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Contexts, Policy, and Plan for Digital Workforce of Provincial Offices in Thailand

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Abstract. This research was aimed to study digital contexts, policy, and plan for digital workforce of provincial office in Thailand using Delphi technique. In this research, 12 provincial office personnel were determined as key informants. Data were collected by using online interview form and used for content analysis. Results demonstrated that roles and duties of digital workforce according to the mission had relation with positioning standard and operating under The National Strategy 2018-2037 with 5 platforms. The key suggestions of this article were insufficient digital workforce, inconsistent working with the positioning standard of digital workforce, and insufficient professional of digital workforce. Additionally, government organization accepted digital change as being slower than the private organization, due to budget allocation for digital technology procurement was limited

Keywords: Context, policy, digital workforce, provincial office, Thailand, information management

1 Introduction

Digital changes in society affected private and public organizations. In the past decade, digital changes had become a new additional way that value the outcome of digital innovations and be used as digital instrument to support innovational operation which moved by personnel (Opland et al., 2022). As digital disruption was improving human resource work design, professional activities and global economic, using digital system in the organization therefore influenced participation of personnel according to the study of Cheng (Cheng et al., 2021). Specific characteristics in organization with many creative personnel, they will meet new idea and experience everyday. While old personnel were obliged to continually improve their thought, attitude, and social values. These two dimensional data had tendency on employment complexity and clear hierarchy of working in organization. As a result, competition is growing rapidly in the global IT market. Digital advantage is a key factor that made

all of organization spending attention with technological progress program for first, to bring the improvement using in their organization (Mahapatro, 2010).

Workforce with ample knowledge, abilities, skills, and proficiency values were advantageous to organization or country (Office of the National Digital Economy and Society Commission, 2019). Therefore, modeling of successful workforce in organization management knowledge and skills of performance can be used for workforce potential information to individually analyze for employment improvement, performance improvement, maintenance improvement and development planning improvement (Gangani et al., 2006). Digital workforce restructuring is a long-term work that will see results in 10-20 years. With proper preparation, Thailand will be able to create high-value jobs by developing advanced digital skill and professional skills, to produce sufficient digital workforce in accordance with the domestic socio-economic context that aims to meet the new working model that is more demanding. This will enable a new digital workplace ecology and a new generation of people with advanced and specialized digital skills. This is consistent with governance policy and the Digital Economy and Society Development National Plan 2018-2037, which aims using digital technology in work processes and government services in order to transform work processes and service processes to be efficient, accurate, fast, facilitating and able to provide one-stop service (Government Gazette, 2019).

Digital workforce of each 77 provincial office in Thailand were computer technical officer according to positioning standard which covers computer science practice and perform other related duties (Office of the Civil Service Commission, 2009). These workforce perform with appropriate blending of knowledge, skills, and personal characteristics in daily performance to make performance linking the reason and to make the effective performance can be referenced to benchmarks in a given job or situation, according to the study of Alspach (1991) and Spencer & Spencer (1993). Applying experiences to decision-making in new situations and being able to handle these difficult situations carefully and rationally move the good job productivity. Therefore, these structures, processes, and relational mechanisms serve as key governance mechanisms to enable digital technology boards and organizations to decide on the necessary performance enhancement activities to optimize digital technology operations. De Haes et al. (2020) described that the process of governance in information was forming, strategizing and monitoring to ensure that daily behavior would be consistent with policy and information provision.

The objectives of this article were mainly to study the current state, context, policies and digital implementation plans of provincial office in Thailand, where had objectives to know the digital technology operations environment based on structure, mission, and division of work within government agencies with Delphi Technique, which can lead to outstanding results of work and create benefits for organizations and society of government organization.

