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The role of digital competence in improving service quality and employee performance

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Orientation: Digital acceleration forces all public service organisations to prepare to shift from traditional methods to digital methods. Thus, this phenomenon challenges today's public service organisations to present new service innovations with technological elements to create superior performance.

Research purpose: This study aims to explore and analyse the impact of digital competence, smart digital services, and service quality on the performance of public service employees.

Motivation for the study: Human resources in public service organisations face many challenges, namely how to adapt to technology and create effective services to improve service quality and employee performance.

Research approach/design and method: This study was conducted in all government organisations in Central Java province, Indonesia. The sampling technique used was proportional random sampling, so that a sample of 262 civil servants was obtained. This study uses a quantitative method with Structural Equation Model (SEM) analysis.

Main findings: The study results show that digital competence has a positive impact on intelligent digital services, which significantly improves service quality and ultimately has a positive impact on employee performance.

Practical/managerial implications: The results of this study provide important insights for policy makers in the Central Java Provincial Government, Indonesia, to determine the direction of digital competence development and service innovation in achieving positive performance.

Contribution/value-add: This study provides a roadmap for public service organisations to develop employees who can adapt to digital competencies and smart digital services to achieve maximum performance.

Keywords: digital competence; service quality; employee performance; smart digital service; public service.

Introduction

Digital acceleration forces all sectors to continue adapting their organisational management digitally (Saarikko et al., 2020). However, not all organisational sectors can follow this change. The public service sector, especially government organisations, must improvise in creating effective and efficient services for the community (Setyawan et al., 2023). Digital transformation allows the government to provide more efficient, transparent and responsive services to community needs (Setyawan et al., 2023). The influence of people's behaviour continues to change with digital technology, which changes people's attitudes and views on government organisations' ability to provide services effectively and efficiently (Kashef et al., 2021).

For this reason, the demand for transformation towards digital is not only based on changes in the digital era itself but also on people's behaviour, which continues to change. So, this is considered important for improving service quality and performance. One form of digitalisation impacts organisational members' readiness to face this era (Lee & Meng, 2021). Several problems related to digitalisation arise, namely that performance measurement can become more complex because various metrics need to be considered, such as response time, user satisfaction and operational efficiency (Kamble et al., 2020). Therefore, the influence of digitalisation changes the traditional service paradigm towards digital services, where all operational elements of the organisation must change.

Considering the above phenomenon, digitalisation in public services has a significant impact on the organisations themselves, and this can be seen in how they provide services and interact with society (Xu et al., 2022). According to Rachmawati et al. (2021), in their research, government digital services have an impact on changing people's flexibility in accessing services according to their needs. A concrete example is online licensing and tax payment services, which reduce queues and waiting times and impact service quality better. According to Gong et al. (2020), one of the factors in the success of digital transformation in public services in government institutions is how the organisation responds to change by continuing to move dynamically with these changes. The most important aspect of the current digitalisation of public services is the possibility of interaction between users and the public with institutions that provide public services. Researchers like Mao et al. (2023) explored the relationship between service quality and performance using self-reports filled in by the employees themselves, without considering the point of view of the service recipient, showing that service quality based on the perception of the service provider resulted in a greater increase in service quality scores. We see that the impact of digital services on organisations has many benefits and advantages, but the impact of the digital service approach relating to human resources has not been further investigated.

Smart digital service is a smart service that accommodates technology in its operation. Smart digital service is a change in service with the accommodation of Internet of Things (IoT) and artificial intelligence (Velsberg et al., 2020). Smart digital service is a new variable developed using innovative technology to make it easier for people to obtain services (Wirtz et al., 2021). In this research, we tried to conduct an empirical study on smart digital services in public service organisations. We saw in this study that elements of smart digital service, such as collaboration, are expected to impact achieving higher service quality and performance. Increasing collaboration will further improve aspects of employee performance. In turn, we consider the mediating role of smart digital services in encouraging employee performance achievements. This is in line with the diffusion of innovation theory, which states that improving employee performance in the digital era provides valuable insight into how employees can apply and accept technological innovation.

