



Role Overload, Technostress, and Job Performance: The Mediating Role of Work Engagement and Burnout in Public Sector Digital Transformation

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Abstract

Background: Focusing on the context of the implementation of the Digital Administration System X is important considering that the digital transformation of the Institution X through the PRESISI agenda has the potential to create dual work demands for personnel who must adapt technologically while maintaining operational performance.

Objective: This study aims to examine the influence of role overload and technostress on the job performance of personnel in executive positions at the Headquarters of Institution X by considering the mediating role of work engagement and burnout in these relationships.

Methods: A quantitative approach was used with the survey design, and data were collected from 346 implementing personnel through questionnaires. The analysis was conducted using Covariance-Based Structural Equation Modeling (CB-SEM) with LISREL 8.8 to test the direct and indirect relationships between variables.

Results: The results showed that role overload and technostress had a positive effect on work engagement, consistent with the challenge-hindrance stressor framework, as well as significantly increasing burnout. Work engagement was proven to be the most dominant predictor of performance and fully mediated the influence of role overload and mediated part of the influence of technostress on job performance, while burnout was not proven to be a significant mediator.

Conclusion: These findings underscore the importance of strengthening work engagement as the main psychological mechanism in ensuring the success of the Institution X digital transformation without sacrificing the welfare of personnel.

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INTRODUCTION

Digital transformation has become a global phenomenon that has changed the way public and private organizations carry out their operational activities. The rapid development of information and communication technology has encouraged various countries to integrate digital systems into organizational governance to improve efficiency, transparency, and service quality. Digitalization is no longer seen as an option, but rather as a strategic need to increase organizational competitiveness and meet public expectations for fast, accurate, and transparent services (Pangandaheng et al., 2022). In the public sector, digital transformation is realized through the implementation of the Electronic-Based Government System (SPBE) which aims to create effective, accountable, and public service-oriented governance. However, behind the

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various benefits offered, digital transformation also presents new challenges for human resources who must adapt to changes in technology-based work systems (Bondanini et al., 2025).

Changes in the work system towards a digital environment have given rise to various factors that have the potential to cause psychological and work behavior problems in employees. One of the main factors is the increasing demands of work due to the use of technology that requires employees to work faster, more responsive, and more connected than ever before (Scholze & Hecker, 2024). Digitization of administrative processes often increases the volume of work, accelerates the flow of information, and expands organizational expectations for the continuous availability of employees (Marsh et al., 2024). In addition, the ever-evolving complexity of technology requires individuals to learn new systems on an ongoing basis (Kotek & Vranjes, 2025). This condition can give rise to role overload when individuals feel that the number of tasks that must be completed exceeds their capacity, as well as technostress when individuals experience pressure due to the use of technology in daily work (Fleischer & Wanckel, 2024).

Increasing role overload and technostress can produce various negative impacts for both individuals and organizations. From an individual perspective, excessive work pressure has the potential to lower psychological well-being, trigger emotional exhaustion, reduce work motivation, and increase the risk of burnout (Demerouti, 2024). On the organizational side, these conditions can have an impact on declining service quality, increasing work errors, decreasing productivity, and reducing the effectiveness of the implementation of digital transformation programs (Saidy et al., 2022). Previous research has shown that technostress has a close relationship with changes in job performance, while burnout has been shown to have a negative effect on individual performance, especially in jobs that require high concentration and administrative rigor (Saidy et al., 2022; Aronsson et al., 2017). Therefore, the success of digital transformation is not only determined by technological readiness, but also by the organization's ability to manage the psychological impact that arises on employees as the main users of the digital system (Scholze & Hecker, 2024).

This study focuses on five main variables, namely role overload, technostress, work engagement, burnout, and job performance. Role overload describes a condition when individuals face job demands that exceed their resources or capacity (Demerouti & Bakker, 2023). Technostress refers to the psychological stress that arises from the use of technology in work (Khalequzzaman et al., 2025). In contrast, work engagement is a positive psychological condition characterized by vigor, dedication, and absorption in work (Korsakienė et al., 2024). Burnout describes a condition of physical, emotional, and cognitive fatigue that occurs due to constant exposure to work demands (Edú-Valsania et al., 2022). Meanwhile, job performance is the result of work achieved by individuals based on organizational standards and goals (Bakker et al., 2023). In the context of the implementation of Digital Administration System X, these five variables are important because this digital system changes the administrative work pattern within the Head Office of Institution X and requires adaptation that is not only technical but also psychological.

The novelty of this research lies in the integration of various theoretical perspectives to explain the psychological mechanisms that occur in the digital transformation of the public sector. In contrast to previous studies that generally only tested the direct influence of role overload or technostress on performance, this study combines Job Demands-Resources Theory, Conservation of Resources Theory, Challenge-Hindrance Stressor Theory, and Kirkpatrick Evaluation Model in one comprehensive conceptual framework (Demerouti et al., 2001; Bakker & Demerouti, 2007; Alsalamah & Callinan, 2021). In addition, this study places work engagement and burnout as mediating variables that explain how technology-based work demands affect job performance (Korsakienė et al., 2024). Another novelty is the context of research conducted on public sector semi-military organizations, namely the Head Office of Institution X, which is still relatively rarely the object of digital transformation research compared to business organizations and civilian governments (Bondanini et al., 2025).

