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Analysis of the Influence of Digital Training, Organizational Agility, and Digital Literacy on the Digital Resilience of Employees in the Public Service Sector

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ABSTRAK

Studi ini berupaya untuk mengeksplorasi pengaruh pelatihan digital, kelincahan organisasi, dan literasi digital terhadap ketahanan digital karyawan dalam sektor layanan publik. Studi ini menggunakan pendekatan kuantitatif melalui survei yang didistribusikan kepada 180 peserta yang dipilih secara purposif. Kuesioner skala Likert lima poin, divalidasi melalui uji-t dan reliabilitasnya dinilai menggunakan Cronbach's Alpha, digunakan sebagai instrumen penelitian. Selanjutnya, data menjalani uji asumsi klasik yang terdiri dari uji normalitas, heteroskedastisitas, dan multikolinearitas. Regresi linier berganda digunakan untuk analisis data untuk mengeksplorasi efek simultan dan parsial dari variabel-variabel tersebut. Temuan menunjukkan bahwa ketiga variabel independen memiliki dampak positif dan signifikan secara statistik terhadap ketahanan digital. Secara khusus, efek individu dari pelatihan digital, kelincahan organisasi, dan literasi digital diilustrasikan sebagai konektivitas dengan kemampuan adaptif, psikologis, dan teknologi karyawan dalam menghadapi perubahan digital di tempat kerja. Studi ini berpotensi memberikan kontribusi signifikan terhadap literatur manajemen sumber daya manusia berbasis digital melalui implikasi teoretisnya, serta menawarkan manfaat praktis bagi sektor publik dalam mengembangkan sumber daya manusia yang tangguh dan mampu menghadapi serta beradaptasi dengan transformasi digital yang sedang berlangsung.

Kata kunci: pelatihan digital, kelincahan organisasi, literasi digital, ketahanan digital

ABSTRACT

This study seeks to explore the influence of digital training, organizational agility, and digital literacy on the digital resilience of employees within the public service sector. The study employs a quantitative approach through a survey distributed to 180 purposively sampled participants. A five-point Likert scale questionnaire, validated through the t-test and whose reliability was assessed using Cronbach's Alpha, was used as the research instrument. Furthermore, the data underwent classical assumption tests that consist of normality, heteroscedasticity, and multicollinearity tests. Multiple linear regression was used for data analysis to explore the simultaneous and partial effects of the variables. Findings indicated that all three independent variables had a positive and statistically significant impact on digital resilience. In particular, the individual effects of digital training, organizational agility, and digital literacy were illustrated as being connectivity to employees' adaptive, psychological and technological capabilities in dealing with digital changes in the workplace. This study has the potential to significantly contribute to the literature on digital-based HR management through its theoretical implications as well as offering practical benefits to the public sector in terms of developing resilient human resources who are capable of coping with and staying up to date with the continuous digital transformation.

Keywords: digital training, organizational agility, digital literacy, digital resilience

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INTRODUCTION

The public service sector has no option but to adapt to digital transformation. Changes in work methods, the introduction of online-based administrative systems, and the growing reliance on information technology demand public officials to demonstrate digital resilience in overcoming new and complex problems (Wibowo et al., 2023). This digital resilience involves the public service employee's capacity to adapt, recover, and even thrive in the face of change and uncertainty. In public service, this is critical. The demand and quality of public service depend on employees' readiness and resilience to adapt to and overcome digital challenges, whether in system failures, the replacement of technologies, or the implementation of rapidly shifting digital policies. The construction of digital resilience breaks the stagnation to realize effective and adaptive governance in the dynamic digital era (Nimran et al., 2024).

