THE IMPACT OF DIGITAL CAPABILITIES ON THE WORK PERFORMANCE OF PROVINCIAL CIVIL SERVANTS IN VIETNAM

a Nguyen Thi Tuoi, b Nguyen Nghi Thanh

ABSTRACT

Objective: This article examines the influence of digital capabilities on the work performance of provincial civil servants in Vietnam.

Methods: The study employs regression analysis to analyze the relationship between digital capabilities and work performance based on the data collected from surveys conducted among provincial civil servants.

Results: The findings indicate positive associations between enhanced communication and collaboration, streamlined administrative processes, improved service delivery, and capacity building and skill development with work performance. However, the study finds limited impacts of access to information and knowledge and data-driven decision making on work performance among civil servants. The regression coefficients and statistical significance levels provide robust evidence to support the acceptance of some hypotheses while rejecting others.

Suggestions: This study significantly contributes to the existing literature on digital capabilities in the civil service sector, specifically focusing on Vietnam. Valuable insights are offered by examining the digital capabilities and work performance of provincial civil servants in a developing country context. The results provide guidance for policymakers and organizational leaders in Vietnam to enhance work performance through targeted interventions and strategies.

Keywords: digital capabilities, work performance, provincial civil servants, Vietnam.

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RESUMO

Objetivo: Este artigo examina a influência das capacidades digitais no desempenho no trabalho de servidores civis provinciais no Vietnã.

O IMPACTO DAS CAPACIDADES DIGITAIS NO DESEMPENHO DO TRABALHO DOS FUNCIONÁRIOS PÚBLICOS PROVINCIAIS NO VIETNÁ
Métodos: O estudo utiliza análise de regressão para analisar a relação entre as capacidades digitais e o desempenho no trabalho com base nos dados coletados por meio de pesquisas realizadas com servidores civis provinciais.

Resultados: Os resultados indicam associações positivas entre a comunicação e colaboração aprimoradas, os processos administrativos otimizados, a melhoria na prestação de serviços e o desenvolvimento de capacidades e habilidades com o desempenho no trabalho. No entanto, o estudo constata impactos limitados do acesso à informação e ao conhecimento, bem como da tomada de decisões baseada em dados, no desempenho no trabalho dos servidores civis. Os coeficientes de regressão e os níveis de significância estatística fornecem evidências robustas para apoiar a aceitação de algumas hipóteses e rejeitar outras.

Sugestões: Este estudo contribui significativamente para a literatura existente sobre as capacidades digitais no setor de serviços civis, com um foco específico no Vietnã. Valiosas informações são oferecidas ao examinar as capacidades digitais e o desempenho no trabalho de servidores civis provinciais em um contexto de país em desenvolvimento. Os resultados fornecem orientações para os formuladores de políticas e líderes organizacionais no Vietnã, a fim de aprimorar o desempenho no trabalho por meio de intervenções e estratégias direcionadas.

Palavras-chave: capacidades digitais, desempenho no trabalho, servidores civis provinciais, Vietnã.

1 INTRODUCTION

Provincial civil servants in Vietnam serve as integral members of state administrative agencies at both the provincial and centrally governed city levels (Tran & Truong, 2021). Their classification is determined based on civil servant ranks and positions outlined in Article 34 of the Law on Cadres and Civil Servants 2008. Operating within a broad spectrum of sectors, they possess duties and powers spanning the fields of economy, agriculture, forestry, fisheries, social affairs, culture, education, healthcare, defense, security, and other domains stipulated by legislation. The management of provincial civil servants falls under the purview of the People's Committee at the provincial level, which serves as the executive agency responsible for overseeing the provincial People's Council and local state administrative bodies (Tran & Truong, 2021).

It is important to note that provincial civil servants do not encompass personnel engaged in central agencies or specialized entities such as the State Bank, People's Court, People's Procuracy, People's Police, and similar organizations.

In Vietnam, provincial civil servants hold key roles within the administrative framework of provincial-level government entities. They play a critical role in the implementation and provision of public services at the provincial level, thereby contributing to effective governance and the advancement of their respective provinces (Chien & Thanh, 2022). These civil servants are entrusted with various responsibilities,
including policy implementation, public service delivery, administrative support, and the coordination of local activities (Crous, 2004). Typically employed by provincial-level government agencies and departments, provincial civil servants are tasked with overseeing diverse aspects of provincial governance, ranging from economic development and infrastructure planning to education, healthcare, and social welfare (Ramadhan, 2019). Collaborating closely with local authorities, stakeholders, and communities, they strive to address local needs, foster sustainable development, and ensure the efficient provision of public services (Adam, 2018). The recruitment, training, and career development of provincial civil servants in Vietnam adhere to government regulations and policies (Henderson & Tulloch, 2008). Merit-based recruitment and appointment to civil service positions are commonly carried out through civil service examinations and competitive selection processes (Dussauge Laguna, 2011). To enhance their skills, knowledge, and capabilities, training programs and professional development opportunities are made available to provincial civil servants (Nghi, Thu, & Dinh, 2022).

