of e-commerce industry and the general economic growth among the poverty-stricken areas. Moreover, how to let the poor gain more profit to get rid of the poverty, must be put in the core of the matters to be concerns.

To be clear, e-commerce for precision poverty alleviation does not mean development the e-commerce industry among the poor areas. The goal for the precision poverty alleviation is to let the poor get rid of the poverty, and maintain the sustainable development. So, when dealing with the role of e-commerce for the precision poverty alleviation, the core concerns should be how to let the poor share the benefits and gain more opportunities from the e-commerce as the channel.

Rural Taobao as the channel

Rural Taobao was proposed by Alibaba, mainly through in-depth cooperation with local governments, establishing a two-level service model which are district and village levels, taking advantage of e-commerce's cross-regional and information-rich advantages, trying to solve the bottlenecks of logistics issues, and talents issues. It realizes the two-way circulation function of "online goods to the countryside" and "agricultural products entering the city". Accelerate the integration of urban and rural areas, attract more talents to go back to their hometown to start businesses, and accumulate foundations for realizing a modern and intelligent "smart countryside".

The Rural Taobao development

In order to serve farmers, innovate the agriculture industry, and make a better development in the rural areas, Alibaba Group tried to cooperate with local governments to launch the "Thousand Districts and Ten Thousand Villages Plan" under the rural Taobao project. It plans to invest 10 billion yuan in three to five years to build 1,000 district-level operation centers and 100,000 village-level service stations. It covers at least 1/3 of the counties and 1/6 of the rural areas in the country.

The rural Taobao was officially launched in October 2014. On December 22, 2015, the number of village-level service stations exceeded 10,000, and in March 2016, the rural Taobao project operated in 27 provinces. By the end of 2016, the number of village-level service stations had reached 24,000. Rural Taobao quickly spread across the country, importantly, the cooperation between the local government and Alibaba group has played a great role in promoting the development of rural Taobao.

The supports to ensure the development of rural Taobao

Among the development of rural Taobao development, there are at least three necessary conditions to provide the support to ensure the smooth development of rural Taobao, which are the government support, company strategic support, and basic demands from the society.

Support from the government

Alibaba's rural Taobao project has pointed out from the very beginning that it needs the deep cooperation with the government, and it is inseparable from the support and help of the local government in the process of promotion. Beyond the Alibaba's profit goals, the government and Alibaba share common goals, and the social responsibilities for achieving social development. Rural Taobao project signs a cooperation agreement with the local government before launching activities in each district in China. With the government's approval and policy support, which will contribute towards the farmer's psychology credit level and increase the farmer's trust threshold for the enterprise. The government mainly provides policy support, venue support, personnel support and financial support for the development of rural Taobao.

Government policy support to provide development environment

The rural Taobao project has been highly recognized by local governments and provided some conveniences for its development. The policy support in each region will

vary according to the region's own conditions, such as the local government five-year development plan, economic development plan, all involved with the rural Taobao development.

Financial support provides development motivation

The local government set up the special financial support for both rural Taobao employee and SMEs. Such as the free tax payment for the rural Taobao SMEs, providing the special loans for the SME startup, etc. all those support ensure the positive motivation for the rural Taobao employee and company to make the better development. Moreover, the most important channel under the rural Taobao is the logistic, local government also support for the subsidize of logistic company to cover its costs.

Systematic support from the Enterprises

Enterprises play an important role in the development of rural Taobao, especially in building a rural consumer market platform and system, improving infrastructure construction, and building a bridge between "bring industrial products to rural" and "taking the agricultural products to cities". As an enterprise that proposed the development strategy of rural Taobao, Alibaba, for example, has a clear strategic plan for the development of rural Taobao in rural areas. Alibaba combines local governments, district and village service stations, and partners to cooperate with each other to jointly promote the development of rural Taobao.
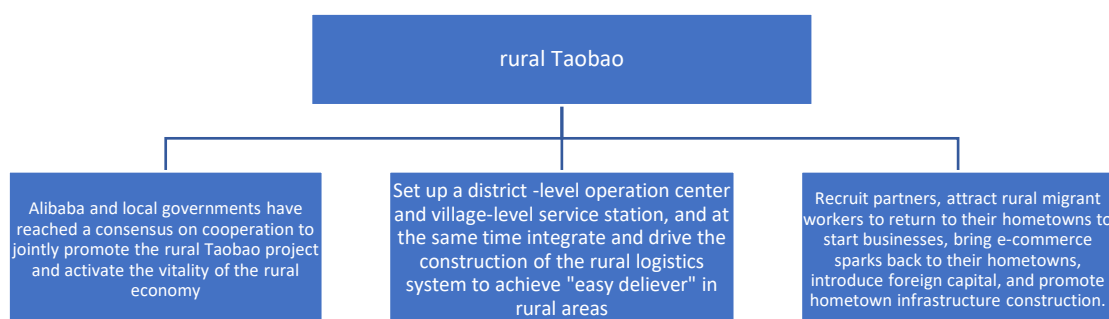
Figure 1. Plan for the development of rural Taobao in rural areas

Basic demands from the society

In the modern era of rapid development of informatization, the difference between urban and rural areas is getting bigger, the Internet penetration in urban areas is approaching a saturation state, while rural areas are an unexploited blue ocean. There is still a market of 700 million people in China rural areas waiting to be developed by the government and enterprises. With the improvement of rural living standards, the internal conditions for developing Internet services have been established. The emergence of rural Taobao has an important role in stimulating domestic demand and improving the rural consumer market.

Conclusion and Discussion

By using rural Taobao as a channel under the e-commerce for the precision poverty alleviation is quite a new thing for the poverty alleviation in China, even it has been announced for over 5 years, this paper mainly states the importance of rural Taobao, and the basic needs for this rural Taobao implementation.

Moreover, the China poverty situation as mentioned, which offer the great opportunity for using e-commerce as the tool for achieving the poverty alleviation in China. By the last part of this paper, both government and Enterprises should make the joint development, however, rural Taobao is not to develop the e-commerce in the rural poor region, the true attempts is to use the e-commerce for bringing the economic profit to the poor, also to share the profit under the digital era towards the locals, which need to draw scholars attention.

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Digital Technologies and Enhancement of Public Services: A Review of the "Visit Once At Most" Administrative Service Reform in China

Orachorn Saechang

**Department of Public Administration,
Faculty of Political Science and Public Administration
Chiang Mai University
Chiang Mai, Thailand**
orachorn.s@cmu.ac.th

Abstract

Digital technologies have increasingly played a vital role in every sector and several governments around the world began to transform into digitalized governments by providing more efficient, responsive, and transparent public services. China is also one of the countries quickly adopted the idea, digitalized its governance, and launched the administrative service reform of the "Visit Once at Most". Started in Zhejiang province in 2017, the reform of "Visit Once at Most" quickly got implemented at a nationwide scale a year later. Essentially, the citizen should physically interact with the government agency one time at the most in obtaining one public service, or otherwise, no visit is required through online services. Based on the review of the Chinese and English literature, this study finds that the administrative service reform of the "Visit Once at Most" takes the need, satisfaction, and sense of gain of the public as the core concept and employed digital technologies as the major means for the government to not only achieve its ends, but also sustain the reform by encouraging public participation, undergoing government internal reform, and delivering essential public services in a transparent manner. Finally, the study ends with a discussion of the challenges of the reform.

Keywords: digital technologies, public services, administrative service reform, China

Introduction

Globally, digital technologies have increasingly become an important means of enhancing the quality and efficiency of public services. In China, digital technologies became prominent in 2009 when Zhejiang province deepened the reform of the examination and approval process online, which the series of administrative reforms in Zhejiang province started in 1992 (Lang & Shu, 2018; Yu, 2018). The Zhejiang government started to empower the local government at the county level to be strong. After that, a physical one-stop service center was established to improve the efficiency, bad services of staff, and irregular and arbitrary charges during the administrative examination and approval process in 1999. In 2006, to further improve the services, the one-stop service central has transformed into the one-stop service hall, meaning that approval authority has been decentralized to the staff at the window, and approval decisions can be made. Meanwhile, the paralleling and online channel has been established in 2009 which significantly improves efficiency, standardized procedures, and accountability. More importantly, Zhejiang province launched the "Zhejiang Provincial Government Service Network" in June 2014 by the then Vice-Secretary of the Zhejiang Provincial Party Committee and the governor of Zhejiang province. This service network has covered several services to its public, such as paying the bills to inquiry about government affairs and procedures. Continually, the top leadership in the Zhejiang government is deeply

committed to using digital technologies as a means to achieve its ends of enhancing the quality of public services.

Although governments at all levels in Zhejiang province have adopted several reforms since 1992, these reforms still had a strong government-centrism feature and it was difficult for the reform results to be translated into a sense of gain for the public (Fan & Chen, 2017; Yu, 2018). To better translate the results of government reforms into the people's sense of gain, Che Jun, the then Vice-Secretary of the Zhejiang Provincial Party Committee and the governor of Zhejiang province, proposed the concept of the "Visit Once at Most" (VOM) (zuì duō pǎo yī cì), calling for the establishment of the new concept of "people-centered" approach and asking the government to change and reform based on the experiences, satisfaction, and sense of gain of the public (Yu & Huang, 2019). Significantly, the VOM chose digital technologies as the primary tool in reforming the public sector and delivering public services as it presented to be the most painless and effective means (Duan, 2018; Huang & Yu, 2019). The effect of the VOM is greatly felt throughout the country. Vertically, the idea was initiated at the end of 2016, and Zhejiang province officially implemented the reform in February 2017 the ideas, timetable, road map, and task book have been clearly determined. By the end of March, 958 provincial-level service items, an average of 1,002 cities level items, and an average of 862 county government service items have implemented the VOM (Fan & Chen, 2017). Horizontally, starting from Zhejiang province, the government agencies have issued over 400 policy documents related to the reform, and 29 out of 31 provinces in mainland China (excluding Taiwan, Hongkong, and Macao) have implemented some form of the reform by June 2018 (Yu, 2018).

The VOM defined the "one" public service based on how the citizens perceive it. Instead of having the citizens run to different departments in order to complete one public service, the government now employs digital technologies to integrate the one public service from various departments into 'one window' or 'one webpage'. And when the application materials were ready, the process from submission to approval should only require a one-time visit at most for the onsite services or zero visits for the online services. During the reform in Zhejiang province, provincial and city levels of government established the data resource management center to collect statistics on government affairs data originally scattered in various departments. Its core responsibilities include formulating standards and norms for data collection, application, and sharing, organizing and coordinating the collection, integration, sharing, and opening of big data resources, and promoting the development of large-scale data resources and data applications (Yu, 2018). For the performance evaluation, the third-party assessment report showed that 94.7% and 87.9% of the public expressed highly satisfied and satisfied with the reform, respectively (Li, 2018). This number has improved over time and across regions within Zhejiang province, meanwhile, the sense of gain of the public also has increased as the reform advanced (Li, 2018). Effectively, it forces the government to reform itself with the use of digital technologies, and finally, public services were enhanced

Over four decades of the reform and the opening-up, the examination and approval system reform and the latest reform of the "Visit Once at Most" can directly demonstrate and trace the change in the public services being delivered in China as it is a product of the cumulative effect of the government reform since the turn of the 21st century (Lang & Shu, 2018; Yu, 2018). Lie at the heart of this reform is digital transformation. Therefore, this study will use the case study of the "Visit Once at Most" administrative service reform (VOM) to illustrate how the service delivery of the government has been enhanced through the means of digital technologies.

Research Objective

Based on the research question of how digital technologies have enhanced public service delivery in China, this study has three objectives. First, it intends to investigate how the Chinese government, particularly the Zhejiang government, has enhanced public service delivery through the use of digital technologies. Secondly, it aims to examine the mechanism of digital technologies in enhancing the public services delivery on the reform of the "Visit Once at Most" administrative service. Finally, it expects to assess the challenges of the "Visit Once at Most" reform.

Methods

This study uses the qualitative methodology of the case study review and content analysis to conduct the research. The case study methodology is selected as it is suitable to collect rich and holistic information about any phenomenon as well as to examine in-depth some social phenomena in which both descriptive and explanatory analysis are employed (Babbie, 2020; Kumar, 2018). The study includes both Chinese and English-published peer-review literature. For English-published literature, it searches with the keyword of "visit once" and only one related article was found. From the Chinese database of China National Knowledge Infrastructure (CNKI), after searching with the Chinese characters of "zuì duō pǎo yī cì", 2,051 articles from the year 2017 to 2022 have been found. To fully capture the practice based on the influential literature, the top 60 most-cited articles were extracted. Among these, the author further sorts out the articles based on the relevance of the term "digital technologies". Finally, the study finds 28 relevant Chinese articles. In total, 29 articles in both Chinese and English were included in the study for content analysis.