In Indonesia, as a developing country, digitalisation is a challenge in developing the future of Indonesian government public services (Mutiara & Sastrosubroto, 2018). This is because public services in Indonesia have not yet fully accommodated digital technology in their operations, so this phenomenon has become a concern for all elements, such as politicians, scientists, civil society and other stakeholders. According to Fatimah et al. (2023), one of the obstacles in digitalising public services in Indonesia is data security, infrastructure, Internet access and human resource (HR) competency in running digital services. One form of digital public service provider in Indonesia, namely the Central Java Provincial Government, created a digital public service system, namely an electronic-based government system, which has the aim of government administrators utilising information and communications technology (ICT), to provide services to society (Winarni et al., 2023). The problem for the Central Java Provincial government is a decreased community satisfaction index for the services provided (Nafi'ah, 2022). This raises the question of whether digital public services, namely smart digital services, will impact service quality and employee performance. What is the important contribution of smart digital service in triggering improvements in service quality and employee performance?

In terms of HR in public service organisations, civil servants are required to be ready to run digital services. According to Trenerry et al. (2021), digital transformation brings a new work paradigm and organisational culture to the employee environment. Manual ways of working are being replaced by digital ways, requiring the adaptation of different skills in carrying out tasks (Baptista et al., 2020). To prepare to face digital ways of working, a skills approach such as digital competency needs to be taken (Lee & Meng, 2021). In digital competence, several important elements can encourage smart digital services, including knowledge of using technology. However, the findings are still not conclusive to be generalised in the context of public service organisations. The problem among employees in the public service sector is the lack of desire to explore the potential of their technological knowledge to be of use for service technology. This aligns with the diffusion of innovation theory, which states that innovations and new practices can be accepted or rejected. Changes will change the view of human resources to try innovation and have a high tolerance for risk (Khan et al., 2022). Our study, therefore, provides a new proposition to fill the inconclusive void of subsequent research

Literature review

Background theory

Diffusion innovation theory

The diffusion of innovation theory is created to explain how innovations in the form of new practices, innovations and ideas can be accepted or rejected by individuals or groups in a particular social system (Khan et al., 2022). In this research, diffusion of innovation theory is the basis. Digitalisation is a form of innovation, and new practices are implemented in organisations through digital competence, smart digital service, service quality and employee performance.

Digital competence and smart digital service

Digital competency is defined as competency related to current skills that describe skills related to ICT (Lee & Meng, 2021). In this case, digital competency is a competition that involves the use of ICT, for example, in the use of Internet and computer technology to create value, production, information and communication through collaborative networks via the Internet. Smart digital service is a service that utilises digital technology, such as the Internet of things (IoT)

and artificial intelligence (AI), to provide services effectively and efficiently to customers (Velsberg et al., 2020). In the context of public services, smart digital services are useful in creating digital services to serve the community. According to Setzke et al. (2023), services built on digital elements can improve service quality, increase customer satisfaction and operational efficiency, be on target and add added value to the service itself. We see that smart digital services will impact employees' digital competence because all the services will require skills and knowledge in operating digital technology. Therefore, organisations must ensure their employees have digital competence for smooth service.

Digital competence supports implementing smart digital services in the public sector. This is because the aspect of the service itself lies with the service provider, namely the employee, where the employee must have skills and knowledge related to digital technology. Research conducted by Vasilieva et al. (2018) shows that there has been a significant increase in the demand for digital competence in public service organisations in this era. This is because the public service sector is lagging behind the private sector in using digital competence. Furthermore, the research conducted resulted in Noh and Hong (2022) concluding that digital competence significantly impacts the success and quality of services in public service organisations. This is because there is a demand from the public for public service organisations to transform towards the digital mode because of the impact of changes in society caused by digitalisation. According to Vasilieva et al. (2018), smart services require the integration of digital and physical competencies for service delivery:

H1: Digital competence has a positive significance on smart digital service.

H1a: Smart digital service has a positive significance on employee performance through service quality.

H1b: Digital competence has a positive significance on employee performance through service quality and smart digital services.

Smart digital service and service quality

Previous studies have provided an overview of digital services in several existing sectors. Alvarenga et al.'s (2020) research states that current digital services can improve service quality in several sectors, including the public sector. Implementing digital services can improve service quality in several aspects, such as improving information quality, performance, positive customer experiences, accessibility and inclusiveness (Li & Shang, 2020). In general, Basáez et al. (2022) state that digital services, namely smart digital services, are part of a dynamic form of technology that is changing to produce services effectively and efficiently, thereby improving service quality. Service quality is a measurement that compares what service users expect and receive (Li & Shang, 2020). In the context of public service organisations, it is necessary to understand that service quality is part of the government bureaucracy as a service provider to provide public services to the community effectively, efficiently, transparently and responsively to the community (Lapuente & Van de Walle, 2020). Several studies following the study conducted by Herhausen et al. (2020) stated that digital services in service organisations show an increase in service quality from the service provider's side:

H2: Smart digital service has a positive significance on service quality.