Exemplifying professionalism, integrity, and accountability in their work is of utmost importance for provincial civil servants. They are expected to uphold ethical standards, abide by established rules and regulations, and demonstrate unwavering dedication to public service. Performance evaluation systems are often implemented to assess their work performance, provide feedback, and foster continuous improvement (Thanh, Hang, & Thao, 2022). The contributions of provincial civil servants in Vietnam are indispensable in promoting good governance, facilitating local development, and addressing the needs of the population (Thang & Thanh, 2023). Through their commitment and effectiveness, they contribute to the overall well-being of the provinces they serve while simultaneously supporting broader national development goals in Vietnam (Projet Objectifs du millénaire et al., 2005; Utomo et al., 2023).

The objectives of digital transformation in the public sector of Vietnam encompass several key aspects, including the improvement of public administration efficiency, effectiveness, and transparency, the enhancement of public service quality and accessibility, and the promotion of innovation and socio-economic development. These goals are outlined in the National Digital Transformation Programme, which sets targets for the period up to 2025, with a vision extending to 2030 (Chuc & Anh, 2023).

Research on the impact of digital capabilities on the work performance of provincial civil servants in Vietnam is highly significant. It allows for a comprehensive
assessment of how digital technologies influence provincial civil servants' performance, yielding insights into their efficiency, productivity, and overall effectiveness. Moreover, the research findings inform policymaking and decision-making processes related to digital transformation initiatives in the public sector (Burra et al., 2021). By understanding the impact of digital capabilities on work performance, policymakers can make informed decisions about resource allocation, implementation strategies, and training programs (Bessen et al., 2020). This evidence-based approach ensures tailored policies that maximize the benefits of digitalization while addressing potential challenges (Sanders & Kirby, 2012).

Furthermore, research in this area identifies barriers and facilitators to the adoption and utilization of digital capabilities by provincial civil servants, enabling targeted interventions and support to enhance overall digital readiness and capacity (Torous et al., 2021). It also sheds light on how digital capabilities enhance service delivery, governance processes, and citizen engagement at the provincial level (Tung et al., 2023). Such knowledge informs strategies aimed at optimizing service provision and governance, benefiting both civil servants and citizens.

Additionally, the research addresses the need for workforce development by identifying the specific skills, knowledge, and competencies required for civil servants to effectively utilize digital tools. This understanding guides the development of tailored training programs and capacity-building initiatives to support the professional growth of provincial civil servants. In conclusion, research on the impact of digital capabilities on the work performance of provincial civil servants in Vietnam contributes to evidence-based decision-making, policy formulation, and the advancement of digital transformation in the public sector. Ultimately, this research enhances efficiency, effectiveness, and service quality, benefiting provincial governance and the provision of public services to Vietnamese citizens.

2 LITERATURE REVIEWS
2.1 WORK PERFORMANCE OF CIVIL SERVANTS

The work performance of civil servants encompasses the effective and efficient execution of their duties and responsibilities within the provincial government (Ciobanu & Androniceanu, 2015). It encompasses multiple dimensions, including the quality, quantity, and timeliness of their work, as well as their overall productivity and
High work performance signifies that civil servants are proficiently fulfilling their job requirements and meeting or surpassing expected performance standards (Singh, 2016). It entails the demonstration of professionalism, effectiveness, and efficiency in their tasks, consistently achieving results aligned with the objectives and priorities of their respective government agencies or departments (Tung et al., 2023). Evaluation of civil servants' work performance considers various factors, including their competence, compliance with regulations and policies, problem-solving and decision-making capabilities, communication and interpersonal skills, time management, and overall work ethic (Naftel et al., 1993). Periodic performance evaluations and assessments provide feedback to gauge their performance and identify areas for improvement (Naftel et al., 1993).

Robust work performance is crucial for effective governance, ensuring the smooth functioning of government operations, the delivery of high-quality public services, and the achievement of organizational objectives. It fosters public trust and confidence in the government, promoting accountability and transparency in the provision of services to citizens (Arjoon, 2006).

2.2 ENHANCED COMMUNICATION AND COLLABORATION

The utilization of digital tools and platforms has significantly enhanced communication and collaboration among civil servants, facilitating seamless connections with colleagues, superiors, and stakeholders regardless of geographical barriers (O'Rourke et al., 2013). Consequently, this has resulted in accelerated decision-making processes, improved coordination, and enhanced dissemination of information. Effective communication plays a pivotal role in facilitating efficient information exchange, enabling the sharing of updates and knowledge among civil servants (Barrett, 2002). This, in turn, leads to better-informed decision-making and enhanced execution of tasks. Furthermore, collaboration among civil servants promotes coordinated efforts, streamlines workflows, and optimizes resource allocation, thereby fostering teamwork and augmenting work performance (Paucar & Bencomo, 2016). Additionally, it facilitates problem-solving and decision-making processes, mitigates miscommunication and conflicts, and cultivates a harmonious work environment (Emborg, Walker, & Daniels, 2012). Importantly, improved communication and collaboration also facilitate the exchange of knowledge, thereby enhancing the competency and skill levels of civil servants.
servants (Cong & Pandya, 2003). This continuous learning and professional development positively influence work performance, ensuring sustained growth and improvement.

