

HO CHI MINH NATIONAL ACADEMY OF POLITICS

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**THE ROLE OF COMMUNE/WARD-LEVEL
OFFICIALS AND CIVIL SERVANTS IN URBAN
AREAS OF HO CHI MINH CITY IN DIGITAL
TRANSFORMATION**

ABSTRACT OF DOCTORAL DISSERTATION

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INTRODUCTION

1. Justification for the Selection of the Doctoral Dissertation Topic

Firstly, digital transformation is an inevitable trend in the era of globalization and the Fourth Industrial Revolution, profoundly altering social structure, governance methods, and the relationship between the State and its citizens. In this context, the body of officials and civil servants, particularly at the ward and commune levels - who are social actors holding key roles - face the demand to reconfigure their social roles to adapt to unprecedented social norms and expectations. However, to fulfill this role, these officials and civil servants are compelled to quickly adapt to new requirements regarding digital skills, digital mindset, and work methodologies. Approaching the role of these personnel in digital transformation from a sociological perspective, especially digital sociology, is therefore essential.

Secondly, major policies of the Party and the State, such as Resolution 52-NQ/TW (2019) and the National Digital Transformation Program, clearly identify the central role of officials and civil servants. Yet, practical implementation still faces numerous challenges: a segment of these personnel has not kept pace with the required digital skills, their awareness remains inadequate, and a psychology of reluctance toward the new still persists.

Thirdly, the 12 new wards formed after the reorganization of the previous 34 wards in the Thu Duc City urban area of Ho Chi Minh City represent a typical social space for studying the role of commune/ward-level officials and civil servants in digital transformation. This is an area experiencing rapid urbanization and modernization, characterized by a large population and high demand for quality public services, which necessitates a powerful renewal of both the professional competence and the approach to citizens by the commune/ward-level personnel.

In reality, despite many administrative reform models and technology applications being deployed at the commune/ward level, “the awareness of grassroots-level personnel (commune/ward) remains insufficient, and the role of officials and civil servants in digital transformation within certain civil service activities is still quite vague”. The accurate perception of the nature, role, and importance of digital transformation at many levels has yet to meet the necessary requirements, leading to a role execution that is often perfunctory, trend-driven, or characterized by a lack of synchronicity and a half-hearted, incomplete effort.

This is the rationale behind the doctoral candidate's selection of the topic: “The Role of Commune/Ward-Level Officials and Civil Servants in Urban Areas of Ho Chi Minh City in Digital Transformation”, as the subject of their doctoral dissertation.

2. Research Subject, Target Population, Scope of the Study

2.1. Research Subject

The Role of Commune/Ward-Level Officials and Civil Servants in Urban Areas of Ho Chi Minh City in Digital Transformation

2.2. Target Population

Commune/ward-level officials, civil servants, and permanent resident citizens of Ho Chi Minh City who utilize digital platforms for public administrative transactions.

2.3. Scope of the Study

- Geographical Scope: This study is conducted in the 12 consolidated wards of the former Thu Duc City in Ho Chi Minh City.
- *Time Scope*: The analysis utilizes survey data spanning the 2020 to 2025 period.

3. Aims of the Study and Research Tasks

3.1. Aims of the Study

To clarify the role of commune/ward-level officials and civil servants in digital transformation and identify the factors impacting their role in the urban areas of Ho Chi Minh City during the digital transformation process. Based on this, to propose recommendations aimed at enhancing the role of ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning digital transformation.

3.2. Research Tasks

- To clarify the current status of the role played by commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning digital transformation across the following dimensions, including: Renewing mindset and awareness of digital transformation, developing digital skills, and building a digital culture. Developing digital infrastructure and digital platforms, and ensuring information safety and security. Data digitization, deploying data repositories (data warehouses), and data utilization. Applying digital technology to transform operational processes and public administrative reform. Applying digital technology to formulate, enact, and organize the implementation of policies and regulations.

- To clarify the current status of the role fulfillment by commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning the digital transformation process, across the following dimensions: Mindset renewal and awareness regarding digital transformation, digital skills development, and digital culture building. Development of digital infrastructure and digital platforms, and the assurance of information safety and security. Data digitization, the deployment of data repositories (data warehouses), and data utilization. Application of digital technology to transform operational procedures (workflows) and public administrative reform. Application of digital technology to formulate, enact, and organize the implementation of policies and regulations.

- To elucidate the influence of socio-demographic variables concerning commune/ward-level officials and civil servants in urban areas (namely: gender, age, educational attainment, position/title, seniority/tenure, and field of work), and organizational and public-facing factors (including: leadership support; training and capacity building for officials and civil servants; technological infrastructure; information availability; and citizens' access to administrative services) on the fulfillment of the digital transformation role by these commune/ward-level officials and civil servants.

- To determine the outcomes of the role fulfillment by commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning digital transformation, specifically viewed through the lens of enhancing the quality of public services and citizens' satisfaction.

- To propose recommendations aimed at enhancing the role of commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning digital transformation.

4. Research Question

(1) What specific roles have ward-level cadres and civil servants in the urban areas of Ho Chi Minh City undertaken in the implementation and advancement of digital transformation?

(2) To what extent, and through which mechanisms, do the socio-demographic characteristics of ward-level cadres and civil servants, together with organizational–institutional factors and citizen-related factors, shape and condition the enactment of their roles in digital transformation in the urban areas of Ho Chi Minh City?

(3) What are the observable outcomes and impacts of the roles performed by ward-level cadres and civil servants in the urban areas of Ho Chi Minh City on the process and effectiveness of digital transformation?

5. Research Hypothesis

1. Ward-level cadres and civil servants in the urban areas of Ho Chi Minh City undertake multiple newly emerging social roles in relation to digital transformation, and the extent to which these roles are performed varies across role domains. Specifically, ward-level cadres and civil servants in the urban areas of Ho Chi Minh City perform the role of fostering innovative thinking and raising awareness of digital transformation more effectively than the roles of developing digital skills and cultivating digital culture; they perform the role of ensuring information safety and cybersecurity more effectively than the roles of developing digital infrastructure and digital platforms; and they perform the role of data digitization more effectively than the roles of data utilization and data sharing. However, no statistically significant difference is observed between the performance of the role of applying digital technologies to transform operational workflows and the performance of the role of applying digital technologies in the formulation, promulgation, and implementation of public policies.

2. Socio-demographic characteristics of ward-level cadres and civil servants in the urban areas of Ho Chi Minh City, together with factors related to governmental organizations and citizens, exert significant influences on the performance of roles in digital transformation. Specifically, differences in gender and age among ward-level cadres and civil servants in the urban areas of Ho Chi Minh City are associated with variations in the performance of their roles in digital transformation. Higher levels of educational attainment among ward-level cadres and civil servants are positively associated with more effective performance of roles in digital transformation. Furthermore, greater leadership support is positively correlated with improved role performance in digital transformation among ward-level cadres and civil servants in the urban areas of Ho Chi Minh City.