The urgency of this research is increasing considering the digital transformation within Institution X through the Institution X Digital Transformation Program and the implementation of the X Digital Administration System continues to develop as part of national bureaucratic reform. The success of the implementation of a digital system is determined not only by the sophistication of the technology used, but also by the readiness and psychological condition of the personnel who operate it (Scholze & Hecker, 2024). If role overload and technostress are not managed

properly, the various benefits of digitalization are expected to be reduced due to the emergence of burnout and decreased employee performance (Baka et al., 2023). Therefore, empirical evidence is needed that can explain the relationship between technology-based work demands and job performance so that organizations can design more appropriate policies to support the success of digital transformation without sacrificing personnel welfare (Demerouti & Bakker, 2023).

The purpose of this study is to analyze the influence of role overload and technostress on the job performance of implementing personnel within the Head Office of Institution X. Specifically, this study aims to examine the role of work engagement and burnout as mediating variables in the relationship between role overload, technostress, and job performance (Korsakiené et al., 2024). This research also aims to provide a more comprehensive understanding of the psychological mechanisms that emerge during the digital transformation process through the implementation of Digital Administration System X so that it can be the basis for developing more effective human resource management strategies (Alsalamah & Callinan, 2021).

METHOD

Research Design

This research is designed to comprehensively understand the relationship between technology-based work demands and personnel performance in the context of public sector digital transformation. The focus of the research is directed at the implementation of Digital Administration System X (Integrated Application of Information and Administrative Manuscripts of the Institution X) as part of the Institution X's digital transformation program that encourages changes in administrative work patterns from conventional systems to integrated digital systems. This study uses a quantitative approach with a survey design to obtain an empirical picture of how role overload and technostress affect job performance through the role of work engagement and burnout as psychological mechanisms that bridge the relationship between variables. The approach was chosen because it allows testing of causal relationships between variables built on the framework of Job Demands-Resources (JD-R) Theory, Conservation of Resources Theory, Challenge-Hindrance Stressor Theory, and the Kirkpatrick Evaluation Model (Demerouti et al., 2001; Bakker & Demerouti, 2007; Alsalamah & Callinan, 2021).

Research Location and Time

This research was conducted at the Head Office of Institution X, Jakarta. The selection of the research location was based on the consideration that the Head Office of Institution X Institution X is a central work unit that actively implements the Digital Administration System X as an official digital administration system in the process of correspondence and organizational document management. All administrative activities that were previously carried out manually have been integrated into the Digital Administration System X system, allowing researchers to directly observe the impact of digital transformation on workload, pressure from technology use, and the performance of implementing personnel. Data collection will be carried out in 2025 to early 2026 after the system implementation is fully operational and used routinely by implementing personnel in various work units of the Headquarters of Institution X.

Object and Scope of Research

The object of this research focuses on implementing personnel who use the Digital Administration System X in their daily work activities. This study covers two main categories of Digital Administration System X users: Admins responsible for managing leadership dispositions and Drafters or Pams tasked with compiling, managing, and submitting official manuscripts through the system. The scope of the research is limited to the influence of work overload and technological stress on job performance by considering work engagement and burnout as mediating variables. This limitation was made to gain a deeper understanding of the psychological mechanisms that emerge during the digital transformation process in the public sector work environment (Scholze & Hecker, 2024).

Population and Research Sample

The research population includes all implementing personnel at the Head Office of Institution X who use the Digital Administration System X in carrying out administrative and operational tasks. Based on data obtained from the managers of the Digital Administration System X and related work units, the research population is spread across various organizational units under the Head Office of Institution X. To obtain an adequate representation of population characteristics, the study used a sampling technique that considers the proportion of personnel in each work unit. The number of respondents who were successfully collected and met the research criteria was 346 people. This number is considered adequate to describe the condition of the population as well as meet the needs of the analysis of intervariable relationships in the developed research model ([Krejcie & Morgan, 1970](#)).

Research Variables

This study involves five main variables that are interrelated. Independent variables consist of role overload and technostress. Role overload describes an individual's perception of an imbalance between the demands of the job and the capacity they have to complete the job. Technostress describes the psychological pressure that arises from the use of digital technology in work activities. The mediation variables consist of work engagement and burnout. Work engagement represents a positive psychological state characterized by passion, dedication, and full involvement in work. On the other hand, burnout describes a state of emotional, physical, and cognitive exhaustion that arises from the demands of work that take place continuously. The dependent variable in this study is job performance which represents the level of individual performance achievement based on organizational targets and standards ([Schaubroeck et al., 1989](#); [Ragu-Nathan et al., 2008](#); [Edú-Valsania et al., 2022](#); [Demerouti & Bakker, 2023](#)).

Data Collection Techniques

The research data was obtained through the distribution of a structured questionnaire to respondents who met the research criteria. The questionnaire is compiled based on indicators that have been developed and used in various previous studies so that it has an adequate level of conceptual validity. Before the implementation of the main research, a readability test and pre-test were carried out to ensure that each statement could be well understood by the respondent and able to measure the construct in question. The distribution of the questionnaire was carried out directly or through digital media that was adjusted to the characteristics of the respondents' work environment. In addition to primary data, the study also utilizes secondary data in the form of organizational documents, Digital Administration System X implementation reports, as well as various scientific publications relevant to the topics of digital transformation, technostress, and the performance of public sector employees ([Bondanini et al., 2025](#)).