Digital training is one way to strengthen the digital resilience of public sector employees. Such training enhances the ability to understand and tackle the differing challenges as technology advances. Training enables employees to effectively operate and adapt to the numerous digital devices and the organizational information systems and digital platforms (Djunaedi, 2024). For employees in public services, training is necessary for closing the digital skill gaps for employees who are less accustomed to technology and to provide public services training. These training sessions are also focused on the improvement of cognitive skills required for rapid mental shifts and psychological flexibility to match the extremes of the digitalization continuum (Mulyadi et al., 2024). Training in technology is designed to ensure employees receive the required resilience to adapt to the rapid work shifts that accompany digitalization.

Besides personal attributes, factors within the organization like organizational agility are important in building an employee's digital resilience (Rachmad et al., 2023). Organizational agility is the ability of an organization to respond, in a timely and efficient manner, to shifts in its external environment. In public service, more agile agencies are able to implement policy changes and revise workflows and operational structures in response to new technologies and socio-community needs (Yuliana & Tannady, 2019). When an organization is accommodating and promotes innovation, employees perceive a psychological safety where they can learn, be creative, and take action without the fear associated with failure (Nugraha et al., 2025). Thus, the more agile an organization, the more employees are able to construct and sustain digital resilience to optimally and creatively perform their public service duties.

Digital resilience among public sector employees includes having the necessary digital literacy skills. This goes beyond the simple operation of technology to include understanding the ethics of technology, assessing the value of information, confidentiality and the implications of data use (Erliyani et al., 2025). Employees confident in their digital literacy skills are more self-sufficient in solving problems, more flexible in adjusting to changing technology and in reducing errors related to a lack of technology awareness. Public employees' digital skills, especially in primary, civil data, and public confidence in their

awareness of data security, are instrumental in building trust (Susanto et al., 2023). Relationships between the public and electronically delivered services are built on employees' skills. As technology, especially digital technology, continues to change rapidly and reshapes policies, digital skills and competencies become foundational. Building resilience in the digital era requires a shift in mindset. Digital skills and competencies enhance the ability to adapt to the rapidly evolving digital landscape rather than just a simple skill (Gunawan et al., 2020).

As indicated in the previous elaboration, this study aims to assess the impact that digital training, organizational agility, and digital literacy have on the digital resilience of employees within the public service sector. Theoretically, the study aims to contribute to the understanding of human resource management in the digital context within the public sector which currently undergoing extensive digital change. From a practical standpoint, the findings can guide public sector institutions in policy development to foster adaptability at the culture and approach levels, and raise the overall understanding and skills of employees in the organization related to digital technologies.

RESEARCH METHOD

This study utilized a quantitative approach via surveys to measure the impact of digital training, organizational agility, and digital literacy on the digital resilience of employees in the public service sector. The study population comprised civil servants and contractors employed at public service and governmental agencies across different regions of Indonesia, all of which adopted tech-integrated work frameworks. A total of 180 individuals were purposefully sampled for the study, based on the following inclusion criteria: (1) currently working within the public service sector for a minimum of one year, (2) attended training or capacity-building sessions on information technology, (3) employed in organizations undergoing digital transformation, and (4) direct experience in public information systems, administrative service applications, or e-governance systems. A Likert scale questionnaire was used for data collection, with a range of 1 (strongly disagree) and 5 (strongly agree) for responses. Validity testing was carried out by measuring the correlation between each item and the total score of the variable (with criteria for correlation > 0.30 and significance < 0.05), while reliability testing was carried out using Cronbach Alpha, with a minimum α value of 0.70. Data analysis was conducted using multiple linear regression techniques to test whether the three independent variables have a joint or separate effect on the digital resilience of employees in the public sector.

RESULT AND DISCUSSION

The validity analysis results show that each question item in the variables of digital training, organizational agility, digital literacy, and digital resilience has an item-total correlation above 0.30, with

a significance level of less than 0.05. This indicates that all items in the instrument can be considered valid. Meanwhile, the reliability test using the Cronbach Alpha method shows that all variables have a value above 0.70, which indicates that the instrument has a good level of internal consistency. Based on the normality test using Kolmogorov-Smirnov, a significance value of more than 0.05 leads to the conclusion that the data is normally distributed. Furthermore, the Glejser method heteroscedasticity test showed no signs of heteroscedasticity, as every independent variable had a significance value of more than 0.05. The multicollinearity test results were also favorable; all variables had a tolerance value exceeding 0.10, while the VIF values were under 10, indicating that there is no multicollinearity among the independent variables.