Smart digital service and employee performance

In this research, smart digital service is considered as an aspect that directly impacts the performance of public service organisation employees. Several factors in smart digital services can play a role in improving employee performance, and these factors include efficiency, effectiveness, transparency and collaboration (Velsberg et al., 2020). Smart digital service is a development of digital services where smart digital services are expected to be a driving force in achieving its main performance in the public service sector. Through smart digital service elements, namely IoT and AI, it is possible to provide more effective support for employees to provide services and improve performance (Criado & Gil-Garcia, 2019). According to Parker and Grote (2020), services built on digital elements will create efficiency. For example, by automating routine work and using intelligent algorithms, employees can save time and energy previously used for manual work. This allows employees to focus on more complex and value-added tasks, increasing productivity and performance. Several previous studies stated that digital services positively impact increasing superior performance:

H3: Smart digital service has a positive significance for employee performance.

Service quality and employee performance

Employee performance is an individual's success or achievement in carrying out their tasks during a certain task period and must follow the performance standards that have been laid out (Monggesang et al., 2023). In public service organisations, performance assessment output results from assessing the quality of services provided (Perizade, 2023). The quality of public service organisations is the main task of an employee in interacting with the community. Good or bad service quality can be seen in the interaction between employees and the community (Umar et al., 2021). When an employee is involved in the same perception of the organisation, it will result in a good performance utilising good employee performance reporting. Research by Hulshof et al. (2020), explored the relationship between service climate and performance using self-reports filled in by employees themselves, without considering their point of view in receiving services, resulting in significantly increased employee performance:

H4: Service quality has a positive significance on employee performance.

Method

The research was carried out in Indonesia from November 2023 to February 2024. The object of the research was the public service organisation of the Indonesian Central Java

Provincial Government. The research population comprises civil servants in 12 Central Java province government agencies. The sampling technique used was proportional random sampling to obtain a data sample of 264 employees (N = 262). The research was conducted using a quantitative research technique approach. Data analysis in this study used a Structural Equation Model (SEM) using AMOS version 26 software. The conceptual framework proposed in this study can be seen in Figure 1.

Research data were obtained by distributing closed questionnaires to respondents. The scale used in this questionnaire is a 1–7 point Likert scale (Taherdoost, 2019). There are several parts for this questionnaire. The first part contains the instructions for filling out the questionnaire and the availability of participation in the survey; the second part is the respondents' identity section and the last part is the research questionnaire. Respondent data will not be shared, and anonymity will be guaranteed. Meanwhile, respondents were not forced to take part in the research survey.

The research instrument is divided into four variables: digital competence, smart digital service, service quality and employee performance. The digital competency variable measurement instrument is divided into five items (Touron et al., 2018). The instrument for measuring the smart digital service variable is divided into four items (Velsberg et al., 2020). The service quality variable measurement instrument is divided into four items (Gayatri et al., 2013). The employee performance variable instrument is divided into five research items (Astuti et al., 2023; Miftachul Mujib et al., 2023).

The descriptive analysis of respondents in this study presents the demographic results of respondents, which are classified by gender, age, lifespan and education. In this study, respondents according to gender were dominated by male respondents, with a total of 150 (N = 150) and a percentage of 42.7%. According to age, respondents were dominated by respondents aged 31–40 years, totalling 110 (N = 110). Finally, according to education, respondents were dominated by those with Bachelor's degrees (N = 160). Demographic characteristics of the respondents are shown in Table 1.

Ethical considerations

Ethical clearance to conduct this study was obtained from Universitas Dian Nuswantoro, Ethical Review Committee Faculty of Economics and Business (ref. no. 036/B.23.UDN-03/VI/2024).

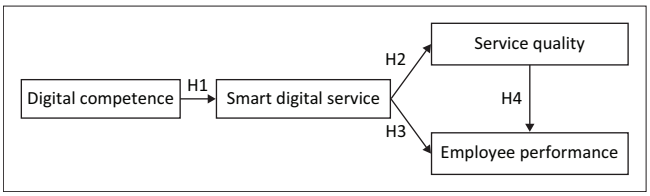


FIGURE 1: Conceptual framework.