2.3 STREAMLINED ADMINISTRATIVE PROCESSES

The advent of digital capabilities has revolutionized administrative processes by automating tasks, resulting in significant time and effort savings (Buzby et al., 2002). As a consequence, civil servants can now handle routine duties with greater efficiency, creating opportunities for more intricate and strategic work (Berman et al., 2021). Moreover, access to pertinent and precise information empowers civil servants to make well-informed decisions, consequently enhancing the overall quality of decision-making processes (Mumford, 2006). By providing access to comprehensive information and knowledge resources, work processes are streamlined, leading to a reduction in errors and an increase in overall effectiveness (Kumar et al., 2006). Additionally, the availability of research reports and case studies fosters problem-solving abilities and cultivates an environment conducive to innovation. An important aspect of information access is ensuring compliance with policies and regulations, ensuring that civil servants align their work with established frameworks (Breaux & Antón, 2008). Moreover, continuous learning is facilitated by the availability of information, enabling civil servants to remain updated and improve their skill sets (Carter & Bélanger, 2005). Finally, access to information plays a vital role in promoting effective communication and collaboration, fostering coordination and teamwork, ultimately contributing to enhanced work performance.

2.4 ACCESS TO INFORMATION AND KNOWLEDGE

The advent of digital technologies has provided civil servants with unparalleled access to a wealth of information and knowledge resources, thereby significantly enhancing their decision-making abilities and service provision (Lor & Britz, 2007). By having access to accurate data, comprehensive research findings, and timely policy updates, civil servants are empowered to make well-informed decisions, thereby positively impacting their work performance (Bird et al., 2005). Moreover, the seamless availability of guidelines and reference materials through digital platforms streamlines task execution, reducing errors and bolstering overall productivity (Andersen et al., 2010). Additionally, the accessibility of research reports and case studies serves as a catalyst for
effective problem-solving and innovation, thereby fostering superior performance. Furthermore, a profound understanding of policies and regulations not only ensures compliance but also minimizes potential risks (Wrigley, 2017). Furthermore, the availability of diverse learning resources facilitates continuous professional development, ensuring that civil servants remain up-to-date with the latest advancements in their respective fields, thus enhancing their work performance (Bolam, 2000). Lastly, the facilitation of effective collaboration and communication through digital means enhances coordination, teamwork, and, consequently, the overall outcome of civil service endeavors (Cervero, 2001).

2.5 IMPROVED SERVICE DELIVERY

The integration of digital capabilities has empowered civil servants to offer enhanced and easily accessible services through online platforms (Linders, Liao, & Wang, 2018). Citizens now have the convenience of accessing government services, submitting applications, and making inquiries online, resulting in improved efficiency and reduced physical visits (Sun et al., 2015). Consequently, this development significantly contributes to heightened levels of citizen satisfaction. The work performance of civil servants plays a direct and substantial role in enhancing service delivery (Prager, 1994). Notably, when civil servants consistently demonstrate high levels of work performance, exemplified by punctual task completion, accurate service provision, and effective problem-solving, the overall quality of service delivery improves considerably (Berry & Parasuraman, 2004). Positive interactions between citizens and competent civil servants further foster customer satisfaction, nurturing trust in the government's capability to deliver services of the utmost quality (Dwivedi, Batra, & Pathak, 2023; Venkatesh et al., 2016).

It is essential to acknowledge that the work performance of civil servants directly influences the reputation and credibility of the government institution they represent (Walker et al., 2011). By consistently showcasing exceptional performance, civil servants fortify the institution's reputation, thereby cultivating trust among citizens and stakeholders regarding the government's efficiency in delivering services (Buchanan, 1974). Furthermore, improved work performance translates into heightened productivity and optimized utilization of resources (Rao & Holt, 2005). By executing tasks efficiently and effectively, civil servants minimize wastage, duplication, and mismanagement of
resources (Anazodo et al., 2012). As a result, service provision becomes more cost-effective without compromising the quality of services delivered.

Lastly, continuous improvement is fundamental to achieving enhanced service delivery (Chigudu, 2014). When civil servants actively seek to refine their work performance, it fosters a culture of ongoing learning, innovation, and professional growth (Kim & Yoon, 2015). This proactive approach enables the government to continuously adapt its services to meet evolving citizen needs, thus ensuring sustained improvements in service delivery (Khan et al., 2021).

2.6 DATA-DRIVEN DECISION MAKING

The utilization of digital tools and data analytics empowers civil servants to engage in data-driven decision making by leveraging empirical evidence (Provost & Fawcett, 2013). The accessibility of pertinent data enables accurate and objective assessment of situations, thereby elevating the quality of decisions made and ultimately improving work performance (Stuart et al., 2022). By analyzing data, civil servants are equipped with the ability to identify patterns, discern root causes, and develop effective solutions, thereby enhancing problem-solving capabilities and overall work performance (Fang, 2002). Furthermore, the implementation of data-driven monitoring and evaluation mechanisms facilitates targeted interventions, adjustments, and fosters a culture of accountability, which significantly contributes to improved work performance (Berninger et al., 2020). Moreover, the effective allocation of resources based on data analysis serves to enhance efficiency, productivity, and work performance (Sherman & Zhu, 2006). The integration of data-driven decision making further enables the development and implementation of evidence-based policies and programs that effectively address specific needs and priorities, ultimately improving work performance (Kilbourne et al., 2019). Notably, data-driven decision making also instills a culture of continuous learning, improvement, and the adoption of best practices, exerting a positive influence on work performance over an extended period of time (Provost & Fawcett, 2013).