The model used in this study is simultaneously significant as shown by the F-test result which exceeds F-table value. Furthermore, the p-value is lower than 0.05. Therefore, it convey that digital training, organizational agility, and digital literacy, as a whole, significantly affect employee digital resilience in the public service sector. The value of coefficient of determination (R^2) 0.72 is meaningful, suggesting that 72% of the digital resilience is explicable by the three focused variables while the rest is attributed to other variables outside the scope of study. The t-test result ascertains that, in isolation, each independent variable produces considerable value to digital resilience. This is the result of the positive regression coefficient which demonstrates that the greater the digital training, the more adaptable the organization is, the digital literacy of employees is stronger, and their capacity to respond to, adjust, and transform to rapid technological shifts is higher.

The results of this study suggest that digital training is key to building digital resilience within public sector employees. The frequency and relevance of training enables employees to adapt to technological changes and sustain work performance. The impact of training goes beyond the assimilation of new technical skills. It also translates to employees' self-efficacy during the various stages of the digital transformation process. Advanced training helps employees to master new technology and quickly adapt to technology changes when they proactively understand the possible disruptions within the technology systems. Well-designed training instills a "can-do" attitude and helps employees transform their apprehensions regarding digital changes and technology as a barrier to be crossed and embraced. On the other hand, inadequate training results in anxiety and low productivity. Thus, there is no question that digital training developed within the specific context of the organization is of utmost importance in developing digital resilience in employees in the public sector.

Besides digital training, this study indicates, public service sector employees' digital resilience is also influenced by the agility of the organization. Compared to others, agile organizations more readily adjust to the strategic policy shifts, changing public expectations, and fast technological advancements. When organizations have flexible structures, rapid and effective streamlining of decision-making occurs, and innovative risk-taking is part of the work culture, employees are fostered mentally for the digitalization

advance. Organizational agility in public services also relates to the effectiveness of technological adjustments to the service delivery system. In contrast, rigidity of the organizational structure limits employees' responsiveness to change. Probably the most significant impact of organizational agility is the ability to foster employees' resilience, innovativeness, and productivity in the face of rapid digital transformation.

This study demonstrates that digital resilience among public service employees is influenced by having digital literacy. Employees who fully grasp the concept of digital literacy and have the skills to apply technology to the performance of tasks are able to achieve more. Digital literacy entails much more than a command of software and systems to include the applied ethics of technology, use of information, and responsible information and text discrimination. Those provided with the necessary digital literacy skills will face system updates, software lockdowns, and digital procedural changes with less frustration. On the other hand, employees without digital skills will make mistakes more often, complete tasks more slowly, and become a technological task more dependent on others. Employees in the public service are in an increasingly digitized environment. Digital technology will support employees in professionalism and responsibility in their public service. For this reason, digital literacy improvements should be a priority in training programs.

CONCLUSION

The above-mentioned factors, namely digital training, organizational agility and digital literacy are found to be the determinants of employee digital resilience in the public service sector. Employee digital resilience was also partly determined by digital training which was a major contributor to the employees' adaptability and technology readiness for the transformation. The support provided by organizational agility was the quick adaptation of the employees to the changes in digital systems and policies, while digital literacy was the quality that guaranteed the employees' working effectiveness, safety, and productivity in a tech-based work environment. These factors together contribute to employees' digital resilience whenever there is technological disruption or the public services are evolving. Practically, public institution management must formulate and execute digital training programs that are sustainable and based on the needs of the staff, encourage an agile and adaptive organizational culture for the whole institution and increase the level of digital literacy among the employees through self-learning and structured training.

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