Data Analysis Techniques

Data analysis is carried out in stages to ensure the quality of the data and the accuracy of the research model. The initial stage includes descriptive analysis to describe the characteristics of respondents and the tendencies of the answers to each research variable. Furthermore, measurement model testing is carried out to ensure the validity and reliability of each research construct. After the measurement model is declared to meet the set criteria, structural model testing is carried out to identify direct and indirect relationships between the research variables. The analysis was carried out using the Covariance-Based Structural Equation Modeling (CB-SEM) approach with the help of LISREL software version 8.8. This method was chosen because it is able to test complex relationships involving several latent variables and mediating pathways simultaneously so as to provide more comprehensive results in explaining the phenomenon being studied ([Hair et al., 2022](#)).

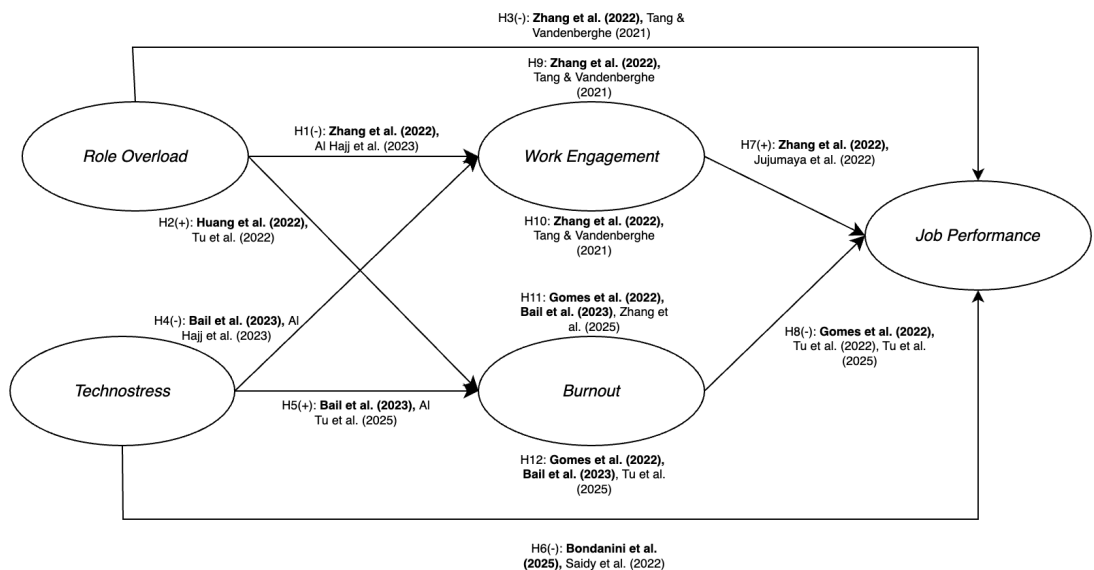


Figure 1. Research Hypothesis Development Model

RESULTS AND DISCUSSION

Results

Research Study Profile

This research was conducted at the Head Office of Institution X with a focus on implementing personnel who actively use the X Digital Administration System in carrying out daily administrative tasks. The selection of research objects is based on the consideration that the X Digital Administration System is one of the main instruments of Institution X's digital transformation in supporting the implementation of the X Institution's Digital Transformation Program which aims to increase the effectiveness, transparency, and accountability of organizational administration. The implementation of the digital system has changed the work patterns of personnel from a conventional administration system to an integrated technology-based administration system, thus creating new dynamics in the work environment of implementing personnel.

This study involved 346 respondents consisting of personnel from institution X who were directly involved in the use of the Digital Administration System X. All respondents came from various work units at the Head Office of Institution X which carried out administrative and service functions of the organization. The number of respondents is considered to be able to represent the Digital Administration System X user population so that it can provide an empirical picture of the influence of role overload and technostress on job performance by considering the role of work engagement and burnout as mediating variables (Krejcie & Morgan, 1970).

This research is built on the framework of Job Demands-Resources (JD-R) Theory which explains that job demands can produce two main psychological processes, namely the motivational process related to work engagement and the health impairment process related to burnout. In the context of Digital Administration System X's implementation, technology-based work demands are seen as a form of job demands that can affect the psychological condition of personnel as well as determine the level of performance produced. Therefore, this study seeks to explain how digital transformation not only affects the technical aspects of work, but also affects the psychological aspects of the individuals who carry it out (Bakker & Demerouti, 2017).

Table 1

Respondent Demographics

Description	Number of Respondents	Description
Gender		
Male	213	61,56%
Female	133	38,44%
Total	346	100%

Description	Number of Respondents	Description
Age		
Under 20 years	7	2,02%
20 – 25 years	96	27,75%
26 – 30 years	119	34,39%
31 – 35 years	71	20,52%
36 – 40 years	32	9,25%
41 – 45 years	15	4,34%
Over 45 years	6	1,73%
Total	346	100%
Years of service		
1 – 2 years	58	16,76%
3 – 5 years	97	28,03%
6 – 10 years	108	31,21%
11 – 15 years	71	20,52%
More than 15 years	12	3,47%
Total	346	100%
Implementing Position Type		
Institution X Member	255	73,70%
Institution X Civil Servant	91	26,30%
Total	346	100%

Regarding gender, the distribution of respondents in this study reveals a significant disparity—specifically a 23.12% difference—with a higher number of male respondents compared to females. This aligns with the overall workforce composition at Institution X—comprising both Institution X members and civilian employees—which is predominantly male, particularly at the Institution X Headquarters. Notably, even within specific work units at the Headquarters, correspondence and administrative tasks remain dominated by male employees, although female staff are present in some units.

In terms of age groups, employees aged 26–30 are frequently exposed to technology in their daily routines and demonstrate superior application proficiency compared to those over the age of 45. Conversely, there are very few employees under the age of 20 at the Institution X Headquarters.