Findings

The study finds that the latest reform of the "Visit Once at Most" (VOM) administrative service has clearly demonstrated that the government has used digital technologies to enhance the delivery of a more responsive public service as the fundamental concept of the reform is to establish a new model for the government to respond to the needs of the public. Instead of asking what government can offer, it takes the actual needs of the public as the departing point and then forces the local government at all levels to engage public participation in the reform, go through organizational internal reform, and finally deliver transparent services. During the reform process, digital technology was empowered as a policy tool to accelerate the reform process and consolidate the reform effect (Chen & Huang, 2018; Chen, 2018; Deng, 2018; Fu & Shen, 2018; Weng, 2019; Yi, 2019; Yu & Gao, 2018; Zhang et al., 2018). The VOM engages public participation via the use of digital technologies as it enriched participation channels, reduced transaction costs, extended the community groups, and acted as a potential intermediator for the public to co-produce public services with the government without the additional cost of time and effort (Huang & Yu, 2019). The VOM also took the innovative idea and digital technologies in transforming the government into a holistic organization to better respond to social and economic development (Yu & Gao, 2018). Effectively, the government was forced to undergo internal reform to meet the expectation of the public (Zhong, 2018).In addition, to achieve multi-department collaboration, the platform of VOM also provided public services and consultation and complaints channels to ensure a transparent government (He & Yang, 2018). All of these mechanisms allow the government to better deliver public services capacity and ones that meet the need of the public. Specifically, the below section discusses the role of digital technologies in enhancing public services in detail.

Engaging public participation

Digital technologies engaged a higher degree of public participation by empowering the public to co-produce with no cost during the entire process of system design, implementation, and performance evaluation. Digital governance took a people-centric as a departure point and empowered society involvement (He & Yang, 2018). The public was seen as an equal partnership with public organizations in implementing the reform and involved in the whole process of public services design, coordination, evaluation, and feedback (Yu & Huang, 2019). During the defining task, public opinion was prioritized. As previously stated, "one item" service was defined from the perspective of the public. To illustrate, buying a house in China used to require three services offered by three different departments. The public needed to go to the land resource department for land registration services, visited the housing department for property transaction permits, and finally made a run to the tax department for tax payment. After the VOM reform, buying a house was considered a 'one item' service and the public only needs to contact one leading department (Huang & Yu, 2019).

After the definition of "one item" was set, the VOM set the priority of services being delivered by applying technical means to analyze the frequency of various government services enjoyed by the public in the past based on the statistical information of government data. Zhejiang government first identified the 100 high-frequency services in four areas to start the reform, including business registration, investment approval, real estate registration, and social affairs (He & Yang, 2018). Practically, it meant that these services could be completed via "one window acceptance and integrated approval" services (Fan & Chen, 2017). The VOM also rearranged the public resources by the frequented services and updated the list of "one item" instantly (Huang & Yu, 2019). It can be said that the "one item" service was objectively selected by digital technologies and can most satisfy the services most required by the public.

Once the reform was in practice, the digital technologies platform was also used to collect feedback and held the government accountable. As a result-oriented reform, the citizens and enterprises were empowered to voice out their user experiences and evaluate the effectiveness of the government reform (Yu & Gao, 2018; Yu & Huang, 2019). The reform took feedback, complaints, and suggestion from the public to optimize the service through several channels such as the hotline, the online message board, the service application on mobile devices, the WeChat official account, and questionnaire surveys. To hold the government accountable, the performance of VOM reform was assessed as part of the government performance evaluation (Yu & Gao, 2018). Essentially, this allowed the public to observe the work process of the government, making the government more accountable and efficient (Zhao et al., 2018). . The VOM created intelligent management systems, such as big data, and machine learning to analyze and monitor the real-time data on public behavior and satisfaction to improve the quality of public service. This data included the time when the public requested the service, the duration of time from request to receiving a response, the chosen platform, the waiting time, search history, the access pathway, and the satisfaction rating (Huang & Yu, 2019). Consequently, the government became more responsive, as illustrated in the processing time for complaints, which has been reduced from 21.56 days to 4.24 days (He, 2018).

Reforming the government internally into a holistic government

More importantly, digital technologies restructured the relationship between the government and the public by facilitating the internal information integrated system and reengineering the administrative process to best respond to public needs by transforming itself into a holistic and service-oriented government.

As the reform advanced, governments at all levels in Zhejiang province have noticed that a large number of materials required are duplicated, the government thus could reduce the cost of public running for these affairs through internal information integration and sharing. Information sharing among different departments became the key to transforming the government into holistic governance (Huang & Ding, 2019; Zhang et al., 2018; Zhong, 2018). The government not only had to clarify the leading responsible department for each item but was also required to establish a coordination department that took the lead in promoting reform and establishing an effective coordination mechanism. In 2017, Zhejiang Province put forward the slogan "let the data run instead of people run". To integrate the information, the Data Resource Management Center of Zhejiang province, the leading unit, required each department to standardize the "one item" service, unified the name of the main item and the sub-item, standardized the applicable basis for each specific item, application materials, handling process, business handling process, handling time limit and form content (He, 2018; Yu, 2018). It also sorted out the data catalogs and distinguished data generated by each department that can be shared with others (Yu, 2018). By August 2018, more than 13,500 sets of data has been shared across 57 sectors of 25 provincial departments and the items that required identification and the related proof had also been reduced from 860 to 266 (He, 2018).

Meanwhile, the process of examination and approval system has also been re-engineered in corresponding to public needs in the most convenient way with the use of digital technologies. The re-engineering process of the examination and approval system was another core principle of the VOM (Chen, 2018; Chen & Tong, 2018; Fu & Shen, 2018; He & Zhang, 2018; Li, 2017; Ma, 2018; Wang, 2017; Yu & Huang, 2019; Zhao et al., 2018). It required the internal coordination of a multi-department to innovatively re-engineer the power and process of the examination and approval system to achieve a holistic government by

deleting, merging, and paralleling the existing process to be more efficient (Chen, 2018; Chen & Tong, 2018; Li, 2018). Compared with the one-stop service center that only promoted the "physical integration" of various departments, the VOM reform holistically integrated the service, highlighted the development of online collaboration and data sharing, re-defined the power of the government, clarified the responsibility of the government, and regulated the governance behavior of government into the service-oriented and rule of law-based one (Chen & Huang, 2018; Duan, 2018; Ma, 2018; Wang, 2017). Effectively, one-stop service centers in Zhejiang province have gradually changed from the "mailroom" model to the "holistic" model of governance that integrates all governments at once.

Through this reform, Zhejiang province has gradually transited from "government service + Internet" to "Internet + government service". In the past, the government service network was an addition to the traditional administrative system, mainly providing services such as government consultation, and the people still needed to move across departments according to the administrative process. Now, the government service network had become the "brain" of government administration. When conducting public affairs, the public only needed to go to the responsible department for "one-window acceptance", and then they could obtain the "integrated service" provided by data sharing and system connection among various departments. Essentially, the government shifted from a fragmented administrative system to a holistic government (Yu & Gao, 2018). It can be said that digital technologies have greatly accelerated the reform of the VOM process through internal information and process reengineering.

Delivering transparent services

Finally, digital technologies also enhanced transparent treatment and reduced chances of corruption by curbing the power of the authorities and allowing the public to directly submit or conduct their affairs using digital technologies. Local governments at all levels in Zhejiang province offered online and on-site public services simultaneously. On one hand, it used the Zhejiang Provincial Government Service Network as a unified online service platform to establish cross-departmental government services, making the information exchange, coordination work among various departments, and linkage between systems possible. This platform greatly reduced the interaction cost between various departments and enabled the service center to confirm and consolidate new work procedures in the form of computer programs. On the other hand, the service centers of cities and counties in Zhejiang province have implemented the reform model of "one-window acceptance and integrated service". The window staff of the one-stop service center physically accept the materials, digitize paper materials, and then distribute them to various departments through the online platform to coordinate multi-department office work. Importantly, the approval authority cannot be directly contacted. The combination of these two types of practices ensured that departments cannot arbitrarily change administrative procedures (Yu, 2018).

Furthermore, the VOM also has promoted the transformation of the government from a management-oriented to a service-oriented government (Fan & Chen, 2017; Wang, 2017). This has immensely increased the efficiency of the public services delivered. To illustrate, the general project drawing review time was reduced from 2-3 months to 15 days, and the "60-minute on-the-spot certificate collection" for real estate transaction registration has been realized (He, 2018). To efficiently deliver public services, several cities have increased the online services channel and reduced the window services. For example, Yiwu city reduced the windows at the one-stop service center by 48 in 2017 and continuously reduced by another 60 in 2018 (Yu, 2018). Digital governance also implied transparency, standardization, and the connotation of forcing the government to be more rule-of-law based (Guo, 2019; He & Yang, 2018; Wang, 2018). This is due to the formulation of the VOM was in a way a promise made by the top leadership to the public, as the government has widely promoted and it was widely recognized by the public. Also, the use of digital technologies formed a combination of top-down performance assessment and bottom-up public supervision. Effectively, it created an active and efficient atmosphere and mechanism for the government to deliver public services and perform their duties strictly under the law and make the entire process transparent (Wang, 2018). Inevitably, the public service delivered become more transparent.

Conclusion and Discussion

Despite having engaged public participation, reformed the fragmented government into the holistic one, and delivered transparent public services through digital technologies, the "Visit Once at Most" reform does not come without any challenges. How to efficiently and effectively use the new government service tools whilst increasing the responsiveness and responsibility of the government is an important structural challenge faced by governments in Zhejiang province.

First, the government needed to pay more attention to the development and promotion of user-oriented government service products online. When governments at all levels were promoting the integration of online and offline government services, they failed to improve the user experience of online products in a relatively short time and guide users to use more online government services (Weng, 2019; Zhang, 2019; Zhou, 2019). The survey found that only approximately 40% of the citizens were aware of the online services and only roughly 10% used them (Yu, 2018). The earlier practice of the reform also found the existing mechanism design is more inclined to meet the service needs of enterprises rather than citizens. Certain governments relaxed the approval process for enterprises when they failed to submit the complete application. Meanwhile, the sense of gain and satisfaction of the citizens was also generally lower than that of enterprises. Thus, a service and response mechanism with more equal opportunities for different groups was needed (Yu, 2018). However, since the expectation of the public is unlimited, the government needs to institutionalize the reform systemically going forward (Zhang, 2019). Significantly, the personal privacy of the data from the user needs further protection.

Secondly, the cooperation between different departments and data sharing required further improvement (Huang & Yu, 2019; Weng, 2019; Zhang, 2019; Zhang et al., 2018; Zhou, 2019). This was due to each department having its data systems that varied greatly in terms of framework, structure, data, and protocol. Also, once the service was digitized, the power of each department would be limited, and their movements would be supervised by a third party. Consequently, it created external institutional constraints on local exploration (Yu, 2018). This included the fragmented data vertically and horizontally, making the 'data running for the people could not be fully realized. A conflict between localized reforms and national laws and regulations was also found during the implementation. To illustrate, the digital identification photo created by Zhejiang province was only recognized within the province and not elsewhere (Zhang, 2019). Sometimes, the reform was constrained by conflicting responsibilities. For instance, the "Fire Review Opinion" and "Construction Permit" were mutually pre-approved documents in the infrastructure projects (Chen & Tong, 2018). This challenge has no easy solution, however, since the internal information and system reform is a gigantic work, commitment from top leadership was crucial in mitigating this problem (Huang & Yu, 2019).

Finally, a long-term mechanism also posed a challenge to the reform going forward (Yu & Gao, 2018). The reform of VOM was promoted based on the key tasks model, lacking a long-term mechanism and thus encountering the sustainability issue. During the reform process, the Zhejiang government adopted a method of strengthening vertical accountability and promoted local governments and departments at all levels to implement the reform. However, key tasks were always time-limited and often changed with the leadership and government reform strategies. It was precisely for this reason that the reform of VOM required the establishment of a more effective long-term mechanism to ensure that local governments always adhere to the principle of being people-centered and deliver a government service optimization mechanism that meets the needs of the public (Yu & Huang, 2019). In the existing administrative system, the long-term mechanism depends on the commitment of high-level governments, that is, to strengthen the horizontal accountability mechanism centered on the local people's congress and the supervision system.

In conclusion, a long-term mechanism, user-friendly and privacy-oriented environment, and cross-departmental data sharing and regulation adjustment were needed to sustain the reform of digital technologies in enchaining public services going forward.