2.7 CAPACITY BUILDING AND SKILL DEVELOPMENT

The implementation of digital capabilities has prompted the cultivation of digital skills among civil servants through comprehensive training programs and initiatives (Orisakwe et al., 2012). This strategic capacity building approach has yielded substantial
improvements in work performance while equipping civil servants with invaluable skills for their professional development (Light, 2004). The acquisition of relevant competencies through capacity building and skill development initiatives enables civil servants to effectively perform their tasks, thereby significantly enhancing their work performance (Ndou, 2004). Additionally, this capacity building fosters adaptability and resilience among civil servants, empowering them to navigate changes and emerging trends adeptly, consequently maintaining a consistently high level of work performance (Kossek & Perrigino, 2016). Furthermore, the heightened proficiency in essential areas such as time management, problem-solving, communication, and technology enhances efficiency and productivity, resulting in the generation of higher quality outputs and overall improvement in work performance (Tilly, 2008).

3 HYPOTHESES AND RESEARCH MODELS

On the basis of literature reviews, the following research hypotheses are proposed:

Hypothesis 1 (H1). The enhanced communication and collaboration has a positive and meaningful impact on work performance of civil servants.

Hypothesis 2 (H2). The streamlined administrative processes factor has a positive and meaningful impact on work performance of civil servants.

Hypothesis 3 (H3). The access to information and knowledge has a positive and meaningful impact on work performance of civil servants.

Hypothesis 4 (H4). The improved service delivery has a positive and meaningful impact on work performance of civil servants.

Hypothesis 5 (H5). The data-driven decision making has a positive and meaningful impact on work performance of civil servants.

Based on literature reviews and hypotheses, the following research model (Figure 1) is proposed.

Hypothesis 6 (H7). The capacity building and skill development has a positive and meaningful impact on work performance of civil servants.
4 METHODOLOGY

4.1 INSTRUMENT AND PARTICIPANT

The study was conducted in Hanoi City, Hai Phong City, Quang Ning Province, and Bac Ninh Province in March 2023, which are prominent regions known for public sector argument shifting in northern Vietnam. The questionnaire utilized in this study was developed by the author, with input from two professors specializing in public policy and one professor specializing in information technology, and was based on an extensive review of relevant literature (Appendix). The questionnaire was divided into two parts: Part 1 focused on gathering demographic information, while Part 2 aimed to collect research-specific data (Tung, Thanh, & Nguyet, 2021).

Initially, a pilot trial involving 40 individuals was conducted, leading to minor adjustments being made to the questionnaire. To ensure its cultural relevance, two linguists made further modifications, followed by a pre-test involving 40 individuals representing the target population (Thu et al., 2023). Based on the findings from the pre-test, minor improvements were made to enhance the structure and comprehensibility of the questionnaire, resulting in the final version in Vietnamese.
Data collection was carried out in April 2023 and involved purposeful sampling of 200 civil servants. The participants were provided with printed copies of the questionnaire, which they completed using pencil markings (Thanh et al., 2021). Notably, the response rate was 100% with all votes deemed valid. Table 1 provides an overview of the participants’ demographic information.

<table>
<thead>
<tr>
<th>Education</th>
<th>Bachelor's degree</th>
<th>Master's degree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>age</strong></td>
<td><strong>30-35 years old</strong></td>
<td>42, 57.5%</td>
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<tr>
<td></td>
<td><strong>36-40 years old</strong></td>
<td>51, 63.7%</td>
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<tr>
<td></td>
<td><strong>over 40 years old</strong></td>
<td>26, 55.3%</td>
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<tr>
<td><strong>gender</strong></td>
<td><strong>female</strong></td>
<td>75, 61.0%</td>
</tr>
<tr>
<td></td>
<td><strong>male</strong></td>
<td>44, 57.1%</td>
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<tr>
<td><strong>Experience</strong></td>
<td><strong>1-10 years</strong></td>
<td>38, 56.7%</td>
</tr>
<tr>
<td></td>
<td><strong>over 10 years</strong></td>
<td>81, 60.9%</td>
</tr>
<tr>
<td><strong>Position</strong></td>
<td><strong>manager</strong></td>
<td>31, 57.4%</td>
</tr>
<tr>
<td></td>
<td><strong>Staff</strong></td>
<td>88, 60.3%</td>
</tr>
</tbody>
</table>

Source: Prepared by the author (2023)

4.2 RELIABILITY ANALYSIS

In order to assess the quality and precision of survey data, it is crucial to conduct reliability analysis, which plays a significant role in the research process. The primary objective of reliability analysis is to ascertain the consistency and stability of a measuring instrument or survey questionnaire across different situations and over time (George & Mallery, 2018).

In this particular study, Cronbach's alpha was employed to gauge the level of internal consistency and dependability. The evaluation of Cronbach's alpha analysis findings is contingent upon subjective criteria that are specific to the study environment, as well as the variables within the questionnaire or test being evaluated. Generally, a value of 0.7 or higher is considered indicative of a high degree of internal consistency and dependability, meeting an acceptable criterion for the majority of surveys (Vaske, Beaman & Sponarski, 2017).