Result and discussion

Reliability test

Reliability testing in this research is needed. This is because, in this test, the instrument used in this research is reliable (Sarstedt et al., 2019). In the reliability test, this research used Composite Reliability (CR). Composite Reliability is a method used to measure the extent to which the construct measured by the item is reliable. A variable is said to meet the reliability test if the CR value is more than 0.7 (Hair et al., 2014). The results of the data analysis show that all variables used have met the reliability test with a CR value of more than >0.7. The reliability test in this research can be seen in Table 2. The Average Variance Extracted (AVE) value shows how well a latent variable can represent the observed variable measured by several items (Hair et al., 2014). The AVE value in SEM shows how valid the construct is. A good AVE value is >0.5. In this study, all variables met the AVE criteria value >0.5. The AVE value in this study can be seen in Table 2.

Test convergent validity

Convergent validity refers to the extent to which indicator items can represent the latent variable construct being measured. In SEM, convergent validity evaluation can be seen from the loading factor value, which must be > 0.7 (Hair et al., 2014). In research, the items in each construct used have met convergent validity. The loading factor value can be seen in Table 3.

Normality test

In SEM, data normality is divided into two normalities: univariate and multivariate. Univariately, the normality of the data can be seen in the skewness (slope of the distribution) and kurtosis (sharpness of the distribution peak) values (Hair et al., 2014). Univariate and multivariate normality can

TABLE 1: Demographic characteristics of the respondents.

Variable	Frequency	%
Gender		
Male	112	42.7
Female	150	57.2
Age (years)		
20–30	53	20.2
31–40	101	38.5
41–50	78	29.7
51–60	30	11.4
Education		
Associate	52	19.8
Bachelor	160	61.0
Masters	60	22.9

TABLE 2: Reliability and validity test.

Variable	Variable composite reliability (CR)	AVE	Results
Digital competence	0.922	0.746	Reliable and valid
Smart digital service	0.952	0.800	Reliable and valid
Service quality	0.950	0.827	Reliable and valid
Employee performance	0.955	0.808	Reliable and valid

AVE, average variance extracted.

TABLE 3: Loading factor.

Variable	Indicator	Indicator notation	Loading factor
Digital competence	Information	X1.1	0.839
	Communication	X1.2	0.865
	Digital creation	X1.3	0.875
	Security	X1.4	0.876
	Troubleshoot	X1.5	0.912
Smart digital service	Effectiveness	X2.1	0.887
	Efficiency	X2.2	0.885
	Transparency	X2.3	0.897
	Collaboration	X2.4	0.906
Service quality	Providing optimal service	X3.1	0.894
	Deliver services appropriately	X3.2	0.919
	Service delivery facilities	X3.3	0.918
	Assist in providing services	X3.4	0.913
Employee performance	Quality	Y1.1	0.868
	Quantity	Y1.2	0.898
	Maximum	Y1.3	0.902
	Accuracy	Y1.4	0.912
	Independence	Y1.5	0.917

be achieved if the skewness and kurtosis values are no more than ± 2.58. In this study, all items in the constructs used met univariate and multivariate data normality.

Confirmatory factor analysis

We conducted a confirmatory factor analysis (CFA) test in this study. Confirmatory factor analysis is carried out to test whether the empirical data follow the factor model that was used previously. In SEM data analysis, CFA is used to see the suitability of the empirical model and the proposed factor model (Mia et al., 2019). The model suitability test (Goodness-of-Fit) on the model can be seen with the Probability, Root Mean Square Error of Approximation (RMSEA), Chi-Square Minimum Fit Function (CMIN)/degree of freedom (*df*), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Goodness-of-Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI) values. In the research, the results of the model fit test show that the model has met the criteria for good acceptance, as seen in Figure 2.