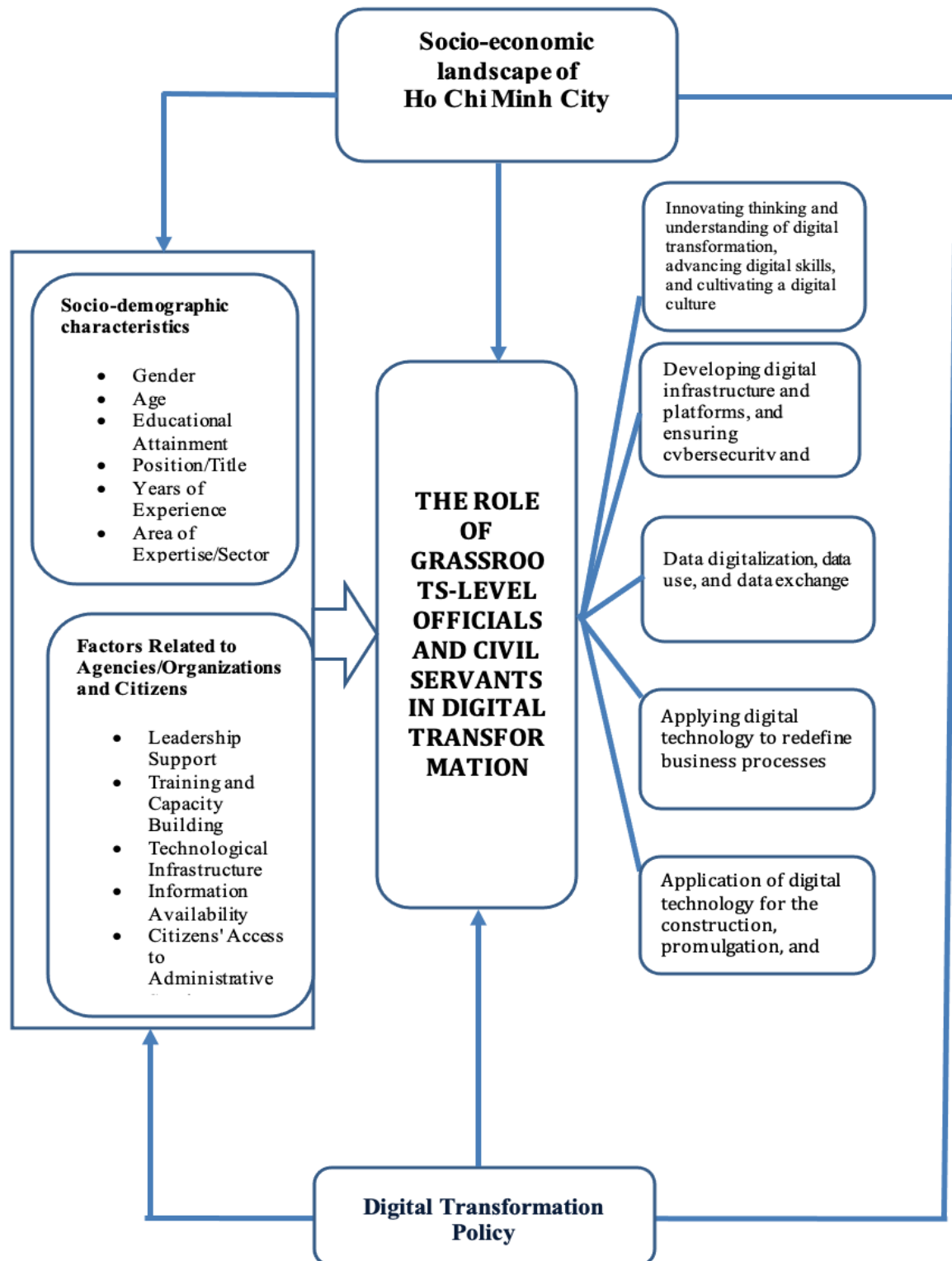
3. The outcomes of the performance of digital transformation roles by ward-level cadres and civil servants in the urban areas of Ho Chi Minh City are reflected in the quality of public service delivery and citizens' satisfaction with public services. Specifically, the more effectively ward-level cadres and civil servants perform their roles in digital transformation, the higher the quality of public services and the greater the level of citizens' satisfaction.

6. Research Philosophy and Methodology

The dissertation employs the sociological research method as its predominant methodology. Within this sociological framework, the dissertation utilizes a combination

of diverse data collection methods: secondary data collection, quantitative data collection, and qualitative data collection. This multi-method approach ensures the reliability of the data and establishes a unified structure for effectively gathering and documenting information from the field in the case study area. The principle governing the combination of quantitative and qualitative data collection in this study is that the qualitative data collection method complements the information obtained through the quantitative data collection method.

7. Conceptual Framework



8. Theoretical and Practical Implications of the Dissertation

8.1. Theoretical Implications

The dissertation has successfully systematized perspectives on digital transformation and has initially constructed an analytical framework for the role of commune/ward-level officials and civil servants in urban areas during the digital transformation process. Furthermore, the dissertation's research findings contribute to the validation, supplementation, and refinement of several sociological theories and research methods.

8.2. Practical Implications

The research findings will furnish empirical evidence, practical data, and scientific information for the management agencies of commune/ward-level officials and civil servants in urban areas, enabling them to formulate policies that encourage, incentivize, train, develop, promote, and further enhance the role of these commune/ward-level officials and civil servants concerning digital transformation.

9. Contributions of the Dissertation

The research findings of the dissertation contribute to the formation of new civil service norms, and furthermore, establish a foundation for subsequent studies to construct a framework for assessing the digital competence and digital behavior of officials and civil servants.

The research findings serve as empirical data, contributing to a truthful reflection of the grassroots-level officials' role in digital transformation within the context of organizational streamlining and consolidation, thereby enhancing the efficacy and efficiency of the digital civil service.

The dissertation successfully reveals the "digital gap" existing within the grassroots-level body of officials and civil servants, segmented by age group, field of work, and official position/title. These findings hold high practical value for policy planning regarding training, job assignment, and the design of digital transformation strategies tailored to specific target groups, rather than adopting a homogenous model.

10. Dissertation Structure

The dissertation comprises an Introduction, Conclusion, and Recommendations, and four chapters, including:

Chapter 1: Overview of the Research Landscape concerning the role of officials and civil servants in digital transformation.

Chapter 2: Theoretical and Practical Foundations for studying the role of commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning digital transformation.

Chapter 3: Current Status of the Role Fulfillment by commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning digital transformation.

Chapter 4: Impacting Factors and Specific Outcomes of the role fulfillment by commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning digital transformation.

CHAPTER 1: LITERATURE REVIEW ON THE ROLE OF OFFICIALS AND CIVIL SERVANTS IN DIGITAL TRANSFORMATION

1.1. Theoretical Studies on Social Roles

Ralph Linton (1936) was the first to establish the relationship between social status and social role, wherein status is the static “position” within the system, while role is the dynamic aspect, representing behavior congruent with social expectations for that position. Talcott Parsons (1951) developed the role concept within social system theory, emphasizing that standardized roles help maintain social order and integration through the AGIL functions. George H. Mead (1934) and Erving Goffman (1959) approached this from symbolic interactionism, viewing role as the result of role-taking and social “performance” aimed at maintaining personal identity and image before others. Bruce J. Biddle (1979) defined role as a network of social expectations, analyzing forms of role conflict and role ambiguity as causes of dissatisfaction and reduced organizational effectiveness. Lê Ngọc Hùng (2005) stressed that role is the behavior associated with social status within the system, reflecting the individual-organization nexus and a product of the socialization process, while Đỗ Văn Quân (2022) proposed four models for assessing the congruence between social status and role. These theories form the foundation for the dissertation to analyze the role of officials and civil servants in digital transformation not only from an administrative perspective but also from a sociological dimension, specifically through the degree to which they meet social expectations in the digital context an approach that remains quite novel and has been systematically underexplored.

1.2. Studies on Digital Transformation, Developing Digital Skills, and Building a Digital Culture

Firstly, on the role of renewing mindset and digital awareness: Digital transformation necessitates a holistic shift in mindset, where the greatest challenge lies in changing the habits and perceptions of officials and civil servants (Ministry of Information and Communications, 2021). Several recent studies have underscored the pioneering role of young civil servants (Nguyen Thi Luyen & Nguyen Le Hoang Quynh, 2023), and the link between policy communication and digital awareness (Vu Xuan Nam & Chu Thi Tuyen, 2024), but they still lack in-depth analysis on the substantive impact on transformation effectiveness. Many works approach digital awareness through factors like knowledge, attitude, and application level (Tran Nguyen Bao Anh; Bui Chi Mai, 2024; Pham Quang Linh & Le Quang Ngoc, 2023), while concurring that digital knowledge is the foundation for forming an adaptive public workforce in the digital era.

Secondly, on the role of developing digital skills: Digital skills are an essential prerequisite for officials and civil servants to adapt to the new work environment. Numerous studies indicate a growing demand for digital skills training, ranging from the organizational requirement to build a continuous learning culture (Kwon & Park, 2020) to the reality that students and young workers still lack deep expertise in data, cybersecurity, and content creation (Nguyen Thi Hien & Pham Quang Anh, 2024; Pham Thi My Dung et al., 2023). The reality in many nations also clearly demonstrates a digital skills gap within the public sector workforce.