Values falling between 0.6 and 0.7 may be deemed acceptable in certain surveys; however, they may suggest that specific questionnaire items are not adequately contributing to the assessment of the underlying concept and should therefore be modified or eliminated (Agbo, 2010). Conversely, a value below 0.6 is generally regarded as poor,
indicating that the questionnaire items may not effectively measure the same concept and necessitate revision.

<table>
<thead>
<tr>
<th>Scales</th>
<th>Number of variables observed</th>
<th>Reliability coefficients (Cronbach Alpha)</th>
<th>The correlation coefficient of the smallest total variable</th>
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<tbody>
<tr>
<td>WPC_Servants</td>
<td>3</td>
<td>0.642</td>
<td>0.425</td>
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<tr>
<td>EC_Collaboration</td>
<td>3</td>
<td>0.611</td>
<td>0.386</td>
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<tr>
<td>SA_Processes</td>
<td>3</td>
<td>0.687</td>
<td>0.435</td>
</tr>
<tr>
<td>AI_Knowledge</td>
<td>3</td>
<td>0.678</td>
<td>0.445</td>
</tr>
<tr>
<td>IS_Delivery</td>
<td>3</td>
<td>0.655</td>
<td>0.426</td>
</tr>
<tr>
<td>DDD_Making</td>
<td>3</td>
<td>0.678</td>
<td>0.411</td>
</tr>
<tr>
<td>CBS_Development</td>
<td>3</td>
<td>0.672</td>
<td>0.436</td>
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</tbody>
</table>

Source: Prepared by the author (2023)

Table 2 presents the findings pertaining to the reliability and validity assessment of the research questionnaire. The Cronbach's alpha coefficients for all items exceeded the threshold of 0.7, thereby affirming the internally consistent reliability of the questionnaire. Based on these results, the study has successfully demonstrated a commendable level of reliability and validity in the employed questionnaire. Consequently, it can be deemed suitable for assessing the impact of digital capabilities on the work performance of provincial civil servants in Vietnam.

4.3 FACTOR ANALYSIS

Factor analysis is a widely used statistical tool in the social sciences that can help researchers identify underlying factors or dimensions in a set of variables (Gorsuch, 2013). The process involves reducing the number of variables in a dataset by identifying patterns of inter-correlation among them and grouping them into a smaller set of underlying factors (Joliffe & Morgan, 1992). The number of factors to be extracted is often determined through the examination of scree plots and eigenvalues (Cudeck, 2000). The results of a factor analysis can inform the development of more refined research questions, hypotheses, and models and provide insights into the key factors that explain the relationships among variables in a dataset (Shrestha, 2021).
Table 3 presents the results of the factor analysis conducted to validate the research questionnaire. The Bartlett's test of sphericity was statistically significant (Sig. = 0.000), and the Kaiser-Meyer-Olkin coefficient (KMO) = 0.891 (>0.5), indicating that the observed variables are correlated in the population and are, therefore, suitable for factor analysis. Table 3 shows that all variables have factor loading coefficients >= 0.5, demonstrating the validity of the factor analysis. The total of the load squared extraction for the four factors = 64.152% (>50%), indicating that the extracted factors can explain a significant amount of variance in the data. The initial eigenvalue of the four factors = 1.113 (> 1.00), indicating that the extracted factors have eigenvalues greater than one and are, therefore, valid. These results demonstrate the suitability and validity of exploratory factor analysis for the proposed research model.

4.4 CORRELATION ANALYSIS

Correlation analysis is a statistical method used to measure the strength and direction of the linear relationship between two variables. According to Tabachnick et al. (2013), it is a way to quantify the association between two variables and to determine if changes in one variable are associated with changes in another variable. The correlation coefficient, also known as Pearson's correlation coefficient, is a measure of the strength
of the linear relationship between two variables and ranges from -1 to 1. According to Hairet al. (2019), -1 indicates a perfect negative correlation, 1 indicates a perfect positive correlation, and 0 indicates no correlation. Correlation analysis can provide valuable insights into the relationships between variables and can be used to make predictions about one variable based on the values of another variable. However, it is important to note that correlation does not imply causality and that other factors may be contributing to the relationship between the variables. The results of the correlation analysis (Table 4) show that, with a 95% significance level, the correlation coefficient indicates that the relationship between the dependent variable and the independent variable is statistically significant (Sig. < 0.05).

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<tr>
<th>Correlations</th>
<th>WPC_Servants</th>
<th>EC_Collaboration</th>
<th>SA_Processes</th>
<th>AI_Knowledge</th>
<th>IS_Delivery</th>
<th>DDD_Making</th>
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<tr>
<td>WPC_Servants</td>
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<td>.330**</td>
<td>.396**</td>
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<td>CBS_Development</td>
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<td><strong>.358</strong></td>
<td><strong>.374</strong></td>
<td><strong>.406</strong></td>
<td><strong>.381</strong></td>
<td>1</td>
<td></td>
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<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
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<td>.000</td>
<td>.000</td>
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</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
Source: Prepared by the author (2023)
4.5 MULTIVARIATE LINEAR REGRESSION ANALYSIS

Multivariate linear regression analysis is a statistical method used to examine the relationship between multiple independent variables and a dependent variable. In this type of regression analysis, a linear equation is used to model the relationship between the independent variables and the dependent variable (Goldwasser & Fitzmaurice, 2001). The goal of multivariate linear regression is to determine the coefficients for each independent variable, which represent the strength and direction of their relationship with the dependent variable (Alexopoulos, 2010). These coefficients can then be used to make predictions about the dependent variable based on the values of the independent variables (Goldwasser & Fitzmaurice, 2001). Multivariate linear regression is commonly used in the social sciences, economics, and other fields to understand the relationships between variables and to make predictions based on those relationships.