Hypothesis testing

Hypothesis testing is used to see whether the accepted hypothesis is accepted or rejected. In this study, we used a value of α = 5% with a significance of 0.05 (Hair et al., 2014). The condition for the hypothesis in this research to be accepted is to look at the Probability (*P*) value, which must be below < 0.05 according to the criteria α = 5%. In the research H1, which states that digital competence has a positive significance for smart digital services, is accepted with a value $P < 0.05$. Hypothesis 2 states that innovative digital services positively impact the quality of service received with a *P*-value < 0.05. Hypothesis 3, which states that smart digital service positively impacts employee performance, is rejected with a *P*-value > 0.05. Hypothesis 4, which states that service quality positively affects employee performance, is accepted with a *P*-value < 0.05. Hypothesis 1a states that Digital Competence significantly positively influences service quality through smart digital services received with a value $P < 0.05$. Hypothesis 1b states that digital competence significantly influences employee performance through smart digital services with a rejected value $P > 0.05$. Hypothesis testing in this research can be seen in Table 4.

Digital competence and smart digital service

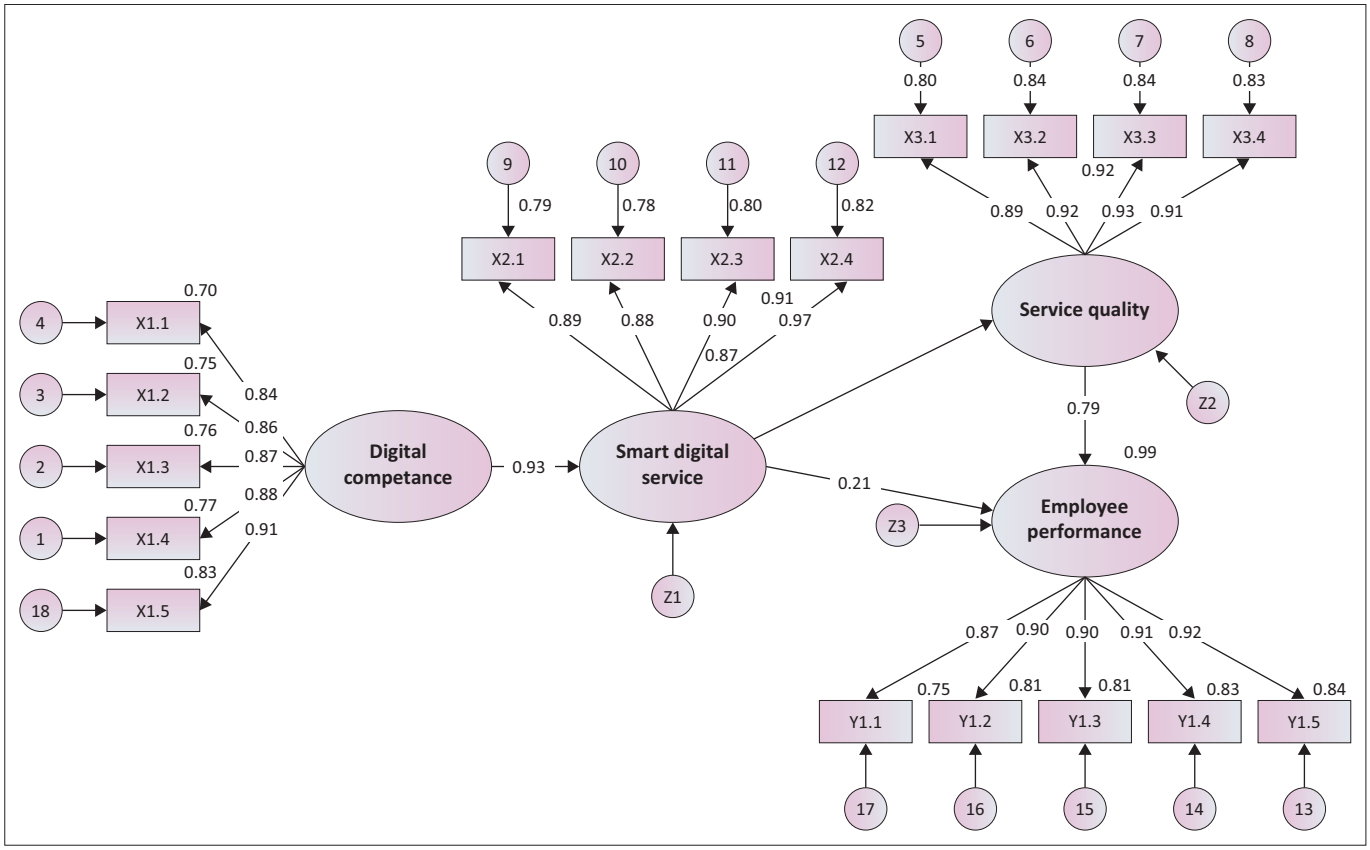
The data analysis results show that H1, which states that digital competence has a significant positive effect on smart digital services, is accepted with sig = 0.00. The results show that digital competence positively impacts the smart digital service of Central Java Provincial government civil servants. We see that problem-solving and intensity in using technology are the main factors in digital competence in improving smart digital services for employees. This can be taken as being clear that employees with digital competence will have a good understanding of using technology effectively to carry out their duties and serve the community. This finding is in line with the opinion of Çebi and Reisoglu (2020) and Mittal (2020), which states that employees who can adapt to technological changes will have the opportunity to grow in their careers; this is because current tasks and jobs require skills in using technology.