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Public Service of Creative City: Smart City Safety Zone in Phuket, Thailand

Chalida Yamsrisuk

Phuket Rajabhat University
Phuket, Thaialand
ychalidaa@gmail.com

Abstract

Public Service in Thailand is changed by national and international social factors which it can be said that an investment from private sector in government affairs are one of the efficiency service opportunities to people. The public service of the creative city in Phuket according to the mission of the local government organization where the power and duty to solve problems in the area to meet the needs of the people. The local government organizations carry out their missions in accordance with the National Economic and Social Development Plan provincial development plan district development plans, district development plans, public policies and policies of local administrators.

Keywords: Public service, Creative city, Smart city, Local government, Phuket

Introduction

Phuket Island is the first tourist city selected by Thai and foreign tourists. Phuket Island has various tourism resources, such as oceans, scenic spots, old cities, Chinese and Portuguese buildings and temples. As a result, the number of tourists increases as tourists go to Phuket. Although it brings huge income to the country, At the same time, there are also problems with the safety of tourists' lives and property, whether it is crime or property damage. Exploited by entrepreneurs, including unsafe travel. Create confidence for tourists in order to eliminate the problem of tourists in Phuket, the Royal Thai Police implemented a smart project. Safe Zone 4.0 Pilot safe zone to promote the safety of people's lives and property according to the national strategy. And the international indicators of the World Internal Security and Police Index (WISPI), leading the fight by providing proactive crime prevention. The concept of the project is to combine the concept of smart city with the concept of creating safe space. Or safety zone, through everyone's cooperation and participation. The main objectives are: Through the establishment of pilot projects, we will develop and utilize innovative and people-oriented proactive crime prevention methods. Subsequently, the operation was extended to all provinces and police stations to ensure the safety of life and property. Smart Security Zone 4.0 Project Cooperate with local agencies to adjust the landscape of the risk area to a safe area. This includes building participation with network partners, especially the public sector, to help prevent crime and establish common space ownership. Phuket provincial police station is one of the 15 pilot stations. Smart Security Zone 4.0 Project Provide convenient transportation and closed-circuit television cameras for the safety of tourists and local people in Phuket. Peak hour Special attention should be paid to the safety of tourists and residents in Phuket Town when using roads in the alleys with traffic jams. In the morning and evening rush hours, and then in the evening, in bars, entertainment venues and alleys and other places. This is a secret place where people may commit crimes in urban areas. The project aims to provide security for tourists and people in Phuket Town. Thoroughly, this is urgently needed. The research team recognized the importance of the crime problem in Phuket. Therefore, it is necessary to study the direction and trend of Phuket Smart Security Zone 4.0 and Smart Security Zone 4.0. Provide useful information for the organizers, tourists and the public of Phuket Town.

Objectives of the research

1. To study the direction and trend of Smart Safety Zone 4.0 in Phuket Province
2. To study how to improve crime prevention in public areas
3. To study the problem and solutions to problems of Smart Safety Zone 4.0 in Phuket

Research hypothesis

Phuket Provincial Police Station There are ways to enhance crime prevention in public spaces. Continuing the direction and trend of Smart Safety Zone 4.0 in Phuket

Conceptual framework of research Independent Variables Dependent variables 1. Gender 2. Age 3. Status 4. Educational level 5. Occupation

Research Method

Sample group

Used in this research of 500 people by quota sampling because of time constraints. People in the area under responsibility of Muang Phuket Police Station Number/person

People

in the area responsible for Phuket Provincial Police Station 500 Total 500 People's satisfaction towards the Serving the Smart Safety Zone 4.0 project, Muang Phuket Police Station

- Equitable service
- On-time service
- Adequate service
- Continuous service

Research tools

The tool used for data collection was a questionnaire that the research team had. make up for inquiry Benefits obtained from the Smart Safety Zone 4.0 project, Muang Phuket Police Station created by the research team. Concepts and theories from related research are divided into 3 parts as follows:

Part 1

Questionnaire on general information of the respondents It looks like a check list.

Part 2

a questionnaire about the benefits received from the Smart Safety Zone 4.0 project

- Muang Phuket Police Station. It is characterized as a rating scale of 5 levels, namely, the most, the most, the moderate, and the least. The scores were set as 5, 4, 3, 2, and 1, respectively, as follows: 5 means satisfaction at the highest level, 4 means satisfaction at a high level, 3 means satisfaction at a moderate level, 2 means To have a low level of satisfaction, 1 means having the lowest level of satisfaction.

Part 3

Questionnaire on opinions and recommendations towards the Smart Safety Zone 4.0 project, Muang Phuket Police Station. It is an open-ended questionnaire asking for additional opinions on the overall Smart Safety Zone 4.0 project.

Methods of Data Collection

1. Primary data from questionnaires of people in the area responsible for Muang Phuket Police Station by collecting data during the month of July - September 2022 of 500 people.

2. Secondary data. by studying and researching information from official documents or research from the Internet, including examining information from the project staff.

Data Analysis

The appraisers use the data in the questionnaire for evaluation. The computer program was analyzed using descriptive statistics. The discussion results are as follows: 1. Frequency and percentage, used to describe the frequency and percentage in Part 1 of the questionnaire Such as gender, age, status, education level, occupation, etc. 2 About the benefits of the Smart Security Zone 4.0 project, Phuket Town Police Station, all four aspects, public relations, and service personnel. 3. The standard deviation (S.D.) is the value measured for each data distribution. How much is the difference from the average 2. Benefits of the Smart Security Zone 4.0 Project of the Phuket Police Station For services and facilities, the following formula is used: In the second part of the questionnaire, the characteristics of Likert scale are used, including the criteria, scores and criteria for translation average results. The highest satisfaction is 5 points, the highest satisfaction is 4 points, and the middle satisfaction is 3 points, minimum satisfaction equals 2 points, and minimum satisfaction equals 1 point. $(\overline{})$ And the standard deviation (S.D.), and use the best standard (Best, 1981, P) to define the five levels of the average. 482) The average is 4.50-5.00, which means the most satisfied. The average is 3.50-4.49, which means very satisfied. Average 2.50-3.49 indicates medium satisfaction. Average 1.50-249 indicates low satisfaction. Average 1.00- 1.49 It refers to the lowest information satisfaction with the opinions and suggestions of the smart security zone project. 4.0 Phuket Town Police Station

In the third part of the questionnaire, the researchers had to synthesize the data obtained from Gathering opinions and suggestions of the benefits of the Smart Safety Zone 4.0 project, the Muang Phuket Police Station that people have been brought to a conclusion and processed in the overall picture. To use in writing research reports.

Scopes of Study

1. Scope of content. This study is a study of the direction and trends of Smart Safety Zone 4.0. Preventing crime in public spaces and study the problem and Solution to the problem of Smart Safety Zone 4.0 of Phuket Province

2. Scope of the location This study was to study the direction and trend of Smart Safety Zone 4.0 in Phuket Province. Area of responsibility of Muang Phuket Police Station, Muang District, Phuket Province

3. Time boundaries The study was conducted from June 28 to August 30, 2022, a total period of 3 months.

4. Variables used in the study. The variables were as follows: Independent Variables: 1. Sex 2. Age 3. Status 4. Education Level 5. Occupation Dependent Variables: 1. Equitable service 2. On-time service 3. Adequate service 4. Continuous service 5. Progressive service

Results

1. Direction and trend of Smart Safety Zone 4.0, Phuket Province, which collects information and opinions. From the people in the area responsible for the Phuket Provincial Police Station, it can be summarized in 4 aspects: public relations; Service personnel Service and facilities Overall, it is at a high level. Considering each aspect, it was found that The amenities were the highest average at a high level. followed by officials Service providers are at a high level. and the public relations aspect has the lowest average.

2. How to improve crime prevention in public areas from the service provided by the staff of the Smart Safety Zone 4.0 project in Phuket Able to provide services to meet the needs, tools, equipment, facilities, hotlines and online notification applications. Providing services appropriately, providing fair service, resulting in safety for people in the area. This causes the crime in The public spaces are declining accordingly.

3. Problems and solutions for Smart Safety Zone 4.0 in Phuket Most of the problems from the publicity of information and news, not all areas Number of officers responsible for the Smart Safety Zone 4.0 project in Phuket There are not enough numbers

to provide services to people in the area of responsibility and guidelines for solving public relations problems. by the staff to publicize the mission regularly and Expand the area for public relations, build a network so that people in the area receive information, news thoroughly, benefits received to know the direction and trend of Smart Safety Zone 4.0 in Phuket To know the effectiveness of crime prevention in the area responsible for the Phuket Provincial Police Station. Summary of research results Direction and trend Smart Safety Zone 4. 0 Phuket Provinces from which data and opinions are collected from people in the area of responsibility of Phuket Provincial Police Station, summarized in 4 aspects: public relations Service Personnel Service and facilities Overall, it is at a high level. Considering each aspect, it was found that The amenities were the highest average at a high level. followed by officials Service providers are at a high level. The service aspect is at a high level. and the public relations aspect has the lowest average. How to enhance crime prevention in public spaces found that from the service of the staff of the Smart Safety Zone 4.0 project in Phuket able to provide services to meet the needs and maintain security for the people in the area responsible for the Phuket Provincial Police Station Considering each aspect, it was found that the facilities had the highest average at a high level by the Smart Safety Zone 4. Project. 0 Phuket Province has tools and equipment to facilitate which applied technology to the people There is also a hotline and online notification application Notify the information directly to the staff Service personnel are at a high level. knowledgeable staff service capability Providing services with equality Enthusiasm to provide services and officers can effectively resolve issues to enhance crime prevention in quality public space.

Discussion

From the research results, there are important issues to be discussed as follows:

1. Direction and trend of Smart Safety Zone 4.0 in Phuket Province. The results showed that Overall, it's at a high level. This is due to the Smart Safety Zone 4 project. 0 Phuket Province of Phuket Provincial Police Station is aware and attaches importance to facilitating and maintaining security, adjusting the landscape of the area. risk to be a safe area including creating engagement with network partners especially the public sector to help be careful crime prevention Create shared ownership of space This is consistent with the Community Relationship Approach. The origin of the concept of community relations is rooted in the belief of law enforcement theory. which is located on foundation of the idea that Prevention of crime is the main task. which can be operated by a unilateral state mechanism. They also believe that the patrol force can protect people to be safe without asking for help. cooperation from the people The concept of community relations originated from the concept. and a study by a group of Chicago criminologists known as the Ecological School of Criminology, led by Robert E. 63) which describes crime as a permanent phenomenon, according to the nature of the area where crime is frequently recurring. because areas with high crime statistics have Differences from low crime areas both physically, economically and socially, that is, the lack of social order (Social Disorganization) resulting from the changes of the community in the pre-development era. Industry entering the community in the industrial age will bring crime and other social problems. The duties of the Community Police Action Unit are to strengthen the relationship between the police and the people, educate the people on how to protect themselves and the community from crime and other problems, seek, promote, and support the people's participation in the work of the community police officers. relationships Therefore, the lack of social order is the cause of this theoretical crime. means that the condition of a broken society Social mechanisms cannot serve to bind the bonds of people and society to coexistence. Cooperation is unity in the community.

In other words, the informal social control mechanism weakens the uncontrollable power. Support and encourage community members to participate in crime prevention. Chokchai Metropolitan Police Community Relations Department According to the public relations objectives and policies of Chokchai Metropolitan Police Department (Pattarapol), the public relations of community police relations have been completed. Wattanasononthorn, 2009) Community Police Relations Department Before the head of the Community Police Relations Unit, managers consider, arrange and assign staff to perform the following tasks: Properly control and supervise the actions of the community relations police, and provide suggestions and recommendations. Improve the performance of community police and track the performance evaluation of community

police relations officers. Manage documents and collect statistics on community visits, such as areas and locations. The number of people and the solutions that have been implemented, whether successful or unsuccessful, etc. Manage community visits, plan operations, and develop monthly community visit plans. Community Relations Police uniforms and all police visited the community as required. Visit the community and make suggestions to the supervisor so that all parties can understand and take corrective measures. Manage internal and external coordination. Coordinate with other agencies and attend meetings. Committee Board of Directors the Deputy Chief of the Community Police Relations Unit acts in accordance with the arrangements of the Chief of the Community Police Relations Unit and is assigned to act on his behalf. Head of Community Police Relations Unit Visit the Public Relations Department at least twice a week with the Chief of the Community Police Relations Unit to: Acknowledge problems and help solve community problems. Every month, community police relations officers work according to regulations. Provisions on the matter or provisions on participation in various activities or projects assigned by the supervisor. Community Police Relations Unit According to the order of the director, there are 7 procedures for community police relations: 1. Public visits and activities 2. Community problem analysis 3. Planning meeting with community leaders 4. System preparation 5. Introduction to autonomy and community education 6. Establish a police civilian coordination system 7. Monitoring, evaluation and improvement

In conclusion, the heart of the concept of community relations is general arrangement of the neighborhood community in nature Strengthen interpersonal relationships to make it easier to control, observe, and monitor. without invading the rights and liberties of individuals, as well as encouraging members of the community to work together to prevent Both life and property of one's own family and community to be safe from crime indicates that this concept is a concept that focuses on the role of the people. and the community as the main in order to prevent crime This is in contrast to the concept of law enforcement, where the primary role is patrol police. But the concept of community relations does not deny the role of the police in crime prevention. It also proposes a way to adjust the role of the police patrol that has been operating for a long time. come into the role with people and communities in planning information Consulting in order to prevent crime which the police will not use Its main role is to prevent crime alone anymore.