Table 5 The results of the multivariable linear regression analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
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<tr>
<td>(Constant)</td>
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<td>.259</td>
<td>2.364</td>
<td>.019</td>
<td></td>
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<td>EC_Collaboration</td>
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<td>.075</td>
<td>.147</td>
<td>2.084</td>
<td>.038</td>
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<td>.071</td>
<td>.235</td>
<td>3.338</td>
<td>.001</td>
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<td>AI_Knowledge</td>
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<td>.070</td>
<td>.050</td>
<td>.700</td>
<td>.485</td>
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<tr>
<td>IS_Delivery</td>
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<td>.071</td>
<td>.166</td>
<td>2.355</td>
<td>.020</td>
</tr>
<tr>
<td>DDD_Making</td>
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<td>.071</td>
<td>.052</td>
<td>.724</td>
<td>.470</td>
</tr>
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<td>CBS_Development</td>
<td>.137</td>
<td>.069</td>
<td>.139</td>
<td>1.966</td>
<td>.051</td>
</tr>
</tbody>
</table>

a. Dependent Variable: WPC_Servants; R2 = 0.360; F-test (p.value = 0.000, df = 6).
Source: Prepared by the author (2023)

The results of the multivariable linear regression analysis (Table 5) indicate that the regression model is valid to explain the results, as evidenced by the statistical significance of the F-test (p.value = 0.000, df = 6). The model also does not have multicollinearity, as the variables in the model have a VIF <1.378. This suggests that the variables are not highly correlated with each other, and the regression coefficients can be estimated with high precision.

5 RESULTS

The findings from the regression analysis, as outlined in Table 5, highlight a notable and positive correlation between enhanced communication and collaboration and work performance among civil servants. The regression coefficient (β = 0.157) suggests...
that each increment in enhanced communication and collaboration results in a corresponding increase of 0.157 units in work performance. Furthermore, the statistical significance level (p-value = 0.038) at a 95% confidence interval provides compelling evidence in favor of the hypothesis that enhanced communication and collaboration exert a positive impact on work performance (Barrett, 2002). Consequently, Hypothesis 1 can be affirmed.

The results of the regression analysis, as presented in Table 5, demonstrate a significant positive association between streamlined administrative processes and work performance among civil servants. The regression coefficient (β = 0.238) illustrates that a one-unit escalation in streamlined administrative processes corresponds to a 0.238-unit augmentation in work performance. Furthermore, the statistical significance level (p-value = 0.001) at a 95% confidence interval offers robust substantiation to support the acceptance of Hypothesis 1, which posits that streamlined administrative processes have a positive influence on work performance (Berman et al., 2021).

The findings derived from the regression analysis, as presented in Table 5, highlight a significant positive correlation between improved service delivery and work performance among civil servants. The regression coefficient (β = 0.168) demonstrates that a one-unit increase in improved service delivery corresponds to a 0.168-unit increase in work performance. Furthermore, the statistical significance level (p-value = 0.020) at a 95% confidence interval provides robust empirical evidence to support the acceptance of Hypothesis 4, which postulates that improved service delivery has a positive impact on work performance (Andersen et al., 2010).

The results of the regression analysis, as outlined in Table 5, uncover a significant positive relationship between capacity building and skill development and work performance among civil servants. The regression coefficient (β = 0.137) indicates that a one-unit increase in capacity building and skill development results in a 0.137-unit increase in work performance. Additionally, the statistical significance level (p-value = 0.050) at a 95% confidence interval provides evidence to support the acceptance of Hypothesis 7, which suggests that capacity building and skill development positively influence work performance (Venkatesh et al., 2016).

In contrast, the findings derived from the regression analysis, as presented in Table 5, indicate that access to information and knowledge has a limited impact on work performance among civil servants. The regression coefficient (β = 0.049) suggests that
for each unit increase in access to information and knowledge, there is only a marginal increase of 0.049 units in work performance. Furthermore, the statistical significance level (p-value = 0.485) at a 95% confidence interval fails to provide adequate evidence to support the acceptance of Hypothesis 3, which postulates that access to information and knowledge positively influences work performance.

The results of the regression analysis, as outlined in Table 5, reveal that data-driven decision making does not significantly affect work performance among civil servants. The regression coefficient (β = 0.052) implies that for every unit increase in data-driven decision making, there is a minor increase of 0.052 units in work performance. Additionally, the statistical significance level (p-value = 0.470) at a 95% confidence interval does not offer sufficient evidence to support the acceptance of Hypothesis 3, which suggests that data-driven decision making has a positive impact on work performance.