The group with 6–10 years of tenure represents the largest segment, followed by those with 3–5 years and 11–15 years of service, respectively. This indicates that operational staff positions at the Institution X Headquarters are predominantly held by employees with six to ten years of experience. This pattern stems from ongoing recruitment processes and frequent personnel turnover at the Institution X Headquarters.

Demographic statistics regarding operational staff roles at the Institution X Headquarters—specifically distinguishing between Institution X members and civilian employees—show that the largest group consists of Institution X members serving in operational roles, particularly as administrators for the "Digital Administration System X." A significant 47.40% of those serving as administrators for this system are Institution X members themselves. This also corresponds to the size of the population of Institution X members at the Institution X Headquarters, which is far larger than that of Institution X civil servants.

Overview of Research Variables

The results of the study show that the implementation of Digital Administration System X has created significant changes to the administrative work pattern of Head Office of Institution X personnel. A system that enables digital, real-time, and integrated mail management provides benefits in the form of increased efficiency and ease of coordination. However, the system also presents new demands related to increasing the volume of work, accelerating the work process, faster response demands, and the need to adapt to evolving technology. This condition is the basis for the emergence of role overload and technostress in some personnel involved in the daily use of Digital Administration System X (Scholze & Hecker, 2024).

Role overload in this study illustrates the perception of personnel towards the many

demands of work that must be completed in a relatively limited time. The results showed that most of the respondents felt an increase in work intensity after the implementation of Digital Administration System X. Personnel are not only responsible for the completion of administrative tasks, but also must ensure that the entire process runs according to the digital flow that the organization has determined. This creates the perception that the amount of work that must be completed is often greater than the time and energy resources that individuals have (Marsh et al., 2024).

In addition to role overload, technostress is also a fairly dominant phenomenon in this study. The intensive use of digital systems causes the emergence of psychological pressures that come from the demands of technology. Personnel are required to understand new features, adapt to system changes, and respond to real-time notifications and job requests. This phenomenon suggests that digitalization does not always produce convenience, but can also create new pressures that affect the psychological well-being of technology users (Khalequzzaman et al., 2025).

Nevertheless, the study found that the level of work engagement of personnel remained in the high category. These findings show that most respondents still have a strong passion, dedication, and commitment to the work they do. In fact, the work engagement variable has the highest average value compared to other variables. These conditions show that professional identity, organizational loyalty, and commitment to duty are important factors that are able to maintain personnel work engagement amid increasingly complex digital transformation demands (Korsakiené et al., 2024).

On the other hand, burnout is also found in moderate levels. This shows that although some personnel experience fatigue due to job demands and technological pressures, these conditions have not reached a level that can significantly hamper performance. These findings indicate that there is a good enough adaptation mechanism and organizational support so that personnel are still able to carry out their duties optimally despite facing various work pressures that arise during the implementation of Digital Administration System X (Demerouti & Bakker, 2023).

Table 2
Results of CR and AVE Calculations

Variable	Dimensions	CR	AVE	Reliability
Role Overload	Unidimensional	0,815	0,595	Reliable
Technostress	Techno-overload	0,949	0,790	Reliable
	Techno-invasion	0,962	0,862	Reliable
	Techno-complexity	0,926	0,715	Reliable
	Techno-uncertainty	0,957	0,849	Reliable
	Technostress (Second Order)	0,938	0,793	Reliable
Work Engagement	Vigor	0,861	0,674	Reliable
	Dedication	0,864	0,680	Reliable
	Absorption	0,841	0,639	Reliable
	Work Engagement (Second Order)	0,915	0,782	Reliable
Burnout	Unidimensional	0,935	0,673	Reliable
Job Performance	Task Performance	0,949	0,788	Reliable
	Contextual Performance	0,966	0,783	Reliable
	Job Performance (Second Order)	0,976	0,954	Reliable

Regarding the technostress and work engagement constructs—modeled as second-order constructs measurement results indicate that each dimension possesses excellent Composite Reliability (CR). The Average Variance Extracted (AVE) values are also high, signifying that each dimension contributes significantly to the higher-order latent construct. Similarly, for the second-order job performance construct, a CR of 0.976 and an AVE of 0.954 demonstrate that the task performance and contextual performance dimensions collectively form a comprehensive and reliable representation of job performance.

Table 3*Structural Model Goodness-of-Fit Measurement Results*

Fit Category	Goodness-of-Fit Index	Criteria	Result	Remark
Absolute Fit	Goodness-of-Fit Indeks (GFI)	$GFI \geq 0,9$ good fit	0,89	Marginal Fit
	Root Mean Square Error of Approximation (RMSEA)	$RMSEA \leq 0,08$ good fit	0,077	Good Fit
	Standardized Root Mean Residual (SRMR)	$SRMS \leq 0,08$	0,053	Good Fit
	Normed Chi-Square	$<3:1$ good fit	3,25	Marginal Fit
Incremental Fit	Normal Fit Indeks (NFI)	$NFI \geq 0,9$ good fit	0,97	Good Fit
	Tucker Lewis indeks (TLI) atau Non-Normed Fit Indeks (NNFI)	$NNFI \geq 0,9$ good fit	0,97	Good Fit
	Comparative Fit Index (CFI)	$CFI \geq 0,9$ good fit	0,98	Good Fit
	Incremental Fit Indeks (IFI)	$IFI \geq 0,9$ good fit	0,98	Good Fit
	Relative Fit Indeks (RFI)	$RFI \geq 0,9$ good fit	0,96	Good Fit
Parsimony Fit	Adjusted Goodness of Fit Index (AGFI)	$AGFI \geq 0,9$ good fit	0,84	Marginal Fit
	Parsimony Normed Fit Index (PNFI)	$PNFI \geq 0,50$	0,76	Good Fit

Based on the results of this evaluation, the structural model in this study meets the criteria for model adequacy and is suitable for use in further analysis for hypothesis testing. The achieved model fit also provides confidence that the resulting path coefficient estimates are stable and reliable for interpreting the relationships between latent variables within the context of the implementation of Digital Administration System X at Institution X ([Anderson & Gerbing, 1988](#)).

