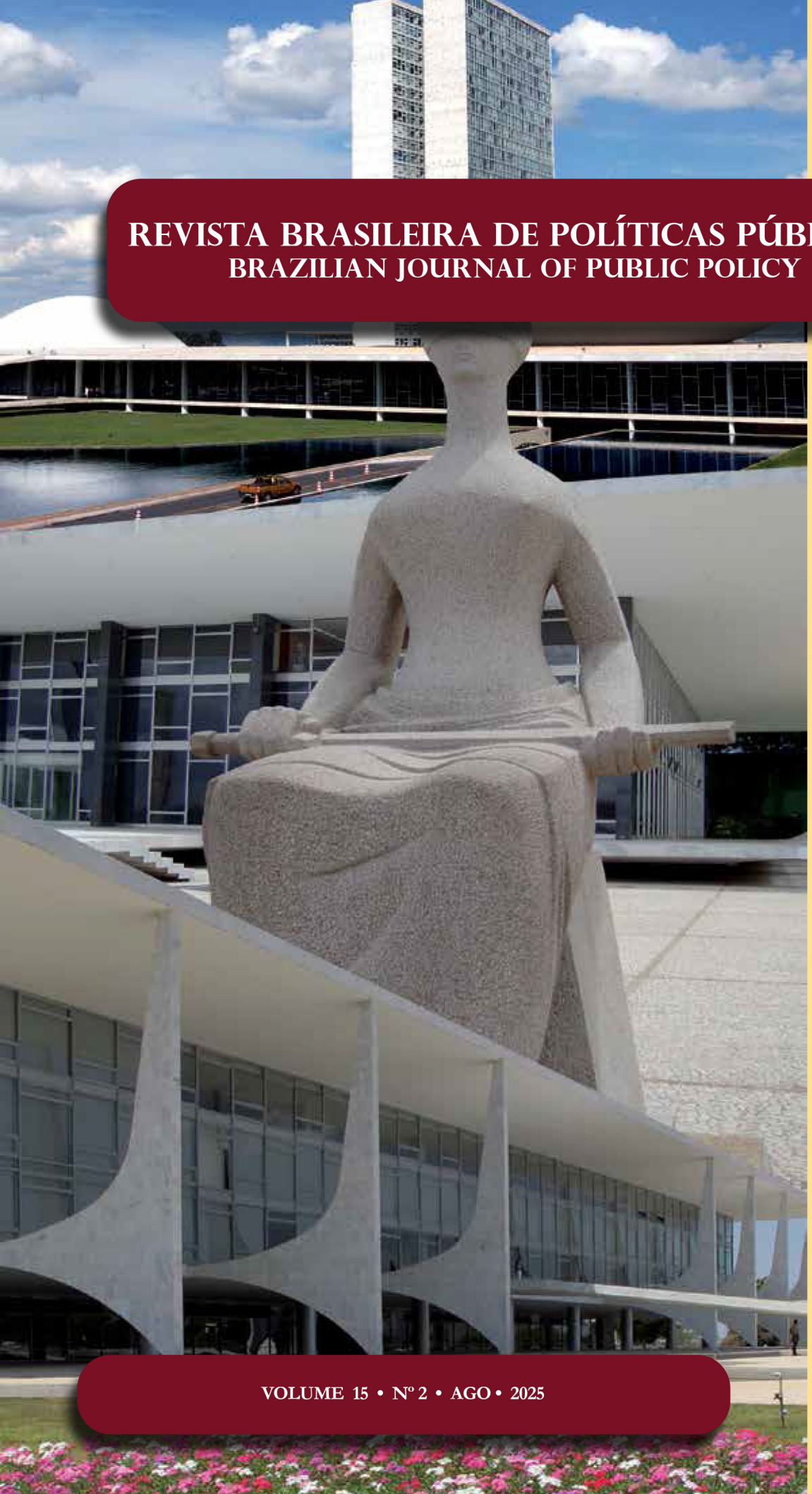

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Sumário

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Harmon Chaniago**
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Abstract

This study is motivated by the importance of integrating humans and Artificial Intelligence (AI) within the public sector, particularly in promoting the efficiency and innovation of public services. The adoption of AI not only depends on technological readiness but also on the intrinsic motivation of employees. This study aims to understand how intrinsic motivation influences the utilization of AI in government work environments. The research was conducted between February to April 2024 in West Java Province, Indonesia, using an explanatory survey method. Data were collected through questionnaires administered to 150 randomly selected respondents from various local government agencies. The study identified two main dimensions of AI utilization: AI Capabilities & Users (AICU) and Benefits of AI (BAI). The findings reveal that Intrinsic Motivation of Employees (IME) has a partial effect on both AICU and BAI. Moreover, IME and AICU simultaneously have a positive impact on BAI. These results suggest that enhancing the benefits of AI in government is highly influenced by psychological factors and individual readiness. Therefore, governments should develop strategies that focus not only on technological aspects but also on strengthening users' motivation and competencies. The study recommends replication in other developing country contexts to test and further develop the AICU model as a framework for AI adoption in the public sector.