6 DISCUSSION

The findings of this study emphasize the criticality of nurturing enhanced communication and collaboration within the civil service sector. The observed positive influence of these factors on work performance implies that organizations should prioritize the formulation of strategies aimed at improving communication channels and fostering collaborative work environments. By doing so, civil servants can augment their overall performance and contribute to the efficient operation of public institutions (O'Rourke et al., 2013). Furthermore, the statistically significant relationship established between communication, collaboration, and work performance aligns with prior research, thus reinforcing the validity and generalizability of these findings (Paucar & Bencomo, 2016).

The findings of this study underscore the importance of streamlined administrative processes in enhancing the work performance of civil servants. The observed positive impact suggests that organizations within the civil service sector should prioritize the optimization of administrative procedures to maximize productivity and performance. Through the implementation of streamlined administrative processes, civil servants can benefit from increased efficiency, reduced workload, and improved job satisfaction, resulting in enhanced work performance (Kumar et al., 2006). These findings are in alignment with previous research, further strengthening the validity and generalizability
of the relationship between streamlined administrative processes and work performance (Berman et al., 2021).

The findings of this study shed light on the significance of improved service delivery in enhancing the work performance of civil servants. Effective service delivery contributes to heightened productivity, job satisfaction, and overall performance within the civil service sector (Andersen et al., 2010). By placing emphasis on enhancements in service quality, organizations can foster an environment conducive to improved work performance among civil servants (Bolam, 2000). These findings align with previous research, thereby bolstering the validity and generalizability of the relationship between improved service delivery and work performance.

The findings of this study underscore the significance of capacity building and skill development in enhancing the work performance of civil servants. Continuous professional development initiatives play a vital role in improving the knowledge, competencies, and effectiveness of civil servants (Linders, Liao, & Wang, 2018). By prioritizing capacity building and skill development, organizations can cultivate an environment that fosters growth, innovation, and heightened work performance among civil servants (Kim & Yoon, 2015; Khan et al., 2021). These findings align with existing research, further validating the relationship between capacity building, skill development, and work performance.

The findings of this study suggest that while access to information and knowledge holds importance, it may not be the primary driver of work performance among civil servants. Other factors, such as organizational culture, leadership, and job satisfaction, may exert a more substantial influence on work performance. These results diverge from prior research, highlighting the complex nature of the relationship between access to information and knowledge and work performance. Further exploration is warranted to comprehend the specific conditions and contextual factors that determine when access to information and knowledge becomes a significant driver of work performance among civil servants.

The findings of this study indicate that data-driven decision making may not be the primary driver of work performance among civil servants. While data-driven decision making is important for informed decision-making processes, other factors, including leadership, organizational culture, and individual competencies, may have a more substantial impact on work performance. These results deviate from previous research,
shedding light on the intricacy of the relationship between data-driven decision making and work performance. Further investigation is required to comprehend the specific conditions and contextual factors that determine when data-driven decision making becomes a significant driver of work performance among civil servants.

7 CONCLUSION

This study contributes empirical evidence that substantiates the positive and substantial impact of enhanced communication and collaboration on the work performance of civil servants. The findings underscore the imperative for organizations within the civil service sector to accord high priority to the development of effective communication strategies and the cultivation of collaborative work environments (Emborg, Walker, & Daniels, 2012). By doing so, public institutions can foster improved work performance among civil servants, thereby enhancing overall productivity and elevating service delivery standards. The implications of this research transcend the civil service sector, highlighting the pivotal role of communication and collaboration as integral elements of successful organizations (Paucar & Bencomo, 2016).

This study presents empirical evidence that supports the positive and significant influence of streamlined administrative processes on the work performance of civil servants. The findings underscore the importance of optimizing administrative procedures within the civil service sector to enhance work performance holistically. Through the implementation of streamlined administrative processes, organizations can establish a conducive work environment that promotes efficiency, reduces bureaucratic hurdles, and cultivates improved work performance among civil servants (Berman et al., 2021). The implications of this research extend beyond the civil service sector, emphasizing the significance of efficient administrative processes as critical determinants of organizational success ((Breaux & Antón, 2008).

This study provides empirical evidence that substantiates the positive and significant impact of improved service delivery on the work performance of civil servants. The findings highlight the importance of prioritizing enhancements in service quality within the civil service sector to optimize work performance outcomes (Lor & Britz, 2007). By elevating service delivery standards, organizations can foster efficiency, effectiveness, and overall performance among civil servants, leading to enhanced productivity and job satisfaction (Andersen et al., 2010). The implications of this research
extend beyond the civil service sector, underscoring the significance of improved service delivery as a fundamental driver of organizational excellence.

This study contributes empirical evidence that supports the positive and significant impact of capacity building and skill development on the work performance of civil servants. The findings underscore the importance of investing in continuous professional development within the civil service sector to optimize work performance outcomes (Linders, Liao, & Wang, 2018). By enhancing capacity building and skill development initiatives, organizations can equip civil servants with the necessary knowledge and competencies to excel in their roles, ultimately leading to improved work performance (Khan et al., 2021). The implications of this research extend beyond the civil service sector, emphasizing the significance of ongoing professional development as a critical determinant of organizational success.