Intervariable Relationship Test Results

Structural model analysis shows that role overload has a positive influence on work engagement. This finding is interesting because it differs from the initial assumption that increased workload will decrease work engagement. In the context of semi-military organizations such as the Institution X, a high workload is actually perceived as a professional challenge that must be solved responsibly. Personnel tend to view additional tasks as a form of organizational trust so that they are able to increase their motivation and involvement with work ([Cavanaugh et al., 2000](#)).

Role overload has also been shown to significantly increase burnout. This finding is in line with the health impairment process framework in the JD-R Theory which explains that high work demands will drain the physical and psychological energy of individuals. Although personnel continue to show high work engagement, an increase in work volume still has consequences in the form of increased work fatigue felt by individuals ([Baka et al., 2023](#)).

The results of the study also show that technostress has a positive effect on work engagement. These findings indicate that technological pressures are not always perceived as barriers, but can also be a challenge that encourages individuals to improve their abilities and competencies. In the context of Digital Administration System X, the use of new technology is considered part of organizational modernization that must be followed by all personnel. Therefore, technological pressure to a certain extent is able to encourage higher work involvement ([Bondanini et al., 2025](#)).

In addition, technostress has also been shown to increase burnout. The continuous use of technology, the demand for quick response, and the need to stay connected to the system cause some personnel to experience emotional and cognitive exhaustion. These findings strengthen the argument that digital transformation not only generates operational benefits, but also raises psychological consequences that need to get organizational attention ([Demerouti, 2024](#)).

Results of Testing the Effect on Job Performance

The results of the study show that work engagement is the variable that has the strongest influence on job performance. The correlation coefficient between work engagement and job performance is the largest compared to other relationship paths in the research model. These findings show that the higher the level of personnel work involvement, the higher the level of performance that individuals are able to achieve in carrying out organizational tasks (Bakker & Demerouti, 2017).

The high influence of work engagement on job performance shows that the success of Digital Administration System X implementation is not only determined by technological readiness, but also highly dependent on the psychological condition of personnel as the main users of the system. Personnel who have a high morale tend to be better able to adapt to change, complete work effectively, and maintain quality of performance despite facing various work and technological pressures (Christian et al., 2011).

On the other hand, burnout has not been shown to have a significant influence on job performance. These findings show that the level of fatigue experienced by respondents has not reached conditions that are able to significantly reduce work performance. The work environment of the Institution X, which has a culture of discipline, responsibility, and high task orientation, is suspected to be a factor that allows personnel to maintain performance despite experiencing certain psychological pressure (Aronsson et al., 2017).

Table 4

Significance Test Results for Direct Effects

Relationship	Coefficient	t-value	Conclusion
Role Overload → Work Engagement	0,524	8,46	Significantly Positive*
Role Overload → Burnout	0,273	4,96	Significantly Positive
Role Overload → Job Performance	0,028	0,38	Not Significant
Technostress → Work Engagement	0,318	6,35	Significantly Positive*
Technostress → Burnout	0,521	9,83	Significantly Positive
Technostress → Job Performance	0,101	2,11	Significantly Positive*
Work Engagement → Job Performance	0,598	7,97	Significantly Positive
Burnout → Job Performance	0,094	1,67	Significantly Positive*

Test results for the path involving technostress reveal a pattern relatively similar to that of role overload. Technostress has a significant positive effect on work engagement, with a coefficient of 0.318 and a t-value of 6.35. Additionally, technostress exerts a significant positive influence on burnout, with a coefficient of 0.521 and a t-value of 9.83. These findings indicate that the technological pressure associated with the implementation of Digital Administration System X not only leads to psychological exhaustion but also fosters personnel engagement during the adaptation process to the new digital system. In the context of organizational digital transformation, technology usage is often perceived as a work challenge requiring enhanced competence, responsiveness, and adaptability. Consequently, the technostress observed in this study can be understood as having a dual nature: acting simultaneously as a source of pressure and as a work challenge that encourages individuals to remain engaged in their work, provided the demands remain within manageable limits.

Mediation Analysis Results

Mediation analysis shows that work engagement plays a role as the main mediator in the relationship between role overload, technostress, and job performance. Work engagement has been proven to fully mediate the influence of role overload on job performance and mediate some of the influence of technostress on job performance. These findings show that increasing workload and technological pressure will have a positive impact on performance if it is able to increase personnel work involvement first (Korsakiené et al., 2024).