Keywords: artificial intelligence; motivation of employee; AI capabilities &users; benefits of AI; government.

Resumo

Este estudo é motivado pela importância da integração de humanos e Inteligência Artificial (IA) no setorpúblico, particularmentenapromoção da eficiência e inovação dos serviçospúblicos. Aadoção da IA dependenãoapenas da prontidãotecnológica, mas também da motivaçãointrínseca dos funcionários. Este estudo visa compreendercomo a motivaçãointrínsecainfluencia

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a utilização da IA em ambientes de trabalhogovernamentais. A pesquisafoiconduzida entre fevereiro e abril de 2024 naProvíncia de Java Ocidental, Indonésia, utilizando um método de pesquisaexplicativa. Os dados foramcoletadospormeio de questionáriosaplicados a 150 respondentesselecionadosaleatoriamente de diversasagênciasgovernamentaislocais. O estudoidentificou duas dimensõesprincipais da utilização da IA: Capacidades e Usuários de IA (CAAI) e Benefícios da IA (BIA). Osresultadosrevelam que a MotivaçãoIntrínseca dos Funcionários (MIE) tem um efeitoparcial tanto na CAAI quantona BAI. Alémdisso, a CAAI e a MIE têmsimultaneamente um impactopositivona BAI. Esses resultadossugerem que oaumento dos benefícios da IA no governoéaltamenteinfluenciadoporfatorespsicológicos e pela prontidão individual. Portanto, osgovernosdevemdesenvolverestratégias que se concentremnãoapenasnosaspectostecnológicos, mas também no fortalecimento da motivação e das competências dos usuários. O estudorecomenda a replicaçãoem outros contextos de países esem desenvolvimento para testar e desenvolveraindamais o modelo AICU comoumaestrutura para adoção de IA no setorpúblico.

Palavras-chave:inteligênciaartificial; motivação dos funcionários; capacidades e usuários de IA; benefícios da IA; governo.

1 Introduction

Artificial Intelligence (AI) has rapidly evolved to replicate various human cognitive functions, such as data analysis, language comprehension, decision-making, and creative problem-solving [1]. AI technologies are increasingly employed across workplaces to enhance productivity, improve employee experience, and drive organizational innovation [2].In public institutions, AI offers numerous potential benefits, including fairer employee evaluations and greater inclusivity [3]. However, the effective integration of AI within organizations requires a profound understanding of human-AI collaboration, particularly how automation interacts with job roles and employee perceptions [4, 5].

Employee motivation plays a critical role in this context. Previous studies have demonstrated that individuals engage with AI for a variety of reasons, including emotional states, personality traits, and the influence of social interactions [6-8]. Among these, intrinsic motivation such as the internal drive to learn, explore, and grow has been identified as a primary catalyst for technology adoption [9, 10]. Employees with high intrinsic motivation often initiate self-directed learning, even without external incentives [11]. This quality is crucial for navigating complex technological transitions such as AI adoption.

Several studies support the positive impact of AI on work motivation [12] and indicate that highly motivated individuals are more likely to engage with emerging technologies [13]. Nevertheless, existing research and identified gaps reveal that few studies have analyzed how intrinsically motivated employees in public institutions independently acquire AI knowledge and apply it in practice.

Moreover, most prior research has primarily focused on technical factors and policy frameworks, while the psychological aspects of AI users, particularly intrinsic motivation, have yet to be explored in depth. In bureaucratic, hierarchical organizations, individual factors significantly influence the success of innovation implementation. Addressing this gap offers strategic advantages, such as reducing high training costs and empowering intrinsically motivated employees to serve as internal change agents, thereby accelerating internal digital transformation cost-effectively.

Additionally, AI adoption involves critical elements such as transparency, interpretability, and employee trust in automated decisions. Perceptions of fairness and meaningfulness in the use of AI significantly shape its acceptance in the workplace [14, 15]. The potential of AI to alter the nature and quality of work, including job relevance and skill requirements, represents an urgent concern [16]. Employees who fail to adapt may face

knowledge obsolescence, resulting in diminished employability and reduced public service performance [17]. Therefore, fostering intrinsic motivation is essential for both individual adaptation and institutional success.

Research Objectives

This study aims to explore how intrinsic motivation among public sector employees influences AI adoption, with three specific objectives:

1. To investigate the influence of intrinsic motivation on AI-related behaviors in the workplace;
2. To understand the motivational drivers behind employees' willingness to learn AI;
3. To analyze how intrinsically motivated employees can function as internal change agents in AI utilization.