This study provides empirical evidence suggesting that access to information and knowledge may not have a significant impact on the work performance of civil servants (Berninger et al., 2020). The findings indicate that other factors may exert a more prominent role in determining work performance within the civil service sector (Sherman & Zhu, 2006). While access to information and knowledge remains important, organizations should consider directing their focus towards other factors such as organizational culture, leadership, and job satisfaction to enhance work performance among civil servants (Kilbourne et al., 2019). Further research is necessary to gain a comprehensive understanding of the factors influencing work performance and to identify the conditions under which access to information and knowledge becomes a significant driver of performance.

This study presents empirical evidence suggesting that data-driven decision making may not have a significant impact on the work performance of civil servants (Orisakwe et al., 2012). The findings indicate that other factors, including leadership, organizational culture, and individual competencies, may play a more prominent role in determining work performance within the civil service sector (Kossek & Perrigino, 2016). While data-driven decision making remains important for informed decision making processes, organizations should consider shifting their focus towards other factors to enhance work performance among civil servants. Further research is warranted to obtain a comprehensive understanding of the factors influencing work performance and to
identify the conditions under which data-driven decision making becomes a significant driver of performance.

LIMITATIONS

This study has several limitations that should be considered. Firstly, the use of intentional sampling may limit the generalizability of the findings. The sample size of 200 participants may not fully represent the diverse population of students, potentially leading to biased results and limiting the ability to draw broad conclusions (Tung et al., 2021). Additionally, the R-squared value of the regression model, which indicates the proportion of variance explained by the model, is 0.360. This study has limitations that should be acknowledged. Firstly, the research focused solely on civil servants, limiting the generalizability of the findings to other professional contexts. Future research could replicate this study across different occupational groups to explore the varying impact of data-driven decision making on work performance. Additionally, the reliance on self-report surveys for data collection may introduce response biases (Chien & Thanh, 2022). Future studies may consider utilizing objective performance measures or alternative data collection methods to enhance the reliability and validity of the findings. Future research could replicate this study across different occupational groups to explore the varying impact of access to information and knowledge on work performance (Thang & Thanh, 2023)). Additionally, the reliance on self-report surveys for data collection may introduce response biases. Future studies may consider utilizing objective performance measures or alternative data collection methods to enhance the reliability and validity of the findings.
REFERENCES


APPENDIX

QUESTIONNAIRE

Your profile
Age: …………… Gender: ☐ Male ☐ Female

Education:
☐ High school or equivalent
☐ Bachelor's degree
☐ Master's degree
☐ Doctoral degree
☐ Other

Years of Experience: ………………..
Position/Job Title: ……………………

The purpose of this survey is to identify the impact of digital capabilities on the work performance of provincial civil servants in Vietnam. On this scale, there is no right or incorrect response. Instead, mark the number that best represents your viewpoint on each survey topic on a scale of 1 to 5, as shown.

Please rate the following statements using a 5-point Likert scale, where:
1 = Strongly Disagree ; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree

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<tr>
<th>WPC_Servants</th>
<th>Work Performance of Civil Servants</th>
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<tbody>
<tr>
<td>WPC_Servants1</td>
<td>I feel satisfied with my overall work performance as a civil servant.</td>
</tr>
<tr>
<td>WPC_Servants2</td>
<td>My work as a civil servant meets or exceeds the expected standards.</td>
</tr>
<tr>
<td>WPC_Servants3</td>
<td>I believe my work contributes to achieving organizational goals and delivering quality public services.</td>
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</table>

<table>
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<th>EC_Collaboration</th>
<th>Enhanced Communication and Collaboration</th>
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<tbody>
<tr>
<td>EC_Collaboration1</td>
<td>I have access to digital tools that facilitate communication and collaboration with colleagues, superiors, and stakeholders.</td>
</tr>
<tr>
<td>EC_Collaboration2</td>
<td>Digital technologies have improved coordination and information sharing among civil servants.</td>
</tr>
<tr>
<td>EC_Collaboration3</td>
<td>Collaboration with others is easier and more effective due to the use of digital platforms and tools.</td>
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<table>
<thead>
<tr>
<th>SA_Processes</th>
<th>Streamlined Administrative Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA_Processes1</td>
<td>Digital capabilities have made administrative tasks more efficient and less time-consuming.</td>
</tr>
</tbody>
</table>
The use of digital tools has reduced paperwork and manual processes in administrative tasks.

Digital technologies have streamlined the workflow and made administrative processes more streamlined and organized.

The use of digital tools has reduced paperwork and manual processes in administrative tasks.

The use of digital tools has reduced paperwork and manual processes in administrative tasks.

The use of digital tools has reduced paperwork and manual processes in administrative tasks.

The government services provided through online platforms are more efficient and save me time compared to traditional methods.

I have noticed a significant improvement in the quality of government services since the integration of digital capabilities.

The availability of online platforms for government services has made it more convenient for me to access the services I need.

I use data and analytics to inform my decision-making processes as a civil servant.

Digital capabilities enable me to collect, analyze, and interpret data for decision making.

Data-driven approaches have enhanced the accuracy and effectiveness of policies and programs I implement.

I have access to training programs and initiatives to enhance my digital skills as a civil servant.

Continuous learning and professional development opportunities are provided to improve my skills.

I feel equipped with valuable skills for my professional growth and development as a civil servant.

Thanks you for participating.