Thirdly, on building a digital culture: Digital culture is the sustainable bedrock for

digital transformation, manifest through rules, behaviors, and ethical norms in the digital environment (Watkins et al., 2021). Studies emphasize the role of organizational culture change (Mofleh et al., 2005) and the necessity of a "digital DNA" to ensure strategic focus and sustainability (Forsythe & Rafoth, 2022). Nevertheless, there is a lack of research connecting digital awareness, digital behavior, and digital culture among grassroots-level personnel, nor has the influence of demographic factors been clearly analyzed. This dissertation aims to bridge this gap through a qualitative approach and deep sociological analysis.

1.3. Studies on Data Digitization, Utilization, and Sharing

Digitization is considered the soul of digital transformation, with officials and civil servants as the core force. Numerous studies emphasize that digitization is not merely replacing paper documents but involves reconfiguring processes (Casalino et al., 2019, 2021; Rieger, 2020; Gartner). The stages of digitization include: data entry, processing, transmission, and archiving (Casalino et al., 2021). In Italy, digitization aids in enhancing efficiency, transparency, and supports administrative reform (Casalino et al., 2010, 2021).

However, the attitude of officials and civil servants toward digitization remains complex because, on one hand, digitization increases transparency, reduces costs, and speeds up procedures; yet, on the other hand, it creates pressure for behavioral and skill changes, raising concerns about loss of control (Jukic et al., 2008; Casalino et al., 2021).

Digital data is an essential resource for policy design, execution, and monitoring (World Bank, 2021). Digital Government is distinguished by data-driven decision-making, rather than reliance on intuition. The steps include: objective identification, data collection, standardization, integration, and sharing. Nevertheless, in Vietnam, the lack of a synchronized sharing platform, the culture of secrecy, and inadequate inter-agency connectivity remain barriers (World Bank, 2021; Tô Lâm, 2024). Studies affirm that data is central to digital transformation. However, most approaches are technical or managerial, lacking deep sociological explanation regarding the social role of officials and civil servants, and the social motivations and barriers in implementing digitization and data development. Officials and civil servants are still viewed as "technology recipients", rather than social agents in the institutional-community interaction network.

The literature review reveals that data is the central element of public sector digital transformation, but most studies approach this issue from an administrative, technical, or economic-administrative perspective. This approach primarily describes officials and civil servants as mere technology recipients or operators, failing to recognize them as social actors whose beliefs, expectations, motivations, and behaviors are influenced by the institutional and social environment. Factors such as professional habits, pressure from supervisors, or concerns about accountability in the digital environment are often overlooked, despite being crucial "soft barriers" that impact the effectiveness of digital transformation.

1.4. Studies on Digital Infrastructure, Platforms, and Security

According to the World Bank (2021), the exploitation of digital platforms by officials and civil servants at various levels remains limited in their daily work. In the digital age, the network data system is the "cell" that operates public

administration; digital trust depends on the level of assurance regarding information safety and security. Roy (2024) points out old institutional constraints that hinder a digital governance mindset suited to the openness of digital platforms. Stewart (2023) and Gebremeskel et al. (2023) show that security is a persistent challenge, due to misunderstanding the digitization process and a lack of technical capacity.

Lima et al. (2021) emphasize the role of legal frameworks and collective responsibility in data protection. Chen et al. (2024) demonstrate the link between organizational culture and information security awareness, with the motivation for public service acting as an intermediary factor. Rodriguez (2019), from a survey in Puerto Rico, shows that urban resilience depends on technological, political factors, and management support.

These studies contribute to identifying technical infrastructure and digital platforms as necessary conditions for operating digital government, while simultaneously highlighting the role of organizational awareness and individual factors in ensuring information safety and security. This is the constitutive component of "valence", the expected occupational value for officials and civil servants engaging in digital transformation.

However, a number of gaps remain in this research direction, such as: A lack of sociological analysis of the behavior of grassroots-level officials and civil servants in ensuring information safety and security, such as why some are proactive and others are not; A lack of qualitative research on the specific role of ward-level officials in operating digital infrastructure, as well as their degree of proactiveness regarding information safety and security; A lack of analysis on the impact of demographics, organizational culture, and leadership on the behavior of protecting digital platforms; A lack of assessment of the readiness capacity to respond to information security incidents at the ward level, which is where data manipulation, processing, and protection directly occur.

1.5. Studies on Transform Operational Processing and Public Administrative Reform

Brynjolfsson & McAfee (2014) posit that Artificial Intelligence is ubiquitous, fundamentally altering life and organizational operational modalities. Digital technology helps improve processes, reduces costs, and enhances responsiveness and smarter decision-making (Westerman et al., 2011; Nwankpa & Roumani, 2016). According to Mergel et al. (2018), digital transformation necessitates comprehensive reform of public processes and services. Seneviratne (1999) and McIvor et al. (2002) underscore that information technology restructures civil service and improves productivity and responsiveness.

However, these studies primarily adopt technical and managerial perspectives, with limited analysis of the behavior of officials and civil servants, who are the direct implementers of the transition. This dissertation takes a sociological approach, viewing the technology application process as a social phenomenon, wherein officials must shift from compliance to proactivity, from experience to data-driven methods, facing accountability pressures, and altering their professional perceptions, contingent upon individual characteristics and organizational culture.

1.6. Research on Digital Technology in Policy Implementation

Numerous studies affirm the central role of officials and civil servants in utilizing

digital technology to formulate, enact, and organize the implementation of policies. Brynjolfsson and McAfee (2014) emphasize that modern civil servants don't merely use technology passively; they shape governance decisions based on Big Data and Artificial Intelligence. Janssen and Kuk (2016) extend this role within the open data environment, where civil servants coordinate, monitor, and adjust algorithms to ensure transparency and efficiency. According to Mergel et al. (2018) and Kattel & Mergel (2019), civil servants are the “digital architects”, designing policy processes, monitoring, and adjusting in real-time. The OECD (2019) stresses that technology utilization must align with local culture and law, necessitating critical thinking from civil servants. Other studies (Gil-García et al., 2014; Schintler & Kulkarni, 2014; Linders, 2012) also position civil servants as the nexus of digital adaptation, bridging the gap between government and citizens in multi-dimensional interactive governance models.

However, the majority of current works lean toward a technocratic perspective, viewing technology as an external tool, while fewer studies assess technology as a social factor influencing the behavior, cognition, and role of officials and civil servants within the policy cycle.

This research gap dictates several issues that this dissertation must expand upon, analyze, and clarify, such as: the need for qualitative research to describe the roles and elucidate the thoughts, feelings, and aspirations of the civil servants themselves; and explaining the underlying causes and rationales for the behavioral models they exhibit during the digital transformation process, through their own perspectives.

Synthesis of Findings in Chapter 1

The literature review in Chapter 1 has provided the author with a comprehensive overview of digital transformation and the role of officials and civil servants within this transition.

While existing studies have initially clarified the role of officials and civil servants across various facets of digital transformation, several persistent gaps remain that necessitate further investigation. Firstly, the majority of research still leans toward technical or administrative analysis or adopts a public management perspective, lacking studies situated within a sociological context to explain the role of officials and civil servants as social actors impacted by social changes. Secondly, there is a noticeable deficit of research approaching the behavior of officials and civil servants from a rational choice perspective, meaning participation in digital transformation activities must be grounded in benefit-based calculations. Thirdly, the role of officials and civil servants, conceptualized as a social expectation, has not been fully explored.

CHAPTER 2: THEORETICAL FOUNDATIONS, RESEARCH METHODOLOGY AND RESEARCH SETTING

2.1. Fundamental Concepts

2.1.1. The Concept of Social Role

The social role is a core concept in sociology and social psychology, widely understood as the set of behaviors, norms, rights, and obligations expected of an individual who occupies a specific social status within a given social structure or group.

The social role is understood as a model of expected behavior associated with a specific social status within the social structure. It constitutes a set of behaviors, obligations, and rights that society demands an individual or a particular social group must perform to meet social expectations.

2.1.2. The Concept of Digital Transformation

Digital Transformation is understood as the comprehensive and holistic process of changing the operational modalities (the way society lives, works, manages, and engages in labor and production) within the digital environment - a process that is intrinsically linked to the application of digital technologies while simultaneously ensuring the preservation of core values and philosophy.