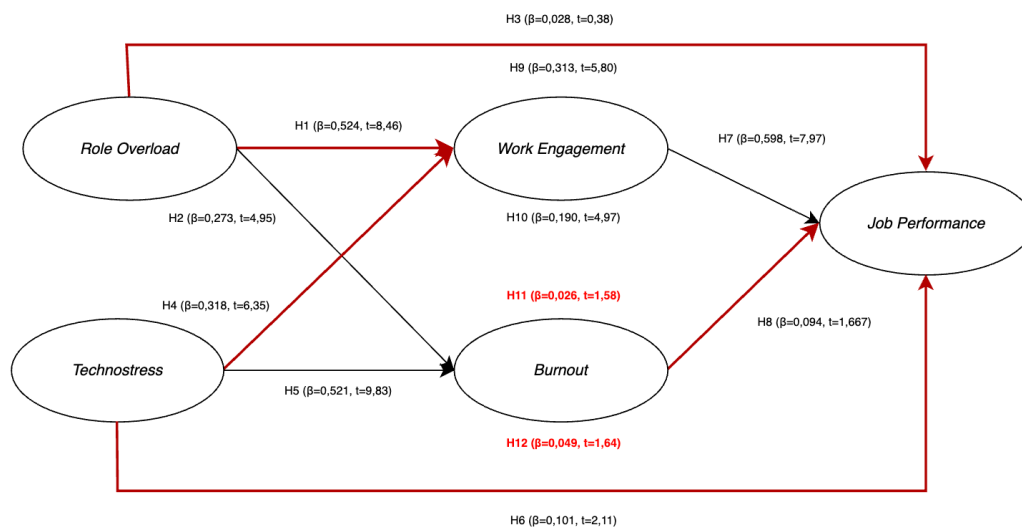
In contrast, burnout has not been shown to play a significant role as a mediator in the research model. The mediation path involving burnout has a significance value that is below the required limit so that the hypothesis of mediation through burnout is rejected. These findings

indicate that the process of psychological health decline has not yet become the main mechanism that explains the relationship between work demands and performance in the context of the implementation of Digital Administration System X at the Head Office of Institution X (Demerouti & Bakker, 2023).

Table 5*Results of the Analysis of the Effect of Mediation*

Mediation Path	Indirect Effect	Total Effect	t	Conclusion
Role overload → Work Engagement → Job Performance	0,313	0,341	5,80	Positively significant (Full Mediation)
Role Overload → Burnout → Job Performance	0,026	0,054	1,58	Not significant
Technostress → Work Engagement → Job Performance	0,190	0,291	4,97	Positively significant (Partial Mediation)
Technostress → Burnout → Job Performance	0,049	0,150	1,64	Not significant

Thus, it can be concluded that in the context of a semi-military organization such as Institution X which is undergoing digital transformation through the implementation of the Digital Administration System X, the influence of role burden and technological pressure on personnel performance is not direct, but rather depends entirely or partially on the effectiveness of the psychological mechanism of work engagement as a bridge between work demands and performance results.

**Figure 2.** Results of the Research Model Analysis**Table 6***Variable Description*

Variable	Indicator	SLF	Grand Mean
Role Overload	R01	0,79	4,74
	R02	0,78	
	R03	0,74	
Technostress	TS1	0,88	4,34
	TS2	0,89	
	TS3	0,90	
	TS4	0,89	
	TS5	0,89	
	TS6	0,92	
	TS7	0,94	
	TS8	0,92	
	TS9	0,93	

Variable	Indicator	SLF	Grand Mean
Work Engagement	TS10	0,82	5,50
	TS11	0,87	
	TS12	0,85	
	TS13	0,84	
	TS14	0,85	
	TS15	0,92	
	TS16	0,92	
	TS17	0,92	
	TS18	0,92	
	WE1	0,84	
	WE2	0,83	
	WE3	0,80	
	WE4	0,78	
	WE5	0,84	
	WE6	0,85	
	WE7	0,70	
	WE8	0,85	
	WE9	0,84	
Burnout	B01	0,85	3,29
	B02	0,83	
	B03	0,81	
	B04	0,81	
	B05	0,84	
	B06	0,81	
	B07	0,80	
Job Performance	JP1	0,87	5,31
	JP2	0,91	
	JP3	0,86	
	JP4	0,90	
	JP5	0,89	
	JP6	0,88	
	JP7	0,90	
	JP8	0,89	
	JP9	0,90	
	JP10	0,88	
	JP11	0,88	
	JP12	0,86	
	JP13	0,88	

Table 7
Conclusion of Research Hypothesis

Research Hypothesis	Conclusion
H1: Role overload has a negative and significant effect on work engagement	Data does not support the hypothesis
H2: Role overload has a positive and significant effect on burnout	Data supports the hypothesis
H3: Role overload has a negative and significant effect on job performance	Data does not support the hypothesis
H4: Technostress has a negative and significant effect on work engagement	Data does not support the hypothesis
H5: Technostress has a positive and significant effect on burnout	Data supports the hypothesis
H6: Technostress has a negative and significant effect on job performance	Data does not support the hypothesis
H7: Work engagement has a positive and significant effect on job performance	Data supports the hypothesis

Research Hypothesis	Conclusion
H8: Burnout has a negative and significant effect on job performance	Data does not support the hypothesis
H9: Work engagement mediates the effect of role overload on job performance	Data supports the hypothesis
H10: Work engagement mediates the effect of technostress on job performance	Data does not support the hypothesis
H11: Burnout mediates the effect of role overload on job performance	Data supports the hypothesis
H12: Burnout mediates the effect of technostress on job performance	Data does not support the hypothesis

Thus, the conclusion of this research model shows that the influence of role overload and technostress on the job performance of Institution X personnel in the context of the implementation of the Digital Administration System X occurs more through the psychological mechanism of work engagement as the main mediator. Work engagement is proven to be a critical bridge that transforms workload pressure and technological pressure into productive work performance. This finding is in line with the Job Demands–Resources (JD-R) framework which emphasizes that working conditions influence performance through motivational mechanisms, and strengthens the view that challenge demands can produce positive motivational consequences when individuals still have adequate adaptability, sense of responsibility, and psychological resources to face these work demands ([Bakker & Demerouti, 2017](#)).