A case study, a study of directions and trends in Smart Safety Zone 4.0 in Phuket, which collects information and Opinions from people in the area responsible for the Phuket Provincial Police Station Overall, it is at a high level. Considering each aspect, it was found that in terms of facilities, the highest average is at a high level. The Smart Safety Zone 4.0 project in Phuket has tools and equipment to facilitate. which uses technology to apply to the people, as well as a hotline and an online notification application Notify information directly to the staff, followed by service providers at a high level knowledgeable staff service capability Providing services with equality, with enthusiasm for service and the staff can solve problems effectively and the PR aspect is the least average. data update News is up-to-date, timely, public relations, information, news, Smart Safety Zone 4.0 project, fast and thorough. Officers regularly issue public relations missions, and officers build a network of public relations for the Smart Safety Zone 4.0 project within government agencies. How to improve crime prevention in public areas. from the service provided by the staff of the Smart Safety Zone 4.0 project in Phuket Can provide services to meet the needs, tools, equipment, facilities, hotlines and online notification applications. Providing services appropriately, ensuring fairness in service delivery, resulting in safety for people in the area. This causes crime in the area. Public decreasing accordingly. Problems and solutions for Smart Safety Zone 4.0, Phuket Province. Most of the problems from the publicity of information and news, not all areas Number of officers responsible for the Smart Safety Zone Project 4. 0 Phuket Province There are not enough numbers to provide services to people in the responsible areas and guidelines for solving the problem of public relations Smart Safety Zone 4.0 in Phuket. by the exit officer Publicize the mission regularly and expand the area to publicize the network of the Smart Safety Zone 4.0 project in Phuket. in order for people in the area to receive information and news thoroughly.

Research Recommendations

      1. People are affected by safety both outside and in the place. in order to be able to respond to People's needs to maintain public safety and prevent crimes that may be can happen at any time

      2. Officers responsible for the Smart Safety Zone 4.0 project according to the government's policy to prevent safety in various fields that must be met in accordance with the policy that must be strictly adhered to in order to respond to people in the area thoroughly

      3. Public relations about the Smart Safety Zone 4.0 project of Phuket Provincial Police Station The people want to provide more access to respond to the people thoroughly in each area in taking care and continually visit the public relations area to reach all points according to the policy. 4. Visiting the security area around the big market on Sunday People are of the opinion that the The area that is only issued for one day may cause the examination to be incomplete and incomplete. in taking care of safety for people both in the area and outside the area for the care to respond to the need to have a frequency of checks.

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Panel 12: Public Affairs during the Covid-19 Pandemic

Digital Mass Politics during the Covid-19 era: A case study of an urban community

Yinan Li

School of management
Lanzhou University
Lanzhou, China
liyinan@lzu.edu.cn

Yujia Li*

Advanced Institute of Business
Tongji University
Shanghai, China
2010106@tongji.edu.cn

* Corresponding author

Abstract

While scholars have long paid little attention to mass politics in China, the development of the Internet has led to the formation of digital mass politics in the virtual space, with a wide range of concerns and forms of participation. WeChat groups became the main form of digital mass politics during COVID-19 when grassroots communities set up WeChat groups to facilitate administration. The author uses a case study of a WeChat group to analyze the subject and target audience of digital mass politics.

Keywords: mass politics, conflict, community, virtual community, COVID-19

1. Introduction

The common perception is that Chinese people need to be more enthusiastic about participating in mass politics[1]. However, there is evidence that this perception is changing. Chinese people are increasingly interested in political issues and are beginning to participate more in the political process. That could be a positive development likely to impact China's future significantly. Mass politics in China is much more flexible and has a broader range of issues. For example, in China, there is a greater focus on economic issues, while in other countries, there is more of a focus on social issues. This flexibility allows the Chinese government to respond more effectively to the needs of its people. The internet has become an increasingly important tool for political engagement. As the number of internet users grows, so does the number of people using the internet to participate in mass politics[2]. This trend is evident in the rise of online petitions, voting, and political campaigning. The internet provides a new and convenient way for people to get involved in politics. Official channels for communication between the government and the public have been available for many years. These channels include government message boards and citizen hotlines. These channels provide a way for the public to share their concerns and suggestions with the government[3]. These channels have increased in recent years as more and more people are interested in having a direct line of communication with their government. This trend is likely to continue as the public increasingly demands transparency and accountability from their government. The outbreak of COVID-19 in China led to the implementation of a 'dynamic zero' policy, which had a significant impact on the daily lives of people in urban and rural areas. The policy resulted in a reduction in the number of people commuting to their work and also a reduction in the number of social gatherings. Which had a significant impact on the way people live their lives and has led to a more sedentary lifestyle for many people. People are isolated at home for longer, so the rise of the internet and social media has given people a new way to connect and share information. This change has led to a new form of political engagement based on mass communication and community organizing. The authors are interested in understanding how digital mass politics is changing. To do this, We will analyze a specific new discussion group. Through this in-depth analysis, we hope to learn about the new changes in digital mass politics.

2. Conception Framework

The digital age has brought about a profound change in how we engage in mass politics. Three years after the outbreak of COVID-19, we are still seeing the effects of this change. Social media platforms have become essential tools for organizing and mobilizing people. Political campaigns are now primarily conducted online. Moreover, more and more people are getting their news from digital sources. All of these changes have had a profound impact on the way we engage in politics[4]. However, the nature of mass politics has remained the same, And That means that the public is still interested in politics and wants to be involved in the political process. The problem is that the political process has become so complicated that the average person needs help understanding it. This is where AI can help. AI can help to simplify the political process and make it more understandable to the average person. This will help to increase public participation in the political process and make democracy stronger.

Traditional mass politics typically include groups of people who live close to each other. It is because it is easier for people close to communicate and coordinate with each other. However, with the advent of the internet and social media, it is now possible for people to connect regardless of geographical distance. This situation is changing the landscape of politics, and we are only beginning to understand the implications. When people communicate effectively, they can share ideas, thoughts, and feelings[5]. This fact, in turn, allows for a better exchange of information. People are increasingly coming together in the Internet age based on shared interests, experiences, and culture. It is because the internet provides a way for people with similar interests to connect.

Additionally, the six degrees of separation theory suggests that everyone is connected to everyone else by six degrees or less. This theory is based on the idea that the world is becoming increasingly interconnected and that people are more likely to have something in common with someone else than they might think. Finally, the path dependence of specific events can also lead to people coming together online[7]. Although the virtual world community is accurate, it differs from traditional communities in some fundamental ways. For example, virtual world community members are not limited by geographical boundaries. They can also interact in ways that are impossible in the physical world, such as through avatars. These characteristics make the virtual world community a unique and powerful tool for networking and collaboration.

During the digital age, politics has become more far-reaching and comprehensive. With the rise of social media and other digital platforms, people can now engage with politics globally. This trend has led to a more informed and engaged citizenry who can hold their politicians to account. Digital technology has also had a profound impact on the way political campaigns run. In the past, mass politics usually focused on television and print media[8]. However, mass politics increasingly focus on digital platforms such as social media and email in the digital age. Today mass politics reach a wider audience and engage with voters more personally. Aboriginal people in Australia have a deep spiritual connection to the land and its creatures. They may have a passion for discussing the Amazon basin, one of the most biodiverse regions on Earth. In other words, the rise of social media has given people worldwide a platform to connect and share their opinions on various topics. In China, for example, groups of fans of various idols often discuss the withdrawal of US troops from Afghanistan.

Similarly, virtual communities are increasingly focused on self-interest as people seek out others who share their interests and beliefs. There are several reasons why seniors are more likely to experience loneliness. One reason is that their spatial activities are often restricted. For example, they may not be able to drive or need access to public transportation. As a result, they limit their ability to socialize and interact with others.

Moreover, lead to feelings of isolation and loneliness. Although people generally feel more connected to others thanks to social media, they also feel a sense of loss regarding their attention and focus. Social media platforms are addictive, and this addiction can make people feel more scattered and less able to focus on any one thing. It could be a problem both in terms of work and in terms of personal relationships.

On this basis, the purpose of this paper is to examine how the general public discusses political issues online during the COVID-19 pandemic. It is essential because it can help us understand how people form and share opinions on current events[9]. Additionally, this research can help us understand how cyberspace affects how we discuss and think about political issues. Therefore, it is necessary to analyze the content of their

participation. Thus, it includes the topics of interest to them and how they participate. By understanding the content and context of their participation, we can understand these subjects' motivations.

3. Case Description

3.1 WeChat Group of the Community

WeChat is an instant messenger developed by Tencent, and also it can be used to organize group chats. The first initiator is the "group manager", and other members join the group by invitation. A group manager is the first initiator of a group. The group manager is responsible for creating the group, inviting members and managing the group. Other members of the group can be invited to join by the group manager or by other members of the group. The ability to freely post text, voice, images and emojis without restriction is a crucial feature of many social media platforms. This freedom enables users to express themselves in creative and innovative ways[10]. However, it also has the potential to lead to abuse. During the COVID-19 period, there were a lot of newly set WeChat groups to serve local people.

WeChat is a powerful tool for communication and collaboration, and it is changing the way people interact with each other. Moreover, almost everyone has a smartphone with WeChat installed. The invention of health codes has been a major contributor to the popularity of WeChat. Health codes are used to track individuals' health status and can help prevent the spread of disease. In addition to health codes, WeChat also offers several other features that make it a popular choice for communication and information sharing[11]. The outbreak of the novel coronavirus has led to the widespread adoption of community-based approaches to WeChat group management in China. This approach has facilitated communication and coordination between community members and communities. It has also helped to ensure that essential information is disseminated promptly and effectively. A WeChat group can hold up to five hundred members. Using WeChat groups for community members living close to each other is a great way to stay connected and informed. Community members can use the groups to communicate about important events, share information, and stay up-to-date on what is happening in their community. In short, the WeChat group is a great way to build community and foster communication and connection.

The WeChat group will be pivotal in distributing important notices during the lockdown. This IM tool reminds everyone to go and get their nucleic acid tests done. The group will also help coordinate other necessary measures during this time. Everyone is responsible for staying informed and following the WeChat group's instructions to keep the community safe. Once the flow of supplies was blocked, group members began sharing information about their needs within the WeChat group. The community then began organizing volunteers to deliver supplies regularly. This system allowed group members to get the supplies they needed promptly and efficiently.

Furthermore, this management style became a source of conflict in the community. The use of WeChat in management has led to conflict within the community. Some believe online communication should relieve task burdens and make decisions quicker, while others believe that IM apps such as WeChat should assist only. The debate has led to conflict within the community as both sides argue for their preferred approach.

3.2 Conflicts in the Group Chat

The study found two main types of conflict: type A is between the community officials, the group owners and the community members, and type B happens among the group members themselves. In some cases, these conflicts last for days. The study also found that the conflicts were often caused by disagreements over resources or the community activity arrangement. In both cases, conflicts arose due to different perspectives and goals. In the first case, the conflict was between the community and the members. The community organizer wanted to make changes that the members felt would be detrimental to their regular life. In the second case, the conflict was among community members. They had different goals for their own lives, which were inevitably affected by each other, and they were unable to agree. The conflicts between community officials and residents are usually due to a lack of communication and transparency[12]. In

some cases, community officials were not forthcoming about the status of projects or decisions that had been made. This lack of communication led to frustration and mistrust among residents.

The first type of conflict is often more specific: community members blaming officials and volunteers for the inadequate services or, conversely, with community officials urging community members to cooperate better. When the lockdown continues, urban community members compete for scarce resources. Conflict can also arise when there is a disagreement over values or beliefs. Whatever the cause, conflict can have a negative impact on the community, so it is important to try to resolve it constructively.

The second type of conflict is more difficult to define, relatively vague and usually has multiple causes. It is often shorter in duration and can develop in a variety of different situations. This type of conflict can be more challenging to resolve because it is often less clear what the underlying issues are. However, with a bit of patience and creativity, it is often possible to find a resolution that everyone can be happy with. Or, in some situations, nobody needs to pay attention to this type of online conflict.