2.1.3. The Concept of Commune/Ward-Level Officials and Civil Servants

Officials at the Commune/Ward Level in this dissertation are defined as Vietnamese citizens who are elected, approved, appointed, or designated to hold a specific post or title for a fixed term within the agencies of the Communist Party of Vietnam, the State, the Vietnamese Fatherland Front, or political-social organizations at the commune level, who are on the payroll and receive salaries from the state budget.

Civil Servants at the Commune/Ward Level in this dissertation are defined as Vietnamese citizens who are recruited into job positions within the agencies of the Communist Party of Vietnam, the State, the Vietnamese Fatherland Front, or political-social organizations at the commune level, who are on the payroll and receive salaries from the state budget.

For the purpose of this study, no distinction is made between officials and civil servants; instead, the analysis focuses solely on the job position based on official title to determine the influencing factors and the fulfillment of the role during the digital transformation process.

2.1.4. The Concept of the Role of Commune/Ward-Level Officials and Civil Servants in Digital Transformation

It is the set of behavioral models that the agency/organization, citizens, and the digital civil service expect commune/ward-level officials and civil servants to fulfill. This expected behavioral model corresponds to the responsibilities and duties that the commune/ward-level officials and civil servants (officials and civil servants) undertake for the position they occupy, during the comprehensive and holistic process of changing their working modalities within the digital environment, linked to the application of digital technologies in civil service activities.

2.2. Theoretical Framework of the Dissertation

2.2.1. Talcott Parsons' Social System Theory on Role Structure

This theory is utilized to clarify that successful digital transformation hinges on the degree of role fulfillment by each member within the civil service system, including officials and civil servants; it further helps to point out the role conflicts encountered by officials and civil servants during the digital transformation process when the demands and expectations placed upon them exceed the capacity of the official and civil servant body to meet them.

2.2.2. Max Weber's Theory of Social Rationalization

Digital transformation within the public sector represents a typical manifestation of social rationalization, as the traditional work environment is replaced by a more digitized, transparent, and logical operational system. This theoretical approach is

applied to clarify that officials and civil servants must be the nucleus of civil service digital transformation; the core in approaching and utilizing new technology, operating automated systems with transparent and public data, and applying digital technologies to make decisions based on rationality, calculation, and consideration of benefit-cost-efficiency.

2.2.3. Coleman's Theory of Rational Choice

This theory is applied to clarify that the expected behavioral models of officials and civil servants in digital transformation will be the result of choices based on individual motivation and the expectations, anticipations, and constraints of the organization, representing a deliberation between benefits and risks. The behavioral models based on deliberation and calculation (rational choice) can manifest as follows: (i) acceptance and proactive implementation of digital transformation; (ii) officials and civil servants still perform behavioral models that meet digital transformation expectations but are passive; (iii) officials and civil servants delay or resist digital transformation when they weigh the risks as outweighing the benefits.

2.2.4. Lenski's Theory of Technological Development and Societal Transformation

Lenski's theory helps to clarify the manner in which technology shapes the process of societal transformation in a cumulative and directional way. This theory is applied to the research to elucidate the impact of digital technology on the role of officials and civil servants.

2.3. Methodology

2.3.1. Firstly, Method of Secondary Data Collection and Analysis

2.3.2. Secondly, Method of Primary Data Collection

2.3.2.1. Quantitative Data Collection Method

a) Experimental Research Population (Object of Study):

Commune/Ward-level officials and civil servants

Citizens

b) Selection of Survey Area:

The 12 new wards consolidated from the former 34 wards of Thu Duc City

c) Sampling Method:

c1. For the Group of Commune/Ward-Level Officials and Civil Servants: The dissertation does not select a sample but studies the entire population: 620 officials and civil servants.

c2. For the Group of Citizens:

The dissertation utilizes non-probability purposive sampling for citizens.

Sampling Method and Distribution:

The total survey sample is 400 citizens, distributed across 10 wards out of the 12 new wards consolidated from the former 34 wards of Thu Duc City.

d) Quantitative Data Processing Method: The quantitative data from the questionnaire, after being collected, entered, and cleaned, will be processed and analyzed using the SPSS software, based on the research objectives of this dissertation.

2.3.2.2. Qualitative Data Collection Method

a) Data Collection Method:

Purpose: To describe the various roles and explain the reasons and underlying causes leading to the behavioral models exhibited by commune/ward-level officials and

civil servants during the digital transformation process, thereby elaborating on the quantitative data.

Sampling Method: The dissertation uses non-probability purposive sampling of 18 sample units (18 in-depth interviews).

b) Qualitative Data Analysis and Processing Method: The in-depth interviews will be recorded, and the audio files will be transcribed into Word documents and processed using the NVIVO software. Based on the in-depth interview transcripts and the data derived from the NVIVO software, characteristic, prevalent, and valuable statements will be utilized as evidence to clarify or substantiate the arguments presented in the dissertation and to supplement the quantitative hypotheses being tested.

2.4. Perspectives and Directives of the Party, and the State Policies and Laws on Digital Transformation and the Role of Officials and Civil Servants

Digital transformation (Dx) is identified as an inevitable trend aimed at promoting socio-economic development within the context of globalization and the Fourth Industrial Revolution. In Vietnam, the Party has demonstrated a strategic vision by integrating Dx content into key documents and resolutions. Resolution No. 52-NQ/TW (2019) affirms that actively participating in the Fourth Industrial Revolution is a strategic task, emphasizing the development of digital infrastructure and high-quality officials and civil servants. The 13th National Party Congress further set the direction for Dx development for the 2021–2030 period, with particular focus on digital human resources and national data infrastructure.

Resolution 57-NQ/TW (2024) pointed out limitations in digital awareness among officials and civil servants, consequently requiring the promotion of training and the popularization of technological knowledge throughout the entire political system. Resolution No. 50/NQ-CP (2019) and Decree 64/2007/NĐ-CP clarify the role of officials and civil servants in promoting the application of Information Technology and building digital government.

Decision 749/QĐ-TTg (2020) established the goal that by 2025, 100% of officials and civil servants will be trained in digital skills, underscoring the central role of human actors in digital transformation. Documents such as Decision 942/QĐ-TTg (2021), Decree 59/2021/NĐ-CP, Decision 127/QĐ-TTg (2021), Decision 411/QĐ-TTg (2022), Project 06/QĐ-TTg (2022), and Decision 964/QĐ-TTg (2022) continue to perfect the legal basis, establishing the central role of officials and civil servants in managing and operating digital infrastructure, data, and ensuring network security.

At Ho Chi Minh City, Decision 2393/QĐ-UBND (2020) and Plan 366/KH-UBND (2022) have operationalized the requirement that officials and civil servants must participate in the entire digitalization process, from system operation to policy design and the provision of public services. Collectively, these documents create a comprehensive legal corridor enabling commune/ward-level officials and civil servants to actively fulfill their role as key social actors in the national digital transformation trajectory.

2.5. Characteristics of the Study Area

The 12 new wards within the urban area of Ho Chi Minh City were consolidated from the former 34 wards of Thu Duc City, encompassing an area exceeding 211.59 km² and a population surpassing 1.2 million. This area holds

a strategic role in linking Ho Chi Minh City with the Southern Key Economic Region, simultaneously serving as a dynamic growth pole for the Eastern region.

Administrative and Institutional Context

Regarding administrative apparatus organization, from 2021 to 2023, the study area piloted the "non-intermediate urban government" model (chính quyền đô thị không trung gian). This involved abolishing the Ward People's Councils, streamlining the structure, facilitating data linkage, and enhancing professional specialization. The city is the first locality to trial the "grassroots-level government" model, aiming toward digital urban governance and real-time operation, with active citizen participation mediated through community digital technology groups.

Digital Transformation Landscape

In the domain of digital transformation (Dx), the city has achieved several notable results:

i) Mindset and Digital Culture Renewal promoted through specialized seminars and skills training for officials, enterprises, and citizens. ii) Development of digital infrastructure and platforms such as high-speed telecommunication networks, data centers, and the "Thu Duc City" application. iii) Data Governance and Information Security, involving the development of a shared data repository and open data serving the community. iv) Administrative Reform, including the digitalization of licensing, management, and public service procedures. v) Enhanced Interactive and Smart Decision-Making via AI and Big Data, enabling the government to promptly grasp citizens' needs.