2 Literature Review

Internal division structure and missions of provincial office in Thailand were managed according Ministry of Interior's General Sub-Committee Resolution No. 3/2016 dated April 28, 2016 under 'Organization of internal work division structure and improvement of position assignment under the Ministerial Regulation on the division of government agencies, Office of the Permanent Secretary for the Interior (No. 2), B.E. 2559', which included 4 units such as 1) Administrative Unit 2) Human Resources Management Unit 3) Strategy and Information for Provincial Development Unit and 4) Provincial Damrongtham Center Unit (Office of the Permanent Secretary for the Interior, 2016). The digital technology mission was a part of the Strategy and Information for Provincial Development Unit of Provincial Office in Thailand under Ministry of Interior, this unit has performed digital work and supported the operations of other agencies involved or assigned authority according to the structure of Office of the Permanent Secretary for the Interior (Office of the Permanent Secretary for the Interior, 2016). Strategic unit under Ministry of Interior has performed key digital technology mission on development of information systems for provincial development planning, plan integration at all levels to implement local action and making a provincial development plan (Office of the Permanent Secretary for the Interior, 2016).

Thailand has announced plans and policies related to digital workforce on digital development for the economy and society 2018-2037. The overall plan and policy content appeared in the 4th Strategic Plan, which aimed using digital technology in work processes and government services in order to transform work processes and service processes to be efficient, accurate, fast, facilitating and able to provide one-stop service. Additionally, this strategic plan also aimed providing services to all sectors with ease, speed, accuracy and convenient to appropriate access the information, promoting working with honest and participation, supporting working integration between departments and providing efficient service to support the development of new applications or services that were basic services of all government agencies (Government Gazette, 2019). This research classified the back office platform into 6 systems as followed: 1) Back Office by Digital Default system, to support the transformation of government management processes to be in digital form. 2) Smart service system, by converting traditional government services to digital services in an automated manner. 3) The peer to peer system, which was a system that prepared for the transition to inter-service providers by the government, facilitating or ensuring fairness. 4) One Government system, which integrated government which similarly worked as only one organization that could be accessed without physical, space, and language limitations. 5) Open Data system, a system which revealed beneficial information leading to be Digital Thailand. 6) Massive Open Online Course (MOOC), online teaching and learning management system, an open system for the public that used online technology (Government Gazette, 2019).

The adoption of Delphi technique in the research is widespread today, as is the case with the research in this paper which be a methodological choice in line with the research contributors. Linstone and Turoff (1975: 3) said that the Delphi process as a

method for structuring group communication processes to they are effective in allowing groups to deal with complex problems collectively. In the study of Etemad, Gurau, and Dana (2022: 35), which brought Delphi technique to use as an independently systematically interactive forecasting method based on the data of selected experts. In summary, the literature review in this article revealed that, according to the context of digital policy and action plan for the digital workforce, provincial office in Thailand assigned missions according to organization structure under positioning standard of government organization for working on the development of information systems for geographic information system management, to plan and create provincial information network aimed to be Provincial Information Center for Provincial Administration and Planning in line with the National Strategy of Thailand. These missions prioritized adopting an internal management platform to prepare for the digital service in Thailand.

3 Research Methodology

A study on the context of digital policies and action plans for the digital workforce of provincial office in Thailand. A part of the past dissertation on competences required for the digital workforce of provincial offices in Thailand was qualitative research using the Delphi technique, Phase 1, defining the issues studied to make effective structural and operational policy.

The population used in the Phase 1 research was personnel and stakeholders under the provincial offices which were apart of 6 regions in Thailand, which appeared in the announcement of the Central Registry as of December 31, 2019 (Royal Academy, 2002; Government Gazette, 2019). The population in this research were digital technology professionals under public and private organization who involved in digital workforce in Thailand and professionals in educational institutions working in teaching and research to produce digital technology workforce (Office of the Higher Education Commission, 2015).

The group of key informants in the research study was determined by using the method of selecting the key informant groups with Nonprobability Sampling from Purposive Sampling to be sample group in research. The sample group was selected into 12 people, 2 people per province, a province per region, by assigning the first English letter code according subgroup meaning, followed by 3 Arabic numerals representing the given number of individual interviewees' names, for example, 6 boards assigning as B001-B006, and 6 digital workforce assigning as D001-D006. The details for the assigning of key informants and organization personnel groups were shown in Table 1.