Smart digital service and service quality

Hypothesis 2 states that smart digital service has a significant positive effect on service quality and is accepted (sig = 0.00). These results clarify that smart digital services positively impact the service quality of Central Java Provincial government civil servants. This research is in line with research conducted by Ameen et al. (2019), which states that there is an increase in the quality of service for individuals if services are provided using digital elements. Criado and Gil-Garcia (2019) stated that digitalisation in organisations will create better service quality compared to not being digitalised, and improving service quality with digitalisation will lead to customer satisfaction with the services provided. In data analysis, collaboration indicators play a dominant role in improving the quality of services provided by employees. These results follow the statements of Bafoutsou and Mentzas (2002) and Tao et al. (2022). The existence of an integrated digital collaboration platform allows employees to work together in real-time, share information and better coordinate actions. This helps improve coordination between teams and departments and speed up responses to community requests. In this way, smart digital services can significantly contribute to the quality of service in the public service sector through effectiveness, efficiency, collaboration and transparency in responding to service needs for the community.

Smart digital service and employee performance

Hypothesis 3, which states that smart digital services significantly positively affect employee performance, is rejected (sig = 0.076). These results indicate no influence of



Note: (X), (Y) and (Z) refers to the notation of the indicator. Goodness of fit: Probability = 0.000; Chi-square = 304.884; RMSEA = 0.071; TLI = 0.967; CFI = 0.972; GFI = 0.872; AGFI = 0.833; CMIN/df = 2.327; RMR = 0.024.

RMSEA, Root Mean Square Error of Approximation; TLI, Tucker-Lewis Index; CFI, comparitive fit index; GFI, goodness-of-fit index; AGFI; adjusted goodness-of-fit index; CMIN, Chi-square minimum fit function; df, degree of freedom; RMR, Root Mean Square Residual.

FIGURE 2: Fit Model and Structural Model.

TABLE 4: Hypothesis testing.

Hypothesis	Estimate	*P*	Result
Digital Competence -> Smart Digital Service	0.954	0.000	Accepted
Smart Digital Service -> Service Quality	0.949	0.000	Accepted
Service Quality -> Employee Performance	0.798	0.000	Accepted
Smart Digital Service -> Employee Performance	0.212	0.076	Rejected
Digital Competence -> Smart Digital Service -> Employee Performance	0.200	0.080	Rejected
Digital Competence -> Smart Digital Service -> Service Quality -> Employee Performance	0.756	0.000	Accepted

smart digital services on the performance of Central Java Provincial government civil servants. Based on these findings, we investigated the possibility that digital services often do not have a design that considers users' needs and skills; therefore, this impacts human resources who have difficulty using these services. Therefore, these challenges will result in decreased productivity and performance. Furthermore, we see that in public service organisations, not only is it necessary to prepare the digital work methods but also adapt it for civil servants. Resistance to smart digital service methods and work patterns can result in substandard use, which ultimately hinders the expected increase in performance. So, training for employees to adapt to digital work methods is needed.

This result is in line with the opinion of Velsberg et al. (2020) who state that smart digital services are not necessarily needed to improve the performance of public service employees because there must be mutually proportional factors to achieve superior performance; examples of these are the integration of infrastructure, technology readiness, human resource competencies and organisational change management in responding to digital transformation. However, in the case of developing countries such as Indonesia, the use of digital technology at work still serves limited purpose which may restrict the employee in achieving optimal performance.