Synthesis of Findings in Chapter 2

The 12 new wards within the urban area of Ho Chi Minh City were consolidated from the former 34 wards of Thu Duc City, covering an area of over 211.59 km² and housing a population exceeding 1.2 million people. This area plays a strategic role in connecting Ho Chi Minh City with the Southern Key Economic Region, simultaneously serving as a dynamic growth pole for the Eastern region.

Regarding administrative organization, from 2021 to 2023, the study area implemented the "non-intermediate urban government" model (chính quyền đô thị không trung gian), abolishing the Ward People's Councils, streamlining the apparatus, facilitating data linkage, and enhancing professional specialization. The city is the first locality to pilot the "grassroots-level government" model, aiming toward digital urban governance and real-time operation, with active citizen participation mediated through community digital technology groups.

In terms of digital transformation (Dx), the city has achieved several notable results: i) Mindset renewal and digital culture promoted through specialized seminars and skills training for officials, enterprises, and citizens. ii) Development of digital infrastructure and platforms such as high-speed telecommunication networks, data centers, and the "Thu Duc City" application. iii) Data governance and information security, involving the development of a shared data repository and open data serving the community. iv) Administrative reform, including the digitalization of licensing, management, and public service delivery procedures. v) Enhanced interaction and smart decision-making via AI and Big Data, enabling the government to grasp citizens' needs promptly.

CHAPTER 3: CURRENT STATUS OF ROLE FULFILLMENT BY COMMUNE/WARD-LEVEL OFFICIALS AND CIVIL SERVANTS IN URBAN AREAS OF HO CHI MINH CITY CONCERNING DIGITAL TRANSFORMATION

3.1. The Role of Commune/Ward-Level Officials and Civil Servants in Urban Areas of Ho Chi Minh City in Renewing Mindset and Awareness Regarding Digital Transformation, Developing Digital Skills, and Building a Digital Culture

3.1.1. Role in Renewing Mindset and Awareness Regarding Digital Transformation

Three sets of indicators were utilized for measurement, encompassing: awareness, readiness to change, and sharing behavior. The survey results of commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City (officials and civil servants) show a composite mean score of 4.15/5. Specifically, role awareness achieved 4.15, readiness to change scored 4.21, and sharing behavior reached 4.1. However, the proportion who “completely clearly recognize” the role only reached 34.68%, and those who “completely agree to share” equaled the same figure, reflecting a notable lack of uniformity.

Conversely, citizens' assessments were significantly lower, yielding a mean score of only 3.183, with just 8.5% believing officials and civil servants are “very ready to learn”. This disparity between the two groups suggests that the renewed awareness remains primarily “internalized”, failing to translate into effective digital service experiences for the citizenry.

Analysis based on socio-demographics shows that the group of officials and civil servants under 25 years old achieved the highest score (4.42), while the group over 55 years old only reached 3.92, reflecting a “mindset slope” aligned with age. By educational attainment, officials and civil servants with postgraduate qualifications scored highest (4.53), whereas the college-level group achieved only 2.63, indicating a risk of cognitive stratification within the administrative body.

3.1.2. Role in Developing Digital Skills

Digital skills are a vital pillar of digital transformation, encompassing the ability to utilize technology, digital mindset, and data processing. The survey indicates an average self-assessment score of 4.048/5, with confidence in technology utilization reaching 4.053. Nearly 78% of officials and civil servants felt “quite confident” or “very confident” when applying technology to their work.

However, proficiency remains uneven: only 36.5% of officials and civil servants assessed themselves as “comprehensively proficient”, while the remainder still face challenges in manipulating Big Data, using new software, or lack the capacity for flexible digital situational handling. This points to the urgent need for updating and enhancing digital skills, especially at the ward level, where officials and civil servants directly interact with citizens.

Officials and civil servants also play a role in shaping digital culture through their work habits, spirit of sharing, and method of utilizing digital tools. According to the survey, the average score for the role of promoting digital culture is 4.08, which is above average but still falls short of comprehensive proactivity. Only 33.57% of officials and civil servants “completely agree” that they are active disseminators of a positive digital culture.

The lack of synchronization in awareness and skills across different departments leads to an inconsistent digital environment. Approximately 41.8% of officials and civil servants believe their workplace “does not truly encourage digital innovation”, and only 29.6% feel they have sufficient space to pilot digital initiatives. This constitutes a major sociological barrier to forming an innovative, transparent, and effective digital working environment.

3.2. Role of Commune/Ward-Level Officials and Civil Servants in Urban Ho Chi Minh City in Developing Digital Infrastructure, Digital Platforms, and Ensuring Information Security

3.2.1. Role in Digital Infrastructure Development

The role of commune/ward-level officials and civil servants in urban Ho Chi Minh City concerning digital infrastructure development is assessed at a modest level, with a mean score of 3.82. Approximately 67% of officials and civil servants self-report being “quite” or “very proactive” in participating in the construction and maintenance of digital infrastructure. However, over 30% remain passive, indicating a clear differentiation in role performance and responsibility. Officials and civil servants primarily receive and operate systems deployed by superior levels, with limited participation in design or critique, leading to restrictions on innovation and creativity.

According to the survey, only 39.1% of citizens acknowledge the important role of officials and civil servants in digital infrastructure development, with a satisfaction level of only 3.04. Disparities based on age, educational attainment, and gender affect the degree of proactivity: younger and highly educated officials and civil servants are more proactive; female and older officials and civil servants tend to participate less. This role requires redefinition and enhanced training to meet the requirements of substantive and citizen-centric digital transformation.

3.2.2. Role in Digital Platform Development

The role of commune/ward-level officials and civil servants in urban Ho Chi Minh City concerning digital platform development is characterized by a positive, yet incremental, trend, with an average index of 3.8. A majority of officials and civil servants are confident in guiding colleagues (62% quite or very confident; score 3.77) and 64.67% frequently suggest platform improvements. Still, 35% remain inactive in participation.

Inter-departmental coordination achieved a score of 3.84, with 67% of officials and civil servants showing a spirit of cooperation, although 33% remain hesitant or unwilling. Citizens provided a lower assessment, with the index “digital platforms facilitate easy access to public services” scoring 3.07, and only 17% satisfied with the guidance provided for online public services. Differentiation by age is pronounced: the under-25 group scored 4.56 and the 25–35 group scored 4.58, while the 46–55 and over-55 groups only reached 2.93 and 2.90, respectively. Educational attainment also shows an impact: the postgraduate group scored 3.9, higher than university (3.7) and college (3.1). This role remains incompletely institutionalized and lacks a clear connection between internal improvements and citizen experience.

3.2.3. Role in Ensuring Information Safety and Security

The role of commune/ward-level officials and civil servants in ensuring information safety and security is positively assessed, with an average score of 4.18 for security knowledge, 4.20 for knowledge updating, and 4.21 for regulation compliance. Over 75% of officials and civil servants regularly seek self-

improvement, 79% actively participate in security training, and 78% are willing to share internal knowledge.

However, 22% still lack comprehensive updates, 24% rarely self-study, and 21% are unwilling to share, indicating limitations in individual motivation and collaborative culture. Proactive response to security incidents reached 78%, yet citizens rated their sense of security and incident reporting at only 3.12 and 3.08, respectively, revealing an "information gap." This role shows clear age-based stratification, with the under-35 group scoring above 4.8, and the over-46 group only around 3.4 to 3.5. Discrepancies also exist based on gender and educational attainment. The total role score is 3.825, reflecting progress but indicating a need for synchronized improvements in training and communication to bolster social trust.

3.3. Role in Data Digitization, Data Utilization, and Data Sharing

3.3.1. Role of Officials and Civil Servants in Data Digitization

The role of commune/ward-level officials and civil servants shows a clear transformation, with over 77% of personnel exhibiting a proactive spirit in participation and actively improving processes using new technologies like OCR and digital signatures. The average self-assessment score for proactivity in digitization reached 4.23; process improvement reached 4.17; and the readiness to adjust civil service workflows scored 4.18. Digitization is no longer a formal task but has become a routine work habit, contributing to the creation of a flexible, connected civil service model.