Discussion

Work Engagement as the Main Mechanism in Improving Job Performance

This research was conducted to answer the main problems that arise in the digital transformation process within the Head Office of Institution X, especially related to how role overload and technostress affect the job performance of implementing personnel through psychological mechanisms in the form of work engagement and burnout. The results of the study show that work engagement is the variable that has the most dominant influence on job performance. These findings indicate that the success of Digital Administration System X implementation is not only determined by the sophistication of the technology used, but rather determined by how personnel interpret, receive, and engage in the changes in the work system that occur ([Bakker & Demerouti, 2017](#)). These findings are important because digital transformation in public organizations often focuses on technological aspects, while the human aspect as the main user of the system still receives relatively little attention ([Bondanini et al., 2025](#)).

The high influence of work engagement on job performance shows that personnel who have high work morale, dedication, and involvement tend to be able to maintain productivity even in a stressful work environment. In the context of semi-military organizations such as the Institution X, work involvement is not only shaped by work factors, but also by professional identity, organizational loyalty, a sense of responsibility for state duties, and a culture of discipline that has been embedded in the organizational system. This condition explains why the value of work engagement in this study is at a high level and is the main predictor of personnel performance ([Christian et al., 2011](#)).

The findings are in line with the research of Korsakienė et al. (2024) which shows that work engagement plays an important role as a mediator in the relationship between job demands and task performance. Individuals who have a high level of work involvement tend to allocate greater energy, attention, and psychological resources to their work so that they are able to produce better performance. Thus, the results of this study strengthen the argument that the success of digital transformation must be followed by a strategy to increase employee work engagement so that the benefits of technology can be translated into improved organizational performance ([Korsakienė et al., 2024](#)).

Role Overload as a Consequences of Digital Transformation

One of the main urgency of this research is the increasing work demands that arise after

the implementation of Digital Administration System X. Digitization of administration does aim to increase efficiency, but at the same time creates changes in personnel work patterns. Before the digital system was implemented, most of the administrative processes were carried out in stages and had a relatively more flexible time span. After the implementation of Digital Administration System X, all administrative processes must be carried out in real-time, digitally documented, and can be monitored directly by various parties in the organization.

This condition causes the emergence of role overload, which is a situation when individuals feel that the amount of work that must be completed exceeds their capacity. In the context of this study, role overload arises because personnel must handle various digital administrative tasks simultaneously, ensure the completeness of documents, process the disposition of leaders, conduct electronic archiving, and maintain the timeliness of work completion. This increase in the volume of work is a logical consequence of digital transformation that requires organizations to move faster and more responsive than ever before (Marsh et al., 2024).

Interestingly, the results of the study showed that role overload did not decrease work engagement as predicted in the initial hypothesis. On the other hand, role overload actually increases work engagement. These findings show that high workload within the Institution X is more perceived as challenge demands than hindrance demands. Personnel view increased responsibility as a professional challenge that must be faced and resolved. These findings reinforce the Challenge-Hindrance Stressor Theory which explains that certain work demands can produce positive motivational consequences when perceived as an overcoming challenge (Cavanaugh et al., 2000).

These results are different from some previous studies that found that role overload tends to lower work motivation and increase fatigue. This difference shows the unique characteristics of semi-military organizations that have a stronger work culture, command structure, and task completion orientation than organizations in general. Therefore, the novelty of this research lies in its ability to explain that the relationship between role overload and performance is greatly influenced by the organizational context in which individuals work (Bakker & Demerouti, 2017).

Technostress in Digital Administration System X Implementation

In addition to role overload, this research was also carried out to answer the problem of increasing technostress as a consequence of digital transformation. Technostress is psychological stress that arises due to the use of technology in work activities. In the implementation of Digital Administration System X, technostress arises because personnel must adapt to a digital system that has various features, procedures, and work mechanisms that are different from conventional administrative systems (Khalequzzaman et al., 2025).

The main causes of technostress in this study can be explained through four main dimensions, namely techno-overload, techno-invasion, techno-complexity, and techno-uncertainty. Personnel face pressure to work faster, stay connected to systems, understand evolving technology, and adapt to the changes in digital procedures that occur regularly. This situation creates psychological stress that is unavoidable in a technology-based work environment (Fleischer & Wanckel, 2024).

However, the results of the study show that technostress also has a positive effect on work engagement. These findings suggest that technological pressure does not always produce negative consequences. In the context of Digital Administration System X, technology is actually perceived as a means that helps personnel complete work more effectively. Personnel who are able to adapt to technology tend to have higher confidence, feel more competent, and have greater motivation to carry out their work (Bondanini et al., 2025).

These results show that technology can be a psychological resource if organizations are able to provide training, technical support, and a work environment that supports the digital adaptation process. Therefore, the main solution in overcoming technostress is not to reduce the use of technology, but to increase the capacity of individuals to be able to utilize technology optimally. Thus, organizations can reap the benefits of digitalization without having to face excessive negative impacts on employee well-being (Scholze & Hecker, 2024).