Service quality and employee performance

The data analysis results show that H4 states that service quality has a positive effect on employee performance. These results clarify that service quality can improve the performance of Central Java Provincial government civil servants. We see that service quality and employee performance are very closely related because it is an obligation for public service employees to provide services to the public. According to Rojikinnor's (2020) opinion, the quality of services provided by civil servants significantly impacts their performance assessment. By providing good service, an employee can improve their individual performance assessment, which will increase the community satisfaction index and improve the image of their institution. The role of indicators for the accuracy of service delivery in this research is the main factor in improving employee

performance. Apart from that, the results of previous research follow the results of this research, which states that there is a significant positive impact of service quality variables on employee performance (Mesra & Hariadi, 2023). According to Ismail et al. (2023), service quality is a measure of the success of employee performance in public service organisations, and this is because service quality is directly related to the work carried out by a public service employee. For this reason, service quality and employee performance in public service organisations are inseparable.

Digital competence and service quality through smart digital services

Hypothesis 1b, which states that digital competence positively affects employee performance through smart digital services, is rejected (sig = 0.08). In these results, we see that the role of digital service cannot mediate the digital competence and performance of civil servant employees in Central Java province. We see that employees have doubts about digital services in using service technology. This result follows Mittal's (2020) statement, which states that limited knowledge and skills in using digital technology will make it difficult for employees to adapt to work, especially as their sector demands that employees must be able to use technology at work, so this will not significantly impact their performance. In this study, even though public service organisation employees have digital competencies, implementing smart digital services may not be fully by the level of competency. This is because there may still be many public service employees who only master basic digital competencies, and we also see that digital services that are too complex to serve the public may result in public service employees having difficulty in operating the service so that the potential increase in service quality is not achieved.

Digital competence and employee performance through smart digital services and service quality

Hypothesis 1a, which states that digital competence positively affects service quality through smart digital service, is accepted (sig = 0.00). These results illustrate and clarify the fact that digital competence in employees will contribute to increasing employee smart digital services and providing quality services. Based on these results, we concluded that high digital competence can contribute to improving the quality of services provided to employees through smart digital services. An example is when employees have good technological skills and knowledge, which will impact providing responsive, efficient and quality services to the community.

The study reveals that digital competence in the public sector can create transparency, effectiveness, efficiency and collaboration within the work relationships. Digital competence for public service employees facilitates clear goals in services, and this mechanism will have a positive impact on problem-solving, job security, digital creativity, and the ability of public service employees to create smart digital services. These conditions will impact the creation of service quality reflected in the provision of appropriate services, the provision of facilities to provide good services and the ability to help stakeholders deliver excellent services. Good service quality will ultimately improve employee performance, manifested in working with independence, appropriate working hours and the highest performance achievement. This study found that digital competence applied to the public service sector will improve employee performance through intelligent digital services and service quality.

Conclusion

This research concludes that digital competence is important in influencing smart digital services. Smart digital service in this research was able to mediate between digital competition and service quality but was not able to mediate digital competence and employee performance. Smart digital service plays a direct role in influencing employee performance and service quality. Lastly, service quality influences employee performance. Overall, all hypotheses accepted in this research have a positive impact. We conclude that digital implementation in public service organisations can increase efficiency, effectiveness and collaboration among civil servants, improving the quality of their services and performance. We hope that public service organisations in Indonesia, especially the Central Java Provincial Government, will continue to develop and implement services using digital technology so that public services can continue to improve and provide greater added value for the achievements of organisations and society. Therefore, organisational management in public service organisations must focus on human resource development. We see the importance of digital-based human resource training and development so that employees in this sector are ready to utilise digital-based services to serve the community and achieve superior performance.

The results of this research can be useful and provide insight to policymakers in Central Java Provincial Government organisations that employee competency is important in improving services and service quality. Although it needs to be understood that the impact of smart digital service on employee performance is not significant, this needs to be studied and investigated further because there are doubts from researchers who refer to the lack of readiness of employees to use digital services. We suggest that potential future research areas can investigate digital smart services to mark objects in developed countries. This is because the use of technology in serving the community, such as digital smart services, will be very relevant to improving the performance of public service employees in developed countries because the implementation of the use of digital technology is already very advanced.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

K.I. contributed to this research by helping with conceptualisation, conducting research methodology, formal analysis and funding acquisition. S.D.A. contributed in the form of investigation, writing the original draft, visualisation and software. F.R. contributed by helping with validation, data curation, resource and writing-review and editing.

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Data availability

Data sharing is not applicable to this article, as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency or that of the publisher. The authors are responsible for this article's results, findings and content.

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