However, based on citizens' assessment, only about 43% agree with the effectiveness of digitization and data security, with mean scores of 3.2 and 3.1 respectively, indicating a need for enhanced transparency and communication. Socio-demographic analysis reveals that younger officials and civil servants (scores 4.8–4.85) and those with higher educational attainment (score 4.37) perform digitization significantly more effectively than older groups (3.53–3.64). Differences between departments also indicate a stratification in digital awareness and capability.

3.3.2. Role of Officials and Civil Servants in Data Utilization

Survey results show that the average index for the frequency with which commune/ward-level officials and civil servants in urban Ho Chi Minh City use data for decision-making reached 3.81, with nearly 65% of personnel frequently leveraging data. Nevertheless, 35% still use data at a medium or low level, reflecting disparities in awareness and skills.

The three main reasons include: non-synchronized data infrastructure, fragmented and non-standardized data, and limited data analysis and exploitation skills. Conversely, citizens' perception index regarding the government's use of data only reached 3.04–3.07, indicating that the effectiveness is not clearly visible to the public.

Significantly, younger officials and civil servants under 35 years old achieved a high average score (4.5–4.6), while the over-46 group only reached 3.0, reflecting differences in mindset and technological capacity. Similarly, personnel with postgraduate qualifications scored 4.0, higher than the college-level group (3.3). Departments directly related to data (score above 4.0) also showed higher data utilization scores compared to the Party and mass organizations block (3.3).

3.3.3. Role of Officials and Civil Servants in Data Sharing

Survey results indicate that the level of readiness to share data among commune/ward-level officials and civil servants in urban Ho Chi Minh City achieved a mean score of 3.81, with nearly 64% of personnel "quite" or "completely willing" to

share data. The level of participation in promoting cooperation also reached 3.79, with over 64% contributing actively.

The group of officials and civil servants under 35 years old scored an average of 4.3, higher than the over-46 group (3.0), demonstrating a clear age-based difference in mindset and skills. Personnel with postgraduate qualifications scored 3.9, higher than the college-level group (3.4). Interdisciplinary fields like Culture-Society scored high (4.0), while the Party and mass organizations block scored lowest (3.3). Data-sharing culture is a crucial factor for building trust and increasing the effectiveness of public service delivery.

3.4. Role in Applying Digital Technology to Transform Operational Processes

The role of officials and civil servants in applying digital technology to transform operational processes involves not merely introducing technology into administrative activities but is fundamentally a process of reconfiguring the civil service foundation. Commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City have implemented electronic document management systems integrated with digital signatures, thereby enhancing process transparency, traceability, and strict control.

According to the survey, officials and civil servants self-assessed the efficiency of their work through digital technology at an average score of 3.85/5. Confidence in application was 3.8, and the perceived impact on improving work quality was 3.84. However, only about 40% of citizens highly evaluated the procedural reform achieved by digital technology, with average scores ranging from 2.98 to 3.17, a figure significantly lower than the self-assessment of the officials and civil servants.

3.5. Role in Applying Digital Technology to Formulate, Enact, and Organize the Implementation of Policies

3.5.1. Role of Officials and Civil Servants in Applying Digital Technology to Policy Formulation and Enactment

In the context of digital transformation (Dx), officials and civil servants increasingly hold a pivotal role in utilizing digital technology to formulate and enact policies. Digital technology not only helps officials and civil servants access, process, and analyze Big Data but also supports the identification of issues in a faster, more comprehensive, and more practical manner.

According to a UNDP survey (2022), 68% of provincial and district-level officials and civil servants agreed that digital tools help establish policy objectives more effectively. However, at the grassroots level, the application of technology to profoundly influence policy content remains at an embryonic stage, mainly stopping at the digitization of input information or needs surveys.

The dissertation's survey results show that the average index for officials and civil servants' use of technology to analyze citizen needs is 3.86, but the ability to integrate tools such as AI or predictive modeling into the policy drafting process is still very low.

3.5.2. Role of Officials and Civil Servants in Applying Digital Technology to Organize Policy Implementation

In the phase of organizing policy implementation, the role of commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City is more clearly manifested through the effective operation of technology platforms for the civil service. Officials and civil servants are not only intermediaries connecting regulations with reality, but also direct agents who process administrative procedures and receive and respond to citizens' feedback via digitized systems like the public service portal, internal software, and progress monitoring systems.

Survey results indicate that the frequency of using digital platforms in policy deployment has an average index of 3.89, with officials and civil servants under 40 years old tending to be more proficient and flexible users. Nevertheless, some wards still face challenges due to non-synchronized technology infrastructure or a lack of personnel with deep technological skills. Therefore, enhancing the digital capacity of officials and civil servants and completing the technology ecosystem are critical determinants for ensuring that policies are not only correctly enacted but also effectively operationalized in practice.

Synthesis of Findings in Chapter 3

Chapter 3 focused on analyzing the current status of role fulfillment by commune/ward-level officials and civil servants in the urban areas of Ho Chi Minh City concerning digital transformation (Dx), thereby verifying the first four research hypotheses.

The results demonstrated that the most prominent role is the renewal of mindset and enhancement of awareness, registering a high average score from both officials/civil servants and citizens. However, digital skills and digital culture still exhibited a notable stratification, particularly between the self-assessment of officials/civil servants and the perception of the citizenry. Hypothesis 1 is thus affirmed.

In the cluster of roles related to digital infrastructure, security, and platforms, officials/civil servants rated the role of information security highest, but showed limitations in proactive infrastructure development and technology adoption, thereby reinforcing Hypothesis 2.

Regarding digital data, digitization efforts were found to be quite comprehensive, yet data sharing and utilization remain fragmented due to the lack of integrated platforms, thus validating Hypothesis 3.

Finally, the two roles concerning the application of technology in operational processes (workflows) and policy implementation were performed comparably, with no significant difference observed, which confirms Hypothesis 4.

The entire chapter successfully combined quantitative and qualitative data with sociological analysis to clarify the current state and provide an orientation for improving grassroots-level digital transformation.

CHAPTER 4: IMPACTING FACTORS AND SPECIFIC OUTCOMES OF ROLE FULFILLMENT BY COMMUNE/WARD-LEVEL OFFICIALS AND CIVIL SERVANTS IN URBAN AREAS OF HO CHI MINH CITY CONCERNING DIGITAL TRANSFORMATION

4.1. Factors Impacting the Role Fulfillment of Commune/Ward-Level Officials and Civil Servants in Urban Ho Chi Minh City Concerning Digital Transformation

4.1.1. Factors Impacting the Role of Renewing Digital Mindset and Awareness

Regression analysis reveals that four socio-demographic factors significantly influence the role of digital mindset renewal among ward-level officials and civil servants: age (Coef=-0.253, p=0.007), educational attainment (Coef=0.79, p=0.001), position/title (0.948, p=0.000), and field of work (-0.208, p=0.000). Gender and seniority showed no statistical significance. On the organizational side, three factors demonstrated influence: leadership support (0.207, p=0.034), technological

infrastructure (0.202, $p=0.013$), and information availability (0.176, $p=0.052$). Training and citizen access to services were not significant factors. The results emphasize the crucial influence of leadership, technology, and the younger, highly educated cohort in transforming digital mindset.

4.1.2. Factors Impacting the Role of Developing Digital Skills

Regression analysis indicates that four socio-demographic factors significantly impact digital skill development: age (Coef= -0.299 , $p=0.001$), educational attainment (0.575, $p=0.015$), position/title (0.918, $p=0.001$), and field of work (-0.247 , $p=0.000$). Younger officials and civil servants, those with higher education, and those in leadership positions tend to be more digitally proficient. On the organizational side, two factors exert a positive influence: leadership support (0.319, $p=0.001$) and technological infrastructure (0.157, $p=0.043$). Notably, citizens' difficulty in accessing public services is inversely related to officials' digital skills (Coef= -0.147 , $p=0.047$), reflecting that service quality is dependent on the technological competence of the civil service body.