Table 1 Assigning the group of key informants in the research study: Organizational Personnel Group

Key Informants	Number (person)	Gender	Age (year)	Educational Background	Duration / Experience	Ethics in Human Research
Organizational	12	- Male				Consenting and

personnel		- Female				cooperating with the information until the completion of the data collection process
1. Board	6	- LGBTQ+	35-59 years	Master's degree or above	5 years or above	
2. Digital Work-force	6		20-59 years	Bachelor's degree or above	3 years or above	

Research instrument was structured interview, including open ended question contained 4 parts such as part 1 personal information, part 2 context and technology environment in organization, part 3 comments on the competencies required for digital technology practice in organization, and part 4 other recommendations supporting the development of competencies needed for the digital workforce in organization. Quality of interview form was validated by 5 experts in digital technology and social science research statistics fields, giving +1 point when the question was consistent with main research content and research objectives, giving 0 point when having indecision of the question with main research content and research objectives, and giving -1 point when the question wasn't consistent with main research content and research objectives. Bringing scored data to analyze for finding Index of Item Objective Congruence (IOC) each question using Rovinelli and Hambleton's formula (Rovinelli and Hambleton, 1977). IOC was shown as 0.92, which meant that having Reliability more than or equal 0.90. This finding revealed that the interview form was very reliable (George & Mallery, 2003) and could be used as a research instrument for data collection.

Collecting the data with informal interviews using Google Forms, which was a Freeware (software that can be used for any purpose free of charge) and not need to be installed on the computer, It could share document and cooperate with other users through Web-Browser (Rikharom, 2019) and facilitating to key informants providing information and answer questions freely (Prasitratasin, 2018; Gracht, 2012) with sending and receiving online questionnaires via Email, Line or Facebook. Data collection period was 3 months, from February to May 2022, with details of data collection in Table 2.

Table 2 Report on the collection of interview forms from the group of key informants: Organizational Personnel Group.

Key Informants	Number (person)		Percentage (reply)	Reduction of the Deviation (Thomas, 1971)	
	Determination	Reply		Number	Deviation Reduction
Organizational personnel	12	10	83.33	9-13	0.04
1. Board	6	4	66.67	1-5	0.50
2.Digital Workforce	6	6	100.00	5-9	0.12

Analyzing information on current conditions, context, policies and action plans in digital technology and the need for competence required for the digital workforce of

provincial office in Thailand by using content analysis of the content scope, connection and relation (Steiner, Albert, & Heller, 2007; Meredith, 1993; Seuring & Gold, 2012).

4 Discussion

The synthetical review result of current conditions revealed that context, policies and action plans on digital technology of provincial office in Thailand had important things as followed:

Context and digital technology environment in the present of provincial office in Thailand, it was found that there were practitioners on digital technology field under Strategy and Information for Provincial Development Unit of Provincial Office. This unit had important 2 digital technology missions such as 1) Developing information system for planning provincial development, and 2) Integrating plan connection at all level leading to area practice. In the present, digital technology working is the organizational support mission, not the organizational primary mission. Therefore, digital technology working is a mission in the position of computer technical officer who has roles and duties under positioning standards of the Office of the Civil Service Commission (OCSC). The examples of an interview among a board with code of B003 and a board with code of B006 were shown as followed:

"...It was previously clearly determined as the Information and Communications Unit, but in 2016, Office of the Permanent Secretary for the Interior disbanded this unit with Strategy and Information for Provincial Development Unit. This was shown central organization didn't realize the importance of digital technology working..." (B003, Interview, 10 March 2022)

"...Every each provincial office in Thailand had only a computer technical officer according OCSC assignment. This made implementation about interior working to become slow. Therefore, it is important to cooperate with educational institutions within the province as a network of knowledge transfer in fields related to digital technology. This makes the operations have a lot more liquidity..." (B006, Interview, 19 May 2022)

The readiness of management under digital technology policy and action plan according to the internal management platform which found that there were 4 platforms as followed:

Back Office by Digital Default system, a sending document system between organizations or units which called 'Electronical Correspondence System' had specific characteristic as sending official document service, storing and conducting documentary work in a single system. Additionally, this was also a system for issuing document numbers outside of government organization within the province. The examples of an interview among a digital workforce with code of D001 and a board with code of B002 were shown as followed:

"...Efforts were being made to implement electronic rather than paper, for example electronical correspondence system and cloud-based electronic systems..." (D001, Interview, 18 March 2022)

"...There was an improvement in the use of the Back Office system to be able to work from within the organization and outside in response to work..." (B002, Interview, 10 March 2022)

Smart Service system was complaint tracking system in Provincial Dhamrongtham Center and District Dhamrongtham Center, having specific characteristic as a management system and complaint tracking system in province and district through application and web-site. In some provincial offices, there was also a complaints database system in the province as a whole, to increase ways for complaints and tracking the action of people toward the Provincial Damrongtham Center and District Damrongtham Center through application and web-site, to receive notification of progress and results of complaints with quick convenience and to enhance the efficiency of management and complaints tracking of Provincial Damrongtham Center and District Damrongtham Center.