Type A is the conflict between community organizers and members, and type B is the conflict among the community members. These two kinds of conflict represent the most common forms of mass politics during COVID-19. Moreover, have different implications for people's daily life. There is a clear asymmetrical relationship between the two conflicts. Conflict type A is between the local officials and the people. The local officials want to control the people through the IM app, but sometimes it is not formal, often resulting in misunderstandings. Conflict type A sometimes gives rise to conflict type B. In other words, conflict type B is often the result of conflict type A. When two group members disagree with each other about the community's official action, type A conflict can be resolved through discussion and compromise. Type B conflict can only be resolved through intervention from a third party or overshadowed by other issues.

3.3 Social controls are made easy

Since the introduction of the WeChat group, there has been a marked reduction in both types of conflict. Community members have adapted to this model of social management and are now better able to resolve conflict peacefully. This action has positively impacted the community, and WeChat is now a valuable tool for managing social interactions. In addition to the changes mentioned above, virtual community conflicts have also led to some other changes in digital mass politics. These virtual communities are not formed around shared interests and beliefs[13]. Thus, the members used to conflict with one another, and This has led to a more polarized political landscape. Also, group members now have a much greater ability to share their own stories and perspectives, led to a more democratized political landscape.

Firstly, there has been a significant improvement in the efficiency of executing community affairs. This trend is partly due to the increasing frequency of communication within the WeChat groups. As a result, both sides know each other much better and have established trust. Secondly, a more comprehensive range of people has started to accept informal notifications. Informal notifications can be a convenient way to communicate with community members. However, informal notifications should only use when appropriate. They should be clear, concise and timely. However, now, people gradually get used to informal notifications instead of formal ones. Finally, within the WeChat group, type B conflict is more specific and often characterized by emotional outbursts, which can be challenging to resolve because the parties involved may be reluctant to communicate. So it is less critical to mass politics.

4. Features of the Digital Mass Politics

The author argues that the impact of COVID-19 has brought digital mass politics back somewhat to the traditional in form and substance. The pandemic has forced people to rely more on digital platforms for communication and connection, which has led to a resurgence in the popularity of traditional forms of political communication and engagement. This critical development should be monitored closely in the coming years.

About three or five years ago, digital mass politics was a relatively new phenomenon in which people used the internet to discuss global issues or particular areas of interest. This virtual community has snowballed in recent years, with people from all over the world sharing their thoughts and ideas on various topics. The focus of digital mass politics could be anywhere, anything, instead of the objects in our real life.

Now it is a spatial gathering of people who may have completely different cultural identities but are discussing issues that interest them. The globalization of culture has led to the rise of new and unique cultural identities. These cultural identities are often based on shared interests, values, and beliefs, which has led to new and unique spaces where people can come together to discuss issues that interest them. These spaces are often known as "third places."

However, what sets this mass politics apart from traditional ones is that it is easier to reach a consensus and to disagree, and change is rapid. ##What sets mass politics apart from traditional politics is the ease with which a consensus can be reached and the rapid pace of change. This makes mass politics an essential tool for bringing about change in society. However, it is important to remember that mass politics is not without its drawbacks.

At the same time, official power, or the official influence of the community, has established considerable authority among the WeChat groups. The WeChat groups have become a powerful force in China, significantly influencing the country's official power structures. The groups can exert considerable influence over the government and the community. This is because the groups can communicate with many people quickly and easily. The groups can also mobilize people to take action on issues that are important to them.

5. Conclusion and Discussion

The outbreak of COVID-19 has had a profound impact on society. The most obvious impact has been how the virus has forced people to change their lives and work. As grassroots society has been able to integrate online and offline, facilitating social control and making it easier to implement policies and management practices at the grassroots level.

It is essential that we prevent grassroots people from abusing their authority and that we properly encourage and guide mass politics to focus on virtual community support for real-life community management. This is the only way to ensure that the virtual community is used for the benefit of all community members. Furthermore, to monitor WeChat groups and other IM apps to serve the people better and focus on the harmonious coexistence of community members.

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Research on Innovation Mechanism of Digital Governance: A Case Study of "Health OR code" against the Covid-19 Pandemic in China

Chunyu Li

School of Teacher Education
Kunming University
Kunming, China
125185139@qq.com

Yujiao Wang

School of Information Engineering
Kunming University
Kunming China
20104439@qq.com

* Corresponding author

Abstract

At the beginning of 2020, the Covid-19 epidemic swept across most parts of China. Due to the fast spread, wide infection range, and difficult prevention and control, it has brought great challenges to work and life. In order to fight the epidemic, the "health OR code" was created, the "Health OR code" used digital technology as an innovative practice in social governance and epidemic prevention and control to provide solutions for resumption of work, production, and normal travel.This paper is based on digital government governance and multiple collaborative governance theory, Analyzing in the context of big data, From the introduction to the implementation of the "health OR code", Involving market entities, social organizations, and the general public, The boundary and scope of its governance power, There is no formal rule clearly specify, With the "health OR code"promotion, Under the multiple-way collaborative governance model, How does the government solve the problem of the exercise of governance rights, The improvement of creating governance rights, To be orderly and stable, To meet the public needs, To build a digital government that integrates enterprises, society and individuals, Make the "health OR code" play its important role in the process of government governance, It has opened an innovative "health OR code" governance mechanism based on big data. From the continuous improvement of the whole "health OR code" policy, we can see that governance is no longer a set of rules, but a comprehensive, coordinated and continuous service process, providing a new theoretical perspective for digital government governance theory and practical issues.

Keywords: health OR code; digital governance; multiple collaborative governance; innovation mechanism

Introduction

With the development and extensive application of information technology, digital government governance will become the new normal of the government in the digital age. Digital government governance has accelerated the pace of the modernization of the national governance system and governance capacity."The 14th five-year plan for the national economic and social development of the People's Republic of China and the 2035 vision goal outline" stressed that to "improve the level of the construction of digital government, digital technology is widely used in government management services, promote the government governance process reengineering and mode optimization, and constantly improve the scientific decision-making and service efficiency"."Health OR code" is to comply with the requirements of The Times, in the special period has played its important role, as an important tool for the outbreak, "health OR code" integrates the time, space and interpersonal relationship the three dimensions of information, to its holder in what time, to where, and who have contact, etc., statistics, and

through the algorithm to the information processing form different colors of OR code. The color of the OR code can determine whether the holder is at risk of carrying and spreading the COVID-19 virus (Wang Yang, 2022). This paper through the "health OR code" policy to explore the digital government governance innovation mechanism, summarizes the experience of typical cases, concluded that the digital government governance era government will no longer be the only governance subject, enterprises, civil organizations, citizens will participate in, form collaborative governance mode, solve the related problems of social public governance and the digital government governance data confidential, the advancement of legislation. Ensure the data security that multiple entities participate in digital government governance and protect privacy. In addition, public service is an important source of public value, and public value has also become an important standard for the public to choose public service suppliers.

Theory related to digital government governance

Since former US Vice President Al Gore first proposed the concept of "digital Earth" at the California Science Center in 1998, various digital concepts such as "digital government", "digital country", "and" digital community " have emerged (Yang Guodong, 2018). In 2019, the Fourth Plenary Session of the 19th CPC Central Committee formally put forward policies and measures to build a digital government, which is characterized by the integration of government governance into the overall digital transformation of society and the evolution of an intelligent society (Yang Shuming, 2020). Digital government is supported by a new generation of information technology, reshape government information management architecture, business architecture, technology architecture, by building big data driven new mechanism, new platform, new channels, further optimize and adjust the government internal organizational structure, operation procedures and management services, improve the government in the economic regulation, market regulation, social governance, public service, ecological environment and other fields, form "with data dialogue, data decision, data service, data innovation" modern governance mode (Tan Xi, 2021).

In foreign countries, the word digital government governance is translated as "Degital Governance", but its connotation is not identical with digital governance. Burak Erkut noted that digital governance, including the multifaceted process of designing and using —— for digital government, digital business issues, and digital democracy, goes beyond the concept of merely providing digital government services. It can be seen that the concept of digital governance is relatively broad, and digital government governance is a narrow part of digital governance. China's research on digital government governance started late. The fourth Plenary Session of the 19th CPC Central Committee first mentioned the concept of "digital government" at the policy level. Since then, digital government governance has become one of the key contents of the construction of China's government governance system (Meng Xianglin & Shi Bing Ying, 2020). For the concept and connotation of digital government governance, the theoretical community has not reached a consensus. The author summarizes the commonness of digital government through the study of the literature, and believes that the concept of digital government governance should include:

- (1) Digital government governance is committed to bringing more subjects into the governance framework, and realizing the reconstruction, sharing and cooperative governance of power.
- (2) The application of digital technology is only a means. The real foothold of digital government governance is to provide public services.

At present, the material network system of China's digital government governance has been basically completed, and it has gradually evolved from electronic government and network government to digital government and smart government (Zheng Aijun, 2019). Related research mainly focuses on the basic theoretical frameworks such as government governance and collaborative governance, and there is little research on the digital government governance innovation model and its implementation path.

Collaborative governance (Collaborative Governance), also known as cooperative governance, cooperative governance, etc. The theory of collaborative governance is an emerging crossover theory based on the collaborative theory in natural science and the governance theory in social science (Huang Huang, 2020). As an emerging theory, the

characteristics of this theory that are different from other theoretical paradigms are mainly reflected in the diversification of governance subjects, coordination among subsystems, coordination between self-organization and the formulation of common rules. Collaborative governance emphasizes the diversification of governance subjects. Social organizations and actors including government organizations, civil society organizations, enterprises, families, and individual citizens can all participate in the governance of social and public affairs.

"Health OR code" Policy Background

In early 2020, the COVID-19 outbreak broke out and spread across China in a short period of time. In some areas, high-speed rail, aircraft and other vehicles were suspended. In order to prevent the spread of the epidemic, people had to stay at home. However, the long-term home quarantine is not the solution to the problem. How to resume work and production as soon as possible and restore the normal production and life order before the epidemic was an urgent problem at that time. Based on this, in December 2020, the National Health Commission, the National Medical Security Administration, the State Administration of Traditional Chinese Medicine issued on further promote the "Internet + health" "five one" service action notice, proposed to implement "health OR code" a code, relying on the national integrated government service platform, implement the "health OR code" information mutual recognition mechanism and rules, clear cross-regional flow "health OR code" information available in various regions, convenient personnel travel and flow across the province, realize epidemic prevention "health OR code" unified policy, unified standard, national mutual recognition, one code traffic.

Governance Model in the Era of Big Data

"Health OR code" is a typical representative of the governance model in the era of big data. The government will no longer be the only governance subject, and enterprises, civil society organizations and citizens will also participate in the governance model to form a collaborative governance model and solve the problems related to social and public governance."Health OR code" is in a special environment government and enterprise cooperation mode products, in technology, "health OR code" completed by the enterprise research and development, relying on alitreasure or WeChat on small program, with the help of big data, accurately locate every citizen's geographical location, health, travel records, nucleic acid detection records, build up citizens' information and epidemic prevention and control database, through data analysis, can identify high-risk groups, provide support for scientific epidemic prevention. Through the guidance of the government, citizens fill in relevant information and declare online. After passing the audit, a color OR code is generated. Under normal circumstances, the color of the health OR code is a green code, and the yellow code and the red code represent different risk levels, among which the red code is a high-risk state. Yellow code mainly refers to the close contact with confirmed patients, suspected patients and asymptomatic infected persons, such as the same public transport, living in the same building unit, 37.3°C or above or respiratory symptoms (dry cough and phlegm, sore throat, sore breath, shortness of breath), physical discomfort (Sanli, muscle soreness, headache, joint pain), and people from the risk areas and other people need to be included in the yellow code management. The red code mainly refers to confirmed cases and suspected cases. Asymptomatic infected persons and confirmed patients and asymptomatic infected persons who have completed home (centralized) quarantine medical observation; close contacts of confirmed cases, suspected cases and asymptomatic infected persons: people from Hubei province and other high-risk areas; those under centralized quarantine medical observation and other citizens requiring red code management. In terms of the policy aspects, The government will introduce relevant policies to implement the health OR code travel system, Citizens need to rely on the health OR code to enter and exit communities, offices, traffic checkpoints and other public places, For citizens with a health code of yellow, Need to be immediately reported to the community or the relevant local prevention and epidemic prevention authorities, Nucleic acid testing according to the standard, For a centralized or home quarantine within 7 days, After 7 days, Nucleic acid tests were found to be negative, Health OR code turns green, Can be normal travel; For citizens with red health codes, In addition to immediately reporting to the relevant

departments, Red codes for 14 days of centralized or home quarantine, Nucleic acid testing according to the standard, in the meantime, All the nucleic acid tests were negative, Health OR code turns green, Can you travel normally. At present, the application of "health OR code" covers communities, catering, hotels, schools, medical care, shopping, culture and tourism, production and processing, transportation, office buildings and other use scenarios, to assist communities, companies, government agencies, supermarkets and other staff to do a good job in epidemic prevention and control and management.