4.1.3. Factors Impacting the Role of Building Digital Culture

Regression analysis shows that three socio-demographic factors strongly impact the role of building digital culture: age (Coef= -0.379 , $p=0.001$), educational attainment (Coef=1.978, $p=0.000$), and field of work (Coef= -0.49 , $p=0.000$). Younger, highly educated officials and civil servants working in IT-related fields tend to play a more active role. Furthermore, organizational factors are clearly influential: leadership support (Coef=0.294, $p=0.004$), technological infrastructure (Coef=0.289, $p=0.001$), and information availability (Coef=0.349, $p=0.000$). Conversely, gender, position/title, seniority, training, and administrative access levels showed no significant statistical correlation.

4.1.4. Factors Impacting the Role of Developing Digital Infrastructure

Regression analysis indicates that three socio-demographic factors significantly affect the role of digital infrastructure development: gender (Coef=1.011, $p=0.000$), age (Coef= -2.1 , $p=0.000$), and educational attainment (Coef= -0.653 , $p=0.014$). Male, younger officials and civil servants with lower educational attainment often participate more actively due to their direct involvement in technical tasks. Additionally, organizational factors show a strong influence: leadership support (Coef=0.496), training (Coef=0.405), technological infrastructure (Coef=0.458), and information availability (Coef=0.491). Conversely, citizens' difficulty in accessing administrative services has a negative impact (Coef= -0.387), reflecting limitations in the quality of the existing infrastructure.

4.1.5. Factors Impacting the Role of Developing Digital Platforms

The fulfillment of the digital platform development role at the commune/ward level in urban Ho Chi Minh City is strongly influenced by both individual and organizational factors. Socio-demographic factors such as gender (Coef=1.077), age (Coef= -1.774), educational attainment (Coef= -0.692), and seniority (Coef= -0.219) are all statistically significant, with male and younger officials and civil servants playing the dominant role. Organizational factors like leadership support (Coef=0.476), training (Coef=0.448), technological infrastructure (Coef=0.400), and information availability (Coef=0.537) all promote platform development. Conversely, citizens' access to administrative

services shows a negative impact (Coef=-0.202), reflecting difficulties in service experience when platforms are not yet fully optimized.

4.1.6. Factors Impacting the Role of Ensuring Information Safety and Security

Regression analysis indicates that gender (Coef=0.707, $p=0.005$) and age (Coef=-2.135, $p<0.001$) have a clear statistical impact: males and younger officials and civil servants perform the security role more effectively. Organizational factors such as leadership support (Coef=0.490), training (Coef=0.496), technological infrastructure (Coef=0.457), and information availability (Coef=0.566) all contribute to enhancing information security capabilities. Conversely, citizens' negative experience in accessing administrative services has an adverse effect (Coef=-0.313), signaling security vulnerabilities that need correction to increase confidence in digital government.

4.1.7. Factors Impacting the Role of Data Digitization

Analysis results show that only age significantly influences this role (Coef=-1.573, $p=0.0$): younger officials and civil servants demonstrate better digitization capability, while gender, educational attainment, position/title, and seniority are not significant. Organizational factors like leadership support (0.359), training (0.339), technological infrastructure (0.388), and information availability (0.528) all have a very significant positive impact ($p=0.0$) on digitization effectiveness. Conversely, citizens' difficulty in accessing administrative services negatively impacts this role (Coef=-0.259, $p=0.001$), suggesting the system requires improvement to better meet public demand.

4.1.8. Factors Impacting the Role of Data Utilization

Data utilization at the commune/ward level is central to administrative Dx. The study in urban Ho Chi Minh City wards reveals that socio-demographic factors impacting this role include: gender (Coef=0.839, $p=0.0$ – males utilize data better); age (Coef=-1.197, $p=0.0$ – younger officials are more flexible); and educational attainment (Coef=-0.465, $p=0.042$ – officials with lower qualifications operate data more effectively). Organizational factors include: leadership support (Coef=0.31, $p=0.001$), training (Coef=0.319, $p=0.0$), technological infrastructure (Coef=0.249, $p=0.001$), and information availability (Coef=0.355, $p=0.0$), all showing positive effects. Citizens' difficulty in accessing services (Coef=-0.163, $p=0.026$) has an inverse relationship with effective data utilization by officials and civil servants - meaning that when officials and civil servants use data less effectively, citizens face more obstacles during administrative procedures.

4.1.9. Factors Impacting the Role of Data Sharing

The data sharing role in Dx for commune/ward-level officials and civil servants in urban Ho Chi Minh City is clearly influenced by multiple socio-demographic and organizational environmental factors. Analysis shows that gender (Coef=0.692, $p=0.002$) and position/title (Coef=0.676, $p=0.017$) have a positive impact, reflecting that male and leadership personnel are generally more proactive in data sharing. Conversely, age (Coef=-1.951, $p=0.000$), educational attainment (Coef=-0.879, $p=0.000$), and seniority (Coef=-0.143, $p=0.029$) have a negative impact, suggesting that younger officials and technical staff are often more effective at data sharing than older or higher-ranking management. The work environment is also critical, with leadership support (Coef=0.395, $p=0.000$), training (Coef=0.413, $p=0.000$), technological infrastructure (Coef=0.25, $p=0.003$), and information availability (Coef=0.347, $p=0.000$) all promoting data sharing. Citizens' difficulty in accessing administrative services

(Coef=-0.308, $p=0.000$) indicates that when citizens encounter obstacles in using services, the data sharing and utilization by officials and civil servants is also constrained, as data is not effectively updated and connected between units, thereby reducing the effectiveness of the data sharing role in digital transformation.

4.1.10. Factors Impacting the Role of Applying Digital Technology to Transform Operational Processes

Three socio-demographic factors strongly influence this role: gender (Coef=0.776, $p=0.002$) shows males are more active; age (Coef=-1.879, $p=0.000$) and educational attainment (Coef=-0.893, $p=0.001$) have a negative impact, indicating that younger officials and those with lower educational qualifications execute this role more effectively due to direct technology operation. Organizational factors including leadership support (Coef=0.497, $p=0.000$), training (Coef=0.451, $p=0.000$), technological infrastructure (Coef=0.379, $p=0.000$), and information availability (Coef=0.530, $p=0.000$) all promote this role. Conversely, when citizens face difficulties in accessing administrative services (Coef=-0.322, $p=0.000$), the motivation and effectiveness of operational process improvement by officials and civil servants also diminish.

4.1.11. Factors Impacting the Role of Applying Digital Technology to Formulate, Enact, and Organize the Implementation of Policies

Three socio-demographic factors have an influence: gender (Coef=0.759, $p=0.001$) indicates male officials perform better; age (Coef=-1.842, $p=0.000$) shows younger officials apply technology more effectively; educational attainment (Coef=-0.642, $p=0.009$) reflects the stratification between execution and management roles. Organizational factors such as leadership support (Coef=0.578, $p=0.000$), training (Coef=0.431, $p=0.000$), technological infrastructure (Coef=0.625, $p=0.000$), and information availability (Coef=0.465, $p=0.000$) enhance the role's effectiveness. Conversely, when citizens encounter significant difficulties in accessing services (Coef=-0.452, $p=0.000$), the motivation of officials and civil servants to improve and digitize policies also markedly decreases (an inverse impact).

4.2. Outcomes of Role Fulfillment by Commune/Ward-Level Officials and Civil Servants in Urban Ho Chi Minh City Concerning Digital Transformation

4.2.1. Outcomes of Role Fulfillment in Digital Transformation

Assessing the effectiveness of the role of commune/ward-level officials and civil servants in urban Ho Chi Minh City concerning digital transformation (Dx) is not merely about “what was done” but crucially, the actual level of contribution to the Dx process. Effectiveness demonstrates the alignment between Dx objectives and achieved outcomes, affirming the central role of officials and civil servants in administrative modernization.

4.2.1.1. Outcomes Regarding Public Service Quality

The survey indicates that 86% of officials and civil servants agree or completely agree that digital technology enhances the quality of public services (4.2 points), with processes becoming faster (72% agree, 33% completely agree). Real-time data linkage helps reduce delays, increase process transparency, and enhance individual accountability, thereby boosting citizen satisfaction.