One Government system was Electronic Provincial Administration Meeting (EPAM). This system had a specific characteristic as meeting management system for Chief of Province Governer's Office, by downloading and installing this application into smart phone or tablet through App Store for IOS and Play Store for Android. Then, Attendees could review the meeting agenda and meeting documents via this application in advance. They could use it to open and read the meeting documents on the actual day of the meeting without having to print hard copy of the meeting documents to the attendees. The example of an interview among a digital workforce with code of D004 was shown as followed:

"...There were no less than 300 attendees at each meeting, which originally required no less than 110 meeting documents per person. Therefore, an adoption of EPAM system in such meetings was of great benefit..."

Open Data system was an ITA disclosure system, which was a disclosure of information that provides basic information to people and interested parties through official provincial web-site. This system had specific characteristic as able to provide information, press release, plans and projects of province through official provincial web-site, for example, web-site 'data.go.th' which was a government official web-site that provide government information. This system had developed an information database system and an operational program through provincial website and connected to internet, so that the provincial government agencies could use it in their work conveniently and support working of personnel in use of information.

Digital policy and action plan according to announcement of National Policies and Plans on Digital Economy and Society Development 2018-2037, which was found that there were digital technology operations that was the provincial digital plan as known as the "Smart City Plan" of the province. An example of an interview among a digital workforce with code of B005 was shown as followed:

"...Usually, provincial digital working find assistance from organizations related to the Ministry of Digital Economy and Society, such as Depa and the National Statistical Office Thailand which is an agency under the Ministry of Digital Economy and Society to help digital technology working..."

The provincial office has been responsible for coordinating between these agencies.

From the study, it was found that all departments within the organization had readiness of digital technology, due to this study related to data collection, data analysis and data processing in the provincial development plan and other plans. Therefore, it was easy to analyze data for benefit of further processes. An example of an interview among a digital workforce with code of D002 was shown as followed:

"...If an information system was used within the provincial office, such as the provincial office program, that was considered to be ready and sufficient according to the number of personnel, and the system was enough to cover needs such as an electronical correspondence system, a complaints system in Provincial Dhamrongtham Center, etc..."

But a board with code of B001 gave an interview that:

"...There was not availability and inadequacy of computer or any equipment that supported the information and digital technologies that had been used by personnel in all working unit for a long time, the software had been still the original version, and may not have had a valid license..."

The key suggestion was said that some jobs related to digital technology still lacked of the workforce that really had expertise in that field, for example, workforce that could actually program, the organization employed them and let them inspected the procurement, which was not related to digital technology working, and the recruitment of workforce did not match positioning standards of computer technical officer according the Office of the Civil Service Commission (OCSC) assignment, including problems of government agencies that believed in fake news and delayed adoption of new changes, it resulted in poor browsing. Additionally, the number of personnel working in digital technology was insufficient, because computer technical officer position was determined as only 1 position in a provincial office, and provincial office would manage recruitment and hiring of temporary workers to help in digital technology work by converting the annual government budget each year to help driving the digital technology work.

5 Conclusions

This article revealed the digital technology context in provincial office by having only 1 computer technical officer position in a provincial office, who had a duty according information development missions for planing a development plan and integrating other plans to area practice under the National Strategy 2018-2037 of Thailand. Additionally, computer technical officer also worked under interior

organizational management platforms, such as Electronical Correspondence System, Complaint Tracking System in Provincial Dhamrongtham Center and District Dhamrongtham Center, Electronic Provincial Administration Meeting (EPAM) and Integrity and Transparency Assessment: (ITA), these could be further used as information for defining the necessary competency framework for the digital workforce of provincial offices in Thailand.

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