Taking the confirmed COVID case of COVID-19 in Chenggong District, Kunming City, Yunnan Province, on March 7,2022 as an example, two confirmed cases of COVID-19 were reported in Chenggong District, Kunming City, which were found in nucleic acid screening by active patients in the fever clinic; one asymptomatic infected person was reported and found in close contacts. After the outbreak of the epidemic, Kunming city and Chenggong District have attached great importance to it and took decisive measures to carry out the prevention and control work of medical treatment, flow tracing, tracing and management, and nucleic acid testing in an orderly manner. Government released on March 7,2022 to the society three confirmed patient track, the government asked the general public control city epidemic prevention and control headquarters since March 8,2022 reported confirmed cases and asymptomatic infection trajectory check list, if there is space and time intersection, must take the initiative to the community, and in 3 days 2 interval 24 hours free nucleic acid detection. Measures are taken as follows:

First, we will standardize medical treatment. Three cases have been transferred to designated hospitals under negative pressure, and they are undergoing standardized diagnosis and treatment in accordance with the principle of "four centers" and "one person, one plan".

Second, the rapid traceability of the flow. The municipal and district flow investigation expert teams conducted a detailed survey of the schools where the cases lived, recent activity places, public transportation vehicles, dining restaurants and other restaurants, and investigated the affected people one by one.

Third, to track and manage the contacts concerned. According to the flow adjustment situation, 88 close contacts and 326 secondary close contacts have been tracked and managed. Except for 27 people who have been pushed to the city for assistance and investigation, all the personnel have been under centralized quarantine and observation.

Fourth, tissue nucleic acid testing and screening. A total of 10,998 nucleic acid samples from the above cases and the relevant schools, entertainment places, hospitals and dining restaurants have been collected, and all but the above three cases were negative.622 External environmental samples were all negative and the results were released to the public.

Fifth, take temporary control measures. According to the research and judgment of provincial, municipal and district experts, temporary control measures have been taken for the relevant places with high risks, and the terminal sterilization has been carried out simultaneously.

In this process, the "health OR code" for citizens with time and space intersection may be yellow code or red code, and this part of the people will not be able to go to work and travel by bus.

In the case of the normalized outbreak, all citizens to nucleic acid testing once two days, screening, many communities have volunteers involved in the work, for the outbreak of village, closed isolation, civil organizations, volunteers, social groups will join the staff, reduce the work intensity of the staff. Health OR code provides a new type of governance mode for the whole social governance. In the face of personnel flow, big data analysis has contributed to determine the source of infection and control the source of infection. Based on big data government governance mode, health OR code serves people's health, maintains public safety and social order; on the other hand, monitoring and following public safety, "health OR code" plays the dual attribute of maintenance and governance. At present, the function of health OR code is in continuous iterative upgrade, has been through the "health" OR code for a code, appointment, a key first aid, health certificate, health records, communications, social security, and other applications, "multiple code fusion", "health OR code" from social management tools gradually transformed into tools to provide digital public services.

Conclusion and Discussion

Under the form of information society, data and information and social life, public governance, promote digital governance has become the trend of globalization is inseparable, provides a new path to deal with various complex public problems, multiple subjects involved in digital government governance is one of the development direction of government change in the era of big data, big data era of government and enterprise cooperation will become a possible, promote government change and innovation ability, enterprise cooperation is conducive to complementary advantages, win-win cooperation. We will build a new pattern of digital government governance featuring government-led cooperation, government-enterprise cooperation, social participation and legal guarantee, and realize the reconstruction of power and cooperative governance. Digital government governance is committed to bringing more subjects into the governance framework, so as to shape new governance models and realize power reconstruction, sharing and cooperative governance.

Health OR code as a government agencies for citizens and public places control important measures, recorded the citizen identity information, contact information, health, travel track and other privacy information, the information is not only detailed, real, but also has a high commercial value, if the further dig, analysis, use, can achieve targeted commercial development and grab huge benefits, if security problems lead to data leakage, the consequences will be unimaginable. Therefore, in the era of big data, how to ensure the data security of citizens, improve the data security legal system, formulate laws and regulations related to data management and data security, ensure the data security of multiple subjects participating in digital government governance, and protect privacy is a problem that needs to be solved by the government to do so as soon as possible.

The application of digital technology is only a means, not an end. The real foothold of digital government is still to provide public services and achieve public value (Cordella A & Bonina C M, 2012). Creating public value is one of the key goals of public organizations. As a new form of government governance in the digital era, digital government governance should determine the organizational mission aimed at creating public value. Public value, as the key goal of digital government governance, can judge whether digital government governance is effective to a certain extent. Public values are not static or inherent, but arise through activities such as public service provision. Public service is an important source of public value, and public value has also become an important standard for the public to choose public service suppliers.

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Containment of COVID-19: A Multi-Level Assessment of Indian Governance

Shahana Usman Abdulla*

Dept. of Architecture & Planning
NIT Calicut
Calicut, India
shahana.usab@gmail.com

Bimal Puthuvayi

Dept. of Architecture & Planning
NIT Calicut
Calicut, India
shahana.usab@gmail.com

*Corresponding author

Abstract

The COVID-19 pandemic has shown us that the most crucial component in outbreak management is a governance system implementing strategies for immediate containment of the disease. The management strategies put forward by the authorities affect the daily lives of people in terms of both health and the economy. An analysis of the strategies adopted and their impacts on the community helps us produce precise and logical decisions for containment with the least impact on the daily lives of people. Understanding the dynamics of the pandemic is essential for its further mitigation, as it helps to clarify the extent and impact of the pandemic and can aid decision-making, planning, and community action. This study conducts an assessment of the strategies adopted for containment during the COVID-19 pandemic by the Governments of India, and the State of Kerala. The factors influencing containment, guidelines to be followed, the implementation strategies and the human resource deployed for containment are studied at various levels of governance in India. The assessment identifies the drawbacks of the strategies adopted for containment, the issues with local governance, and the criticisms received from the public. The study concludes with recommendations for operation during outbreak management in the context of Kerala, India. Such a refined decision-making process with an effective governance system will aid in preparing containment plans for any region by adapting to their corresponding administrative setup.

Keywords: COVID-19, containment, strategies, governance

Introduction

Initially reported as cases of pneumonia of unidentified aetiology, they were soon identified to be caused by a novel strain of coronavirus (Novel Coronavirus (2019-NCoV), Situation Report - 1, 2020). The exponential rise in the number of cases resulted in the declaration of this outbreak as a 'pandemic' by the World Health Organization (WHO Director General's Opening Remarks at the Media Briefing on COVID-19, 2020). In India, the first COVID-19 case was reported in Thrissur, Kerala, on January 30, 2020 (Reid, 2020). The adverse impacts of the pandemic on the daily lives of people have forced us to focus on outbreak management more than ever before. The widely adopted strategy of containment brought in measures to slow down the spread of the disease, such as quarantine and isolation. But once the infection spreads beyond control among the community, it becomes impossible to trace the infected individuals and isolate them. Thus, the Government of India moved from such measures addressing individuals to strategies aimed for masses. (Varghese & John, 2020)

The Governments of India and the State of Kerala have taken measures for containment of the disease over time at different stages of the spread. However, government policies along with efforts of its citizens decides the successful implementation of their strategies. So this study attempts to study and analyze the containment strategies adopted by the Governments of India and the State of Kerala. This

involves critical assessment of the Government orders passed regarding containment of the disease and the human resource deployed at various levels of governance for the same. This article holds importance to the researchers, planners, policy makers and government officials in planning and execution of strategies for containing the spread of virus. The assessment provides a foundation for formulating containment plans for any high-impact respiratory outbreak. Even though the analysis focuses on the State of Kerala, India, the recommendations for operation during an outbreak could be adopted in any region.

Research Objective

The objective of the research is to analyze the strategies adopted for containing the spread of COVID-19 by the Central and State Governments of India. The analysis helps us identify the issues encountered and the drawbacks of the current system of operation during a pandemic like COVID-19. Subsequently, they help us enhance the operating procedure during a high-impact respiratory outbreak like COVID-19.

Containment of COVID-19

The COVID-19 pandemic has been managed across different countries through different routes, though some individual measures like quarantine, use of masks and sanitizers have remained the same. But the operations to cease the spread of disease among the masses have been taken differently by their Governments. Even though the World Health Organisation has released basic instructions for operation during outbreak, each Government had taken measures according to the population, geography and governance of their respective countries. Communities impose immense pressure on their Governments since it is their responsibility to control the situation during any crisis. This study analyses the containment measures taken by India, majorly focusing on the State of Kerala. The Government of India has two ministries working towards policies to control the spread of COVID-19, the Ministry of Home Affairs and the Ministry of Health and Family Welfare. These ministries have released orders regarding containment of COVID-19 based on which the Government of Kerala has operated. The following sections summarize the instructed measures, operating procedures along with the human resource required for containing COVID-19 by the Governments of India and Kerala.

India

The Government orders including Containment Plans and Frameworks put forward by the Ministries over the time period of March 2020 to June 2021 are studied here as shown in Figure 1. As per the Micro Plan for Containing Local Transmission of Coronavirus Disease (Government of India, 2020), the containment zone will be decided by the RRT based on the extent of cases/contacts listed and mapped by them. If contact listing/ mapping is taking time (>12-24 hours), then on arbitrary basis demarcate an area of 3 km radius around the epicenter (the residence of the positive case). A buffer zone of an additional 5 km radius (7 km in rural areas)/administrative boundary of including neighbouring districts/per-urban zone shall also be identified. The containment zone will be divided into sectors with 50 houses each (30 houses in difficult areas). The sectors will facilitate all activities for containment and each sector will have a Nodal Officer.
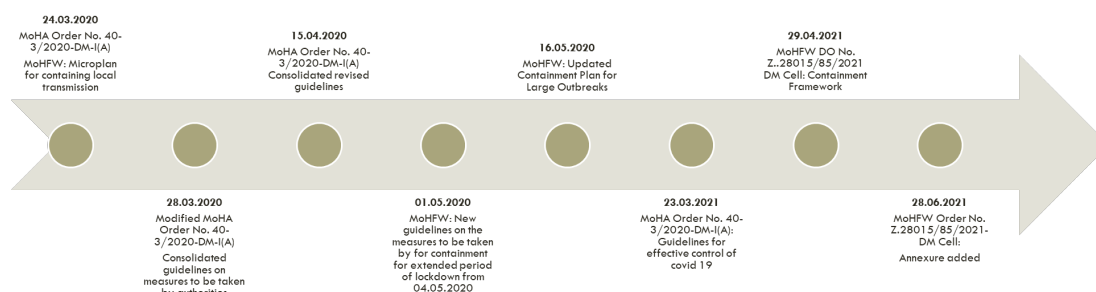
Figure 1. Timeline of important Government orders regarding containment in India

A detailed human resource team is also listed in the Micro Plan. The District Collector/District Magistrate will be Nodal person for cluster containment in their respective districts. The administrative and technical personnel involve:

1. District Magistrate/District Collector
2. Additional District Magistrate
3. Chief District Medical Officer
4. Block Development Officer
5. Block Medical Officer
6. Block Extension Educator
7. National Health Mission Block Manager

The State and District RRTs (Rapid Response Team) could be formed with the personnel mentioned above. For other operations and field activities, human resource to be employed are mentioned in Table 1.