Digital transformation not only helps accelerate public service processing speed but also redefines the organization and operational modality of the administration, moving toward transparency, proactivity, and efficiency. The digitization of procedures has helped minimize intermediate steps, enhancing traceability and data

interoperability across departments. Positive feedback from officials and civil servants regarding the convenience of work processing, the ability to control progress, and the reduction of errors clearly demonstrates the practical effectiveness of their role in digital transformation.

4.2.1.2. Outcomes Regarding Citizen Satisfaction

Nearly 90% of officials and civil servants agree that processing time for documents is shortened (4.32 points); 88% perceive a reduction in delays (4.20 points); information transparency is agreed upon by 78% (4.18 points); faster response capability is agreed upon by 76% (4.14 points); and the tracking of response processing achieved the highest agreement at 91% (4.34 points). Digital transformation contributes to elevating service standards, building a modern, citizen-centric government.

Notably, the high average scores across indicators related to the ease of look-up, feedback, and request resolution suggest that the administration in the urban areas of Ho Chi Minh City is progressively building a citizen-centric administrative model.

4.2.2. Challenges Arising in the Role Fulfillment of Commune/Ward-Level Officials and Civil Servants in Urban Ho Chi Minh City Concerning Digital Transformation

Despite the positive transformations, the survey also points to two major challenges affecting the effective fulfillment of the digital transformation role.

Firstly, the change in workload. Nearly half of the commune/ward-level officials and civil servants believe their workload has increased since the adoption of digital technology, primarily due to having to simultaneously operate the new system while maintaining old work methods during the transition phase. This places higher demands on individual digital competency, adaptability, and organizational support.

Secondly, the issue of workload saturation (overload) in the working process. Survey data reveals that the causes are not only related to the sheer volume of tasks but also to organizational and individual factors. Unreasonable job assignment, insufficient staffing, limited digital skills, and a lack of adaptation to new work methods are factors contributing to the perception of overload. These reasons are not isolated but frequently interact, creating a chain of consequences that can negatively impact work motivation and civil service quality.

In summary, the digital transformation program at the commune/ward level in the urban areas of Ho Chi Minh City has recorded encouraging initial results in improving public service quality and enhancing citizen satisfaction. The role of officials and civil servants is affirmed as central to this progress. However, to sustain and leverage this effectiveness, it is necessary to design appropriate support policies aimed at addressing issues arising during role execution, especially concerning workload and the digital operational capacity of the local administrative body. This is a prerequisite for ensuring the sustainability and comprehensiveness of the digital transformation process in a young and dynamic urban area like Ho Chi Minh City.

CONCLUSION AND RECOMMENDATIONS

1. Conclusion

In the context where Digital Transformation (Dx) is a national strategy and global trend, the role of urban-area officials and civil servants in operating digital government has become increasingly significant. However, existing research is predominantly descriptive, having not fully exploited the sociological perspective on the role of officials and civil servants in this process. The dissertation comprehensively approached the issue, integrating Sociological Role Theory, Weber's Theory of Social Rationalization, Lenski's

Theory of Societal Transformation, and empirical methodology to construct an analytical framework for the role of commune/ward-level officials and civil servants in Dx.

Firstly, the Dissertation establishes five core roles that officials and civil servants must undertake: (1) renewing mindset, developing skills, and building digital culture; (2) developing infrastructure, digital platforms, and ensuring information security; (3) data digitization and sharing; (4) applying technology to administrative reform; and (5) formulating and organizing policies using digital technology. These roles stem not only from legal mandates but also reflect social expectations for a modern, flexible, and transparent administration.

Secondly, Chapter 3 clearly reflects the empirical status of Dx role fulfillment in the urban area of Ho Chi Minh City, having validated Hypotheses H1 through H4. Results show significant transformation in the cognition and behavior of the local civil service team. The role of mindset renewal and awareness enhancement is performed best. However, digital skills development and digital culture building remain limited, indicating a persistent mindset-to-action gap.

Thirdly, the roles concerning infrastructure development, digital platforms, and safety/security show a medium-to-good level of execution, with the information security role being performed best. Conversely, infrastructure and platform development are constrained by objective conditions and reliance on technical units, reducing officials' proactivity.

Fourthly, in the data-related roles, officials and civil servants perform better in data digitization than in utilization and sharing. The lack of integrated platforms, analytical skills, and incentive mechanisms has reduced data exploitation value, causing difficulties in improving public services.

Fifthly, in the remaining two roles—applying technology to operational workflow reform and to policy formulation, enactment, and organization—the execution levels are equivalent, showing synchronized effort. However, the application remains formalistic, focusing on administrative processing rather than proactive, data-driven policy reform.

Sixthly, Chapter 4 verified the impacting factors on Dx role fulfillment (H5 through H12): Gender does not affect all roles uniformly but clearly impacts technical roles, where males perform better. Age shows a strong, consistent impact, with younger officials and civil servants (under 35) exhibiting greater dynamism and effectiveness. Educational attainment correlates positively with mindset and Dx approach, yet the mid-level education group performs better in technical roles. Field of work shows clear stratification, with statistics/records and justice/civil status sectors being more effective. Leadership support has a positive, consistent influence, proving the importance of the organizational factor. Training and capacity building have a significant impact, especially when linked to real-world tasks. Dx role fulfillment has a positive relationship with public service quality and citizen satisfaction.

2. Recommendations

2.1. For Ho Chi Minh City Authority

(1) Establish a New Legal and Coordination Framework: HCMC must complete operational regulations for the non-intermediate urban model, clearly decentralizing authority to the wards. Simultaneously, establish flexible vertical-horizontal coordination mechanisms, enabling wards to proactively deploy Dx and public services.

(2) Decentralize and Empower Wards with Autonomy: Wards should be granted self-governance in work organization, digital tool selection, and local data management, to meet administrative requirements without the intermediate tier.

(3) Invest in Ward-Level Digital Infrastructure: Prioritize equipping wards with technology, shared data repositories, and operational software for officials and civil servants, enabling effective information processing and real-time citizen service.

(4) Integrate Dx into Evaluation and Emulation: Criteria for digital competency must be incorporated into annual official evaluations and emulation; honoring model wards for city-wide replication.

2.2. For Commune/Ward Authorities

(1) Grant Wards Autonomy over Digital Tools and Processes: Wards must be able to select and adjust digital platforms suitable for their local socio-economic and demographic realities. This encourages creative initiative and enhances officials' accountability.

(2) Digitize Internal Processes and Citizen Feedback: Reduce paperwork, shorten dossier processing time, and build a clear, transparent mechanism for responding to petitions. Officials can operate and monitor progress via digital applications.

(3) Pilot the "Digital Official/Civil Servant" Model at the Ward: Form a core cohort to fulfill roles in policy communication, online public service guidance, and data analytics. Officials become the creative and critical digital bridge.

(4) Link Digitization Outcomes to Emulation and Rewards: Establish specific metrics (e.g., dossiers processed online, satisfaction level, feedback resolved via app). These serve as criteria for salary review and promotion consideration.

(5) Conduct On-Site, Context-Specific Practical Training: Training should utilize small-group, "hands-on" practice, tailored to specific situations. This methodology helps officials easily learn and immediately apply skills to their work.

(6) Strengthen Inter-Ward Experience Sharing: Wards need to organize forums and internal groups to share experience, especially between strong and weaker wards. This conserves resources and increases grassroots-level Dx effectiveness.

2.3. For Researchers

Beyond initial exploratory studies, there is a need for in-depth works on digital behavior, digital civil service ethics, and role models for officials and civil servants by sector. A periodic database on officials' digital awareness and behavior must be developed, combining administrative data with sociological surveys to assess Dx effectiveness from the bi-directional perspective: the organization and the citizen.

2.4. For Officials and Civil Servants

Officials and civil servants must enhance their skills in utilizing and exploiting shared data, overcoming current weaknesses due to a lack of practice and non-synchronized systems. Secondly, they need to shift their mindset from traditional administration to a data-driven, citizen-centric approach. Thirdly, officials and civil servants should proactively contribute to digital infrastructure improvement instead of passively waiting for assignments. Fourthly, a digital work culture must be built, encouraging sharing, cooperation, and peer support, thereby creating a flexible, adaptive civil service environment for comprehensive digital transformation requirements.

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