Burnout as a Consequence, Not a Determinant of Performance

This study also found that role overload and technostress have a positive effect on burnout. The findings are in accordance with the health impairment process framework in Job Demands-Resources Theory which explains that high work demands will drain individual psychological resources and increase the risk of work fatigue (Baka et al., 2023). In the context of Digital Administration System X implementation, personnel must face increasing administrative demands, time pressures, and technology adaptation that takes place in a sustainable manner, creating the potential for burnout (Demerouti & Bakker, 2023).

Although burnout is increasing, this study found that burnout has no significant effect on job performance. This finding is one of the interesting results as well as different from some previous studies that stated that burnout has a negative effect on individual performance (Aronsson et al., 2017). These differences show that Institution X personnel have adaptability and a strong enough compensation mechanism to maintain work performance despite being burned out.

Another possibility that explains this phenomenon is the existence of an organizational culture that emphasizes discipline, loyalty, and task completion as top priorities. In a semi-military work environment, individuals tend to still get work done despite experiencing certain psychological pressures. In other words, burnout does appear as a consequence of work demands, but it has not yet reached a level that is able to hinder performance in real terms. These findings are an important theoretical contribution because they show that the relationship between burnout and job performance can differ depending on the context of the organization being studied (Demerouti, 2024).

The Role of Work Engagement and Burnout Mediation

One of the main objectives of this study is to test the psychological mechanisms that link role overload and technostress with job performance. The results show that work engagement plays a role as the main mediator, while burnout is not proven to be a significant mediator. These findings show that the motivational process is more dominant than the health impairment process in explaining the relationship between work demands and performance in the context of Digital Administration System X implementation (Bakker & Demerouti, 2017).

In practical terms, the findings send the message that organizations are not just trying to reduce work pressure, but must actively build employee work engagement. Strategies such as awarding, improving digital competencies, strengthening professional identity, employer support, and career development can be effective instruments to increase work engagement. When work engagement increases, the negative impact of role overload and technostress can be minimized so that performance is maintained (Christian et al., 2011).

Implications for the Digital Transformation of the Institution X

The results of this study provide important implications for the success of the digital transformation of the Institution X. The implementation of Digital Administration System X cannot be seen only as a technology project, but rather as a process of organizational change involving human, cultural, and psychological aspects of work. The success of digitalization is largely determined by the organization's ability to create a work environment that supports employee engagement and facilitates the process of adaptation to new technologies (Alsalamah & Callinan, 2021).

If organizations are able to increase work engagement through training, technical support, proportionate workload management, and supportive leadership, the benefits of digital transformation will be more optimal. On the other hand, if the psychological aspect of employees is ignored, digitalization has the potential to produce greater work pressure and reduce the effectiveness of system implementation. Therefore, strengthening work engagement must be a top priority in the future digital transformation strategy of the Institution X (Kirkpatrick & Kirkpatrick, 2006).

Overall, this research succeeded in answering the urgency behind the research, namely understanding how work demands and technological pressures affect personnel performance in the era of digital transformation. The results show that the main challenge lies not in the technology itself, but in how organizations manage individual psychological responses to the

changes that occur. Work engagement has proven to be the most important mechanism in bridging the relationship between work demands and performance. Therefore, organizational investment in the human aspect must go hand in hand with investment in technology so that digital transformation can produce sustainable benefits for the organization and the personnel who run it (Bakker & Demerouti, 2017; Bondanini et al., 2025).

CONCLUSION

This study aims to analyze the influence of role overload and technostress on the job performance of implementing personnel within the Head Office of Institution X in the context of the implementation of Digital Administration System X, taking into account the role of work engagement and burnout as mediation variables. The results of the study show that digital transformation through Digital Administration System X not only results in changes in the technical aspects of work, but also affects the psychological condition of personnel which ultimately determines the success of performance achievement. The main findings of the study show that role overload and technostress simultaneously contribute to increased work engagement and burnout, but only work engagement has been shown to have a significant role in encouraging increased job performance. In contrast, burnout has not been shown to be a mechanism that explains the relationship between work demands and performance in the context of this study. These findings contribute to the development of the Job Demands–Resources (JD-R) Theory literature, especially in semi-military public sector organizations that are undergoing digital transformation. This study shows that work demands and technological pressures do not always function as hindrance demands, but can be perceived as challenges (challenge demands) that actually increase work engagement. Thus, this study expands the understanding of how organizational context, work culture, and professional characteristics affect the relationship between work demands, psychological conditions, and performance. However, this study has some limitations. First, the research is only conducted within the Head Office of Institution X so that generalization of results to other public organizations needs to be done carefully. Second, the cross-sectional research design has not been able to capture changes in respondents' behavior and psychological conditions in the long term. Third, the research model is still limited to the variables of role overload, technostress, work engagement, burnout, and job performance so that it has not accommodated other organizational factors that have the potential to affect performance. Based on these limitations, further research is recommended to expand the research object in public institutions and other sectors that are undergoing digital transformation, using longitudinal designs to observe behavior changes in a sustainable manner, and adding variables such as digital leadership, organizational support, digital competence, psychological capital, or organizational commitment to gain a more comprehensive understanding of factors that affect the success of digital transformation and employee performance.

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AUTHOR CONTRIBUTION STATEMENT

Mayora Lolly Ishimora contributed to the conceptualization, research design, data collection, data analysis, interpretation of findings, and preparation of the original manuscript. Fanny Martdianty contributed to methodology development, theoretical framework refinement, supervision, validation, and critical review of the manuscript. Both authors collaboratively contributed to the development of the research framework, discussion of results, manuscript revision, and final approval of the submitted version. Both authors take responsibility for the integrity, accuracy, and accountability of all aspects of the research.

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