Table 1. Human Resource for Operations and Human Activities

Sl. No.	Designation of Staff	Nature of Work Assigned	Responsibilities
1	District Collector or his assignee	Incident command	
2	Central/State RRT	Planning and operations	
3	Sector Medical Officers	Supervisory	• Supervises the field work • Verifies suspect case as per case definition • Arranging shifting of suspect case to health facility • Random Check of persons under home quarantine • Submit daily report to control room
4	LHV*	Intermediate supervisory	• Supervisory duty at the village/ block covering the epicenter • Daily visit to allocated sectors to oversee and cross-check the activities of ASHA/Anganwadi workers/ ANM.
5	ANM**/ASHA***/ Anganwadi worker	Field work	• Search clinically suspect cases • Identify contacts of confirmed and suspect cases • Maintain line list of suspect/ confirmed cases and contacts • Monitor contacts daily • Inform Supervisory Medical Officer about suspect cases and their contacts • Create awareness among community about disease prevention, home quarantine, common signs and symptoms and need for reporting suspect cases by distributing fliers, pamphlets and also by inter-personal communication
6	Block Extension Educator and other communication staff	IEC****	• Public information education and communication campaign targeting schools, colleges, work place, self-help groups, religious leaders, teachers, postman etc. • Arrangement of miking
7	Municipal/ Village Panchayat staff/ Civil society volunteers	Community mobilization	• Create awareness in the community • Encouraging community to follow frequent hand wash, respiratory etiquettes, self-monitoring of health and reporting to the health workers about persons in their vicinity having cough, fever, breathing difficulty.
8	NHM -District/ Block Manager	Logistics Information Management Financial management	• Information management with in the containment zone • Contingency funding of the containment operations • Managing finances

*Lady Health Visitor
**Auxiliary Nurse Midwife
***Accredited Social Health Activist
****Information, Education and Communication

As per the order no.40-3/2020-DM-I (A) released on April 15th 2020 by the Ministry of Home Affairs (Ministry of Home Affairs, 2020), which was a consolidated set of revised guidelines on the measures to be taken by Ministries/ Departments of Government of India, State/Union Territory Governments and State/ Union Territory Authorities for containment of COVID-19 Epidemic in the Country, prohibited almost all kinds of movement via air, rail and road. It also prohibited all kinds of mass gatherings including all social, political, sports, entertainment, academic, cultural and religious functions. In case of funerals, congregation of more than twenty persons were not permitted. Hotspots, i.e, areas of large covid-19 outbreaks or clusters with significant spread will be determined as per the guidelines given by Ministry of Health and Family Welfare (MoHFW), Government of India. In these hotspots, containment zones will be demarcated by States/UTs/District administrations as per the guidelines of MoHFW. In these Containment Zones, the activities allowed under these guidelines will not be permitted. There shall be strict perimeter control in the area of the Containment Zones to ensure that there is no unchecked inward/outward movement of population from these zones except for maintaining essential services (medical, law and order) and Government business continuity. The guidelines issued in this regard by MoHFW will be strictly implemented by State/ UT Governments and the local district authorities.

New Guidelines on the measures to be taken by Ministries/ Departments of Government of India, State/ UT Governments and State/ UT authorities for containment of COVID-19 were released with Ministry of Home Affairs (MoHA) order no.40-3/2020-DM-I (A) on May 1st 2020 (Ministry of Home Affairs, 2020). The guidelines divided the districts of the country into three zones, viz., green, red and orange based on their risk profile:

- Green Zones: Green Zones shall be defined as per the following criteria: districts with zero confirmed case till date; or; districts with no confirmed case in the last 21 days.
- Red Zones or Hotspot Districts: Districts shall be defined as Red Zones or Hotspot districts, by Ministry of Health and Family Welfare (MoHFW), Government of India (GoI), taking into account total number of active cases, doubling rate of confirmed cases, extent of testing and surveillance feedback.
- Orange Zones: Districts, which are neither defined as Red nor as Green Zones, shall be Orange Zones

Containment Zones shall be demarcated within Red (Hotspots) and Orange Zones by States/ UTs and District Administrations based on the guidelines of MoHFW. The boundary of the Containment Zone shall be defined by District Administrations taking into account the following factors:

- mapping of cases and contacts;
- geographical dispersion of cases and contacts;
- area with well demarcated perimeter;
- and enforceability of perimeter

The boundary of the Containment Zone will be a Residential Colony, Mohalla, Municipal Ward, Municipal Zone, Police Station area, towns etc., in case of urban areas and, a Village, cluster of Villages, Gram Panchayats, group of Police Stations, Blocks etc., in case of rural areas. In the Containment Zone, activities like contact tracing, quarantining, surveillance, counselling, perimeter control, restriction and recording of movements were to be carried out by the local authorities.

Later, as per the Containment Plan released by the Ministry of Family Health and Welfare (MoHFW) on May 16th 2020 (Government of India, 2019), State will deploy its State Rapid Response Team and District Rapid Response Teams to undertake mapping of cases and contacts so as to delineate the containment and buffer zones. Emergency Medical Relief (EMR) division, Ministry of Health and Family Welfare may deploy the Central Rapid Response Team (RRT) to support and advice the State. As per the plan, Containment Zones are delineated based on the same factors mentioned in the previous order. The RRT (Rapid Response Team) will do listing of cases, contacts and their mapping. This area should therefore be appropriately defined by the district administration/local urban bodies with technical inputs at local level. For effective containment, it is advisable to err on the side of caution. The containment and buffer zones will be mapped to identify the health facilities (both government and private) and health workforce available (primary healthcare workers, Anganwadi workers and doctors in PHCs/CHCs/District hospitals).

Afterwards a Containment Framework was released by the Ministry of Family Health and Welfare on 29th April 2021(Ministry of Home Affairs, 2021), according to which the decision on where and when to go for large Containment Zone (CZ) has to be evidence based and done at the State/UT level after proper analysis of the situation, such as; the population affected, the geographical spread, the hospital infrastructure, manpower, the ease of enforcing boundaries etc. However, in order to facilitate objective, transparent, and epidemiologically sound decision making, the following broad-based framework is provided to aid States UTs in selection of districts/areas:

- Test positivity of 10% or more in the last one week
  OR
- Bed occupancy of more than 60% on either oxygen supported or ICU beds

As per the Government order no. Z.28015/85/2021-DM Cell dated 28th June 2021 (Ministry of Home Affairs, 2021), the following guiding principles are to be followed foe effectiveness of containment:

- States/UTs may identify districts which require highest level of restrictions
- Remaining districts may be allowed higher degree of relaxations based on lower weekly case positivity or a relatively low Bed occupancy (Oxygen and ICU beds) rates
- District with high weekly case positivity or a high Bed occupancy (Oxygen and ICU beds) as detailed above, would need intensive monitoring and hence State may consider appointing a senior officer from State headquarter as the Nodal Officer for these districts.
- District Nodal Officer will work in coordination with District Collector
- Municipal Commissioner to identify cluster of new cases and ensure implementation of required containment activities including intensive action in areas reporting higher cases
- Restrictions once imposed will remain in force for a minimum period of 14 days
- In remaining areas of the district not under containment action, clearly defined relaxations/restrictions may be provided

State Government may consider monitoring the status of classification parameters on a weekly basis and ensure their wide publicity so as to inform community at large and obtain their support in management of COVID-19 while restrictions are imposed or relaxations are allowed.

Kerala

In Kerala, a Southern State of India, the Government released orders based on the orders from Central Government discussed in the previous section. Some of the important orders are discussed in this section where delineation of Containment Zones have been focused upon. As per Government order (G.O.(Ms)No.18/2020/DMD) issued by the Disaster Management (A) Department of Kerala on 17th June 2020 (Disaster Management Department, 2020), the following guidelines were released. District Collectors shall identify containment zones in consultation with District Medical Officer and recommend to Kerala State Disaster Management Authority (KSDMA), not later than 12 pm every day, for notification. In Panchayats, Containment Zones shall be Wards. In Municipalities and City Corporations, Containment Zones may also be sub-ward level such as markets, harbors, ports, colonies, streets, residential areas. etc. depending on the local conditions.

As per Government order (G.O.(Rt)No.500/2021/DMD) issued by the Disaster Management (A) Department of Kerala on 6th July 2021(Disaster Management Department, 2021), Local Self Government Institutions in the State were categorized based on the Test Positivity Rate (TPR), as shown in Table 2 and certain relaxations on lockdown were extended to the areas where the Test Positivity Rate is less and special intensified stringent restrictions are being implemented in areas where TPR is high.

Table 2.   Criteria for Containment

Category	Criteria
A	Average TPR below 5 percent (Areas with low spread)
B	Average TPR between 5 and 10 percent (Areas with moderate spread)
C	Average TPR between 10 and 15 percent (Areas with high spread)
D	Average TPR above 15 percent (Areas with critical spread)

Later, Government order no. 564/2021/DMD on 4th August 2021 (Disaster Management Department, 2020) enforced special intensified stringent lockdown restrictions in the LSGIs with critical spread based on the Weekly Infection Population Ratio (WIPR). WIPR is the total number of COVID-19 infections reported in the week multiplied by 1000 divided by total population of the Panchayat or Urban Ward. In Panchayats/Urban Wards with WIPR of more than 10, special intensified stringent lockdown restrictions shall be imposed. The guidelines to be followed as per the orders mentioned mostly allowed entry to Government offices and restricted movement among shops, markets, banks, public and private offices, financial institutions, factories, industrial establishments, open tourist spaces and other establishments. Latest guidelines demanded RT-PCR negative and vaccination certificates as requirements for entry to public areas. Public functions were not permitted except for marriages and funerals with a maximum of 20 people. Places of worship were allowed a maximum number of persons to 40 with each person having a minimum of 25 sq. ft area. Rapid Response Teams (RRT) were instructed to be deployed at Ward level for effective contact tracing and surveillance including monitoring of home quarantine and moving patients to Domiciliary Care Centres (DCC).

Analysis

Even though the Indian Government published guidelines for containment, the final decision on how to define Containment Zones were up to the State Government since management of outbreaks works better at the smallest spatial unit possible. During the initial stages of pandemic in Kerala, administrative boundaries like Wards and Panchayat/Municipal areas were subjected to containment as a whole when found with a very few positive cases. This was done without considering any other factors since it was more practical and quick considering the urgency of controlling the situation. But this delineation based on administrative bodies also brought residents unaffected under lockdown disrupting their daily lives unnecessarily. The data availability and management at such a quick pace still remains as a hindrance in declaring Containment Zones which often leads to containing a larger area than required.

Later, delineation based on Test Positivity Rate (TPR) was adopted as a criterion for determining the Containment Zones. But this again received flak from the common people. It was found to be problematic since TPR is defined as the number of positive cases divided by the number of tests done in a particular area. Since the number of tests done in each area could be different, the rate may not show the exact situation of the area under consideration. Most areas with lesser facilities for testing gave a higher TPR and were subjected continuously to containment making the lives of the residents miserable. At the same time developed areas with better facilities for testing and a very high number of positive cases remained out of the list of Containment Zones. Bed Occupancy Rate also posed the same problem as it would not explain the exact situation of the area. Addressing these issues, the State Government came with the criteria of Weekly Infection Population Ratio (WIPR). Still the geographical area brought under containment was based on administrative boundaries and this again poses the same issue of restricting the activities of unaffected residents. Even though WIPR is a better metric than TPR, it still needs to address the severity of diseases rather than just the incidence.

Public not only criticized the criteria for delineating containment zone, the guidelines put forward by the Government of Kerala also received severe backlash. Private establishments were adversely effected economically due to stringent restrictions whereas the guidelines for public establishment were lenient. The latest guidelines were also criticized for lacking practicality since it instructed people to test for entry to public spaces since it was not affordable for the majority of people. The number of people allowed per unit area for different places have been stipulated in the guidelines, but it has not been fixed based on any technical studies of the infectious disease. The guidelines require

scientific backing based on the place, type of activity and disease involved. The human resource involved need to work at the grass root level and require adequate technical training needed for outbreak management. Most importantly, there is an absence of Containment Plan with a Standard Operating Procedure (SOP) and human resource required to be utilized during any outbreak of high-impact respiratory pathogens.

Conclusion and Discussion

Analyzing the strategies used for containing COVID-19 disease has opened up to the issues that require major rectification. The criteria for delineating Containment Zones requires us to know the factors influencing the spread of the disease. A mix of social and spatial factors influencing the incidence of disease would help us determine the measures to be controlled during an outbreak like COVID-19. Further guidelines on the number of people, activities and time allowed for spatial interaction shall be formulated based on modeling possible infection rates based on areas and activities. The human resource deployed for this purpose need to be trained technically to ascertain the formulation of accurate guidelines.

The analysis of the current scenario of outbreak management in India and Kerala need an Action Plan well-curated enough to contain the disease. The Plan should put forward a Standard Operating Procedure to be adopted during crisis. The plan should be designed in a way to be adopted in any region with space to accommodate changes required according to nature of the system in the region. The Central Government shall lead the implementation of the plan, but the RRT needs to work at the smallest level available, which is a Ward in case of India. A Ward level RRT should be able to manage the data on a daily basis and inform the public. An accurate database could be monumental in controlling a deadly outbreak of disease. A Containment Plan deployed by the local governance is the requirement of the moment, advised by the State and Central Governments. Planners, policy makers and government officials play a huge role in the implementation of such a plan. Future research could be directed towards the identification of factors, spaces and activities influencing the spread of the disease. It will provide a soild foundation for formulating plans for containing high-impact outbreaks of respiratory pathogens.

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Government Social Media Exposure and Health Behavior during the COVID-19: The Case of Lebanon

Hussein Bajouk

Department of Media,
Communication and Culture
Autonomous University of Barcelona
Barcelona, Spain
1585677@uab.cat

Carme Ferré-Pavia*

Department of Media,
Communication and Culture
Autonomous University of Barcelona
Barcelona, Spain
Carme.Ferre@uab.cat

* Corresponding author

Abstract

Governments increasingly using social media in crisis communication. Drawing on the Health Belief Model (HBM), this cross-sectional study examines how government social media (GSM) participation and exposure to Covid-19-related information are associated with health perceptions and preventive behaviors among the followers of the Lebanese Ministry of Public Health (MoPH) on Facebook. A Survey was distributed online to the Ministry's Facebook followers (n = 2163). Data were collected during the Covid-19 outbreak from September 24 through December 31, 2021, allowing for a unique look into the online community in the midst of a crisis. Descriptive statistics and bivariate Pearson's correlation test were conducted using IBM SPSS software. Our findings show that exposure to Covid-19-related information was associated with all HBM components, whereas GSM engagement was associated only with perceived severity and perceived benefits. Our study highlights the importance of using social media in governments for enhancing health beliefs and preventive behaviors among citizens during health crises.

Keywords: government, social media, Facebook, exposure, participation, health, behavior, COVID-19, Lebanon

Introduction

The threat caused by the COVID-19 crisis has pushed governments to act promptly and respond to the outbreak. Since the very beginning of COVID-19, it has been widely admitted that disease prevention will depend not only on official measures, but also on citizens' behaviors (Anderson et al., 2020). Governments are increasingly relying on social media to disseminate pandemic-related information and motivate people to engage in the desired preventive behaviors (Chen et al., 2020). Extensive research has shown that social media have direct and indirect influence on preventive behaviors (Nazir et al., 2020; Liu, 2020; Mat Dawi et al., (2021); Lin et al., (2020). However, the impact of government social media (GSM) on health and preventive behaviors is understudied, particularly during pandemic outbreaks.

Research Objective

The current study surveys the followers of the Ministry of Public Health (MoPH) in Lebanon and investigates the effects of GSM participation in terms of likes, comments, and shares on health beliefs and preventive behaviors. It further attempts to explain how exposure to Covid-19-related news on GSM can enhance these beliefs. The health belief model (HBM) was applied as the theoretical framework for this study. The model comprises various components of health-related behavior (Glanz et al., 2015), and was selected for its power in predicting Covid-19 preventive and compliance behaviors (Nourmoradi et al., 2021; Lahiry et al., 2021; Karimy et al., 2021). To the best of our knowledge,

the present study is one of its kind as it is based on the crisis communication literature, and integrates GSM into health behavior theories.

Literature Review

The literature on the impact of GSM on health beliefs and preventive behaviors falls into five streams. The following section explains each in detail.

Social media in public sector

Social media can be referred to the digital platforms that facilitate "diffusion of compelling content, dialogue creation, and communication to a broader audience (Kapoor et al., 2018: p.536). Governments incorporated social media in many fields, including public administration (Woods, 2016), citizen engagement (Snead, 2013; Bonsón et al., 2016), emergencies and crises management (Chatfield et al., 2013; W. Yang & Xu, 2018), transparency and openness (G. Lee & Kwak, 2012), and public healthcare (Picazo-Vela et al., 2016). GSM is any account created by governmental bodies on social media to distribute information and connect to their citizens (Tang et al., 2021).

Citizen participatory behavior on Government Facebook

GSM followers can participate on various postings published by government on social media. For example, users on Facebook are able to like, comment on, and share posts. Guo et al., (2021) argues that commenting and sharing behaviors are important during a crisis. Williams & Fedorowicz, (2019) considered viewing posts in addition to likes, comments, and shares, are all functions of citizen's participatory behavior on GSM. These behaviors are important in crises in many ways. For instance, commenting on and sharing government posts by the public represent a sort of commitment and virality (Bonsón & Ratkai, 2013). People sharing posts in crisis may help increasing awareness among others.

Health Belief Model

The Health Belief Model (HBM) is one of the most frequently behavior change theories applied to assess the effectiveness of preventive interventions during outbreaks (Syed-Abdul et al., 2016). The origins of the model dates back to the 1950s and was developed by the scientist Godfrey Hochbaum and other colleagues at the U.S. Public Health Service who were trying to explore why people engage in public health programs including tuberculosis screenings (Rosenstock, 1974). The HBM constructs compile sets of beliefs that work together to stimulate or hinder people to adopt certain health behaviors: Perceived susceptibility: your belief about the chances of risk for an infection or getting a disease; Perceived severity: your belief about how serious a condition is and what consequences will cause; Perceived benefits: your belief in the advantages of taking action to reduce risk or seriousness of an infection or disease; Perceived barriers or costs of interventions: your perception about the physical and psychological costs to adopt the behavior; Cues to action or to adopt the behavior: Strategies or messages that might stimulate your readiness and push you to take action; Self-efficacy: your confidence about taking an action. The HBM is proven to be helpful in health crisis communication research, especially to analyze the individual's behavior during emergencies such as washing hands, wearing masks, and distancing.

Social media & preventive behavioral intentions

Several investigators have proved if social media influence the individual intention to take preventive measures. Mat Dawi et al., (2021) noticed that social media contribute to increased people's engagement in preventive behaviors. Lin et al., (2020) drew on the HBM model and found that exposure to Covid-19-related news on social media increased the chances that individuals will adopt the desired preventive behaviors. Other studies reported the influence of using social on preventive behaviors mediated by the effect of awareness (Nazir et al., 2020) or worry (Liu, 2020). A recent study in Lebanon by Melki et al., (2020) found that social media exposure to COVID-19 news can enhance the probability to take the recommended precautions by the public.

GSM during pandemic outbreaks

As number of people relying on traditional media to gratify their needs is declining (Parker & Thorson, 2009), it becomes paramount that governments shift to social media to connect with audience and keep disseminating information about public health issues. Lim et al., (2017) analyzed the content published on social media by governmental health organizations in the US and found that the HBM components were present in the GSM messages during the various phases of H1N1. Wong et al., (2017) analyzed tweets tweeted by local health departments during EBOLA and classified GSM message types as: information giving, preparedness, news updates, & event promotion. A more recent study by Lwin et al., (2018) examined GSM during Zika outbreak and revealed that social media use by government can be used for strategic communication during health emergencies. A study in China by Chen et al., (2020) found that providing Covid-19 news and dialogic communication on GSM had promoted engagement during the pandemic. In similar vein, Lien & Wu (2021) argued that customized information strategies are crucial during public health crises as the public in Taiwan responded differently to message contents disseminated by the government on Facebook during Covid-19.

Methods

The theoretical framework of the study was examined by selecting a case study of the MoPH by using a quantitative research design. An online survey was distributed among the followers of the MoPH on Facebook. The call for participation was announced through 12 image-based posts published on the official Facebook page of the MoPH from September 24, 2021 to Dec 31, 2021. The survey consisted of a group of questions that includes the demographic background, GSM exposure, social media behavior (post views and engagement), and components from the HBM relevant to Covid-19. All items had a reliability (Cronbach α) above 0.7 (Hair et al., 2017). The data were analyzed using SPSS software version 25. Descriptive statistics and bivariate Pearson's correlation test were carried out to test the relationship between the GSM exposure and GSM participation toward HBM components. P-value less than 0.05 was considered as a significant level in this study.

Findings

Demographic analysis

A total of 2163 participants took part in the study. We collected data on the participants' sex, age, governorate, education, nationality, and monthly income. Most of the participants are Lebanese (n=1978, 91.4%), female (n=1413, 65.3%), and held at least a bachelor's degree (n=1431, 66.2%). Further, 73.8% of the sample are people aged 23 to 45 years and quarter of participants reported that their monthly income is zero (n=579, 26.8%).

GSM exposure, GSM participation, HBM constructs

The most commonly selected reason for following the Facebook page of the MoPH was to stay up-to-date with Covid-19 news (n= 1328, 61.4%), followed by information seeking related to the official number of daily cases and death toll (n=1236, 57.1%). Regarding engagement levels on MoPH Facebook page, almost two-thirds of the participants reported no interaction with posts (n=1335, 61.7%), while 31.5% (n=681); 2.5% (n=53); 4.3% (n=94) reported frequently liking, commenting on, and sharing posts, respectively. Also, 1834 participants (50%; 34.8%) perceived Covid-19 as very serious to serious. 1702 participants reported probably yes/certainly yes for perceived susceptibility. A major portion of participants (n=1516, 70.1%) reported certainly yes for the effectiveness of preventive measures in reducing the risk of Covid-19 (n=1585, 73.3%). Concerning the barriers of adopting protective behavior, the greatest difficulty reported was avoiding touching one's eyes, nose, and mouth (n=726, 33.5%), followed by wearing mask all time (n= 674, 31.2%) and avoid group gathering (n= 536, 24.8%).

Bivariate Analysis

The results indicated a positive and significant relationship between exposure to Covid-19-related news and all the HBM constructs including perceived severity (r= 0.28, p= 0.00), perceived susceptibility (r= 0.14, p= 0.00), perceived benefits (r= 0.25, p= 0.00), perceived barriers (r= 0.05, p= 0.02). Moreover, there was a positive and significant relationship between post views and all HBM constructs, including perceived severity (r= 0.11, p= 0.00), perceived benefits (r= 0.08, p= 0.00), perceived control (r= 0.11, p= 0.00), perceived barriers (r=0.11, p=0.00), but negative and significant with perceived susceptibility (r= -0.05, p= 0.02). Finally, there was a significant and positive relationship between GSM engagement with two of the HBM constructs, perceived severity (r=0.07, p= 0.0007), perceived benefits (r=0.05, p=0.01).

Conclusion and Discussion

The survey data on HBM components revealed an overall adequate knowledge toward COVID-19 among the GSM followers, particularly those following the Facebook page of the Lebanese MoPH. The majority of participants considered Covid-19 as serious with high probability of getting infected. They also recognized the importance of compliance to protective measures and found it easy to practice the preventive behaviors. Generally, GSM followers were interested in the official Facebook account of the MoPH mainly to stay-up-to date with Covid-19 and get informed about new daily cases and death toll.

Concerning GSM exposure, it was noticed that exposure to Covid-19-related information coming from government was associated with higher perceived severity, perceived susceptibility, perceived benefits, perceived control, and perceived barriers to adopt preventive measures. This finding is in accordance with a recent study in Lebanon which reported that exposure to Covid-19 information on social media was associated with preventive behavior and increased awareness about the pandemic (Melki et al., 2020). Our work, therefore, provided additional proof that increased exposure to information provided by public officials on social media is effective in risk and crisis communication and for promoting protective behaviors. Further, our findings highlight the importance of ongoing information provision to reduce the barriers of taking the preventive measures.

Regarding GSM participation in terms of viewing posts, it was found that viewing the MoPH regularly had impact on perceived severity, perceived benefits, perceived control and perceived barriers. This finding presents am indication of the potential of social media content in positively altering people's perceptions toward Covid-19 and adopting the preventative behaviors.

The influence of GSM participation in terms of liking, commenting, and sharing on perceived severity and perceived benefits was also observed. More engagement was associated with higher perceived severity and perceived benefits. The present result is significant in more than one aspect. Since perceived severity and perceived benefits are amongst the strongest predictors of preventive behaviors (Shah et al., 2021), so driving engagement on GSM must get fair consideration by the health officials. Tang et al., (2021) argued that viewing, commenting and sharing on GSM can influence online security behaviors against COVID- 19 scams through perceived severity, perceived vulnerability, self-efficacy, and response efficacy. Further, we here conclude that as long as followers keep viewing, liking, commenting on, and sharing the government-created content, their perceptions about risk and effectiveness of taking preventive measures to reduce risk would be improved. Consequently, the health communication officers should double their efforts to trigger more engagement with the posts published on social media. One way to achieve this could be by developing an interactive and controversial content and allowing audience to share needs, ask questions, and exchange experiences about challenges and how to handle those. Another way is to explain to the public the importance of participatory behaviors for crisis management and continuously motivating people to participate in GSM especially by adding comments and sharing posts. Commenting on posts by a public offer a two-way communication and can help health official in tracking public concerns and sentiments. Also, sharing posts by the public is crucial as it helps in spreading the government messages which contribute in increasing awareness among other online users. The impact of liking, commenting, and sharing behaviors on perceived severity and benefits can be explained by the fact that these behaviors may represent an

affirmative action by the public and a higher tendency to respond to and accept government recommendations regarding the best way to contain the pandemic.

Nevertheless, the results are subject to few limitations. First, the data were collected from a Facebook only and in one country and in the context of one pandemic crisis. Future research can employ a cross-platform approach (i.e. Instagram, Twitter) to increase confidence in the results. Second, the findings of this study may not represent the views or practices of the whole followers of the MoPH. Third, future research should attempt to explore the impact of GSM on the change in health perceptions and protective behaviors over time by longitudinal studies.

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