Research Contribution

This study addresses a gap in the literature concerning intrinsic motivation in AI adoption within the public sector. It offers theoretical insights into how motivation shapes technology learning and contributes to the evolving discourse on human-AI integration. Practically, the study guides organizations to minimize training costs by leveraging motivated individuals and supports the development of strategic policies for sustainable digital transformation in government institutions.

2 Literature Review

Motivation is a psychological force that drives individuals to achieve specific goals. In the context of public organizations, motivation plays a crucial role in enhancing productivity, improving efficiency, and promoting the adoption of technological innovations, including Artificial Intelligence (AI). Although research on AI in the public sector is expanding, the integration of psychological theories, particularly within developing countries such as Indonesia, remains relatively limited.

Self-Determination Theory (SDT) emerges as one of the most relevant theoretical frameworks for understanding the dynamics of employee motivation in the face of new technology adoption. SDT emphasizes the fulfillment of three basic human needs: 1. Autonomy, the sense of having control over one's actions; 2. Competence is the belief in one's ability to master specific tasks or skills; 3. Relatedness is the feeling of social or emotional connectedness with others or with the organization.

In the context of public sector workplaces, satisfying these needs plays a pivotal role in fostering employee engagement with innovations such as the use of AI. A study conducted by Liu[18] demonstrated that fulfilling the needs for autonomy and competence significantly enhances enjoyment and engagement in the use of e-government services. These findings suggest that intrinsic motivation is more effective than mere external incentives in shaping technology adoption behaviors in the public sector [18].

2.1 Artificial Intelligence (AI) and the Public Sector

Artificial Intelligence (AI) is defined as a dynamic technology that enables machines to learn, enhance information processing, perform tasks, make decisions with a certain degree of autonomy, and adapt to changing environments to achieve specific goals [19, 20]. Aspects of AI can be observed through perception, understanding, interpretation, interaction, decision-making, and behavioral adaptation [19], as well as through software, hardware, improved data collection, and the quality of AI systems [20].

From the government's perspective, AI is defined as a machine-based system that makes predictions, recommendations, or decisions based on human-defined objectives, utilizing inputs to understand the environment, formulate options, and is assessed by the quality of data, ethical implications, and transparency

[21].AI is defined as an intelligent machine that utilizes algorithms to learn from data, identify patterns, and make predictions, with key indicators such as enhanced output, improved decision-making, greater efficiency, and the ability to automate processes and rapidly analyze large volumes of data[22].

Considering the existing literature and the governmental perspective, this study defines AI as an intelligent machine that mimics human intelligence operates based on instructions and multi-source data, and assists human tasks quickly and accurately. Measurement indicators for AI remain diverse and can be classified into three categories: a focus on AI technology, AI usage, and AI-related privacy and ethics. This study uses indicators such as resource utilization, accuracy, response time, reliability, user experience, performance tracking, and improvement in work outcomes.

AI offers numerous potential benefits in the workplace. Human-AI interaction is expected to improve through AI's ability to explain, provide information in various contexts, and make recommendations. However, in certain cases, AI is prone to errors due to data deficiencies, and its limited explanatory capabilities can worsen human-AI interactions. Other challenges related to AI implementation include ethical concerns, data privacy, and algorithmic transparency. Research byKuziemski[23] highlights that AI in public organizations is often hampered by internal resistance, rigid organizational structures, and limited digital literacy among employees. This suggests that AI can sometimes fail, indicating that AI is a double-edged sword [24].

Nevertheless, studies such as those by Blagoev[12] and Jo [2] have found that AI implementation can enhance employee performance, particularly when properly integrated into work processes. This supports the argument that AI technologies are not merely technical tools but also significantly influence organizational culture and behavior.

Several research findings also demonstrate the benefits of AI. For example, findings from the manufacturing industry reveal a significant positive relationship between AI adoption and organizational performance [25], including production efficiency, reduction in defective products, and increased supply chain responsiveness. These results highlight AI's potential to transform how manufacturing companies innovate, enhance efficiency, and support growth. However, research on the benefits of AI in the public sector remains limited and requires further development.

For organizations, AI offers benefits such as improved efficiency and automation, enhanced decision-making [26], and better real-time customer service [27]. [19] explain the usefulness of AI from three perspectives: 1. As an instrument for technological growth and development from a policy and institutional perspective; 2. As a field of research and a general-purpose technology from a scientific perspective; 3. As a driver of industrial development and economic value from a market perspective. This suggests that individuals and organizational groups may perceive AI differently, including its role in work processes.

AI can thus be seen as a tool for achieving technological growth and development from the perspectives of policy, research, and markets, focusing on industrial development and economic value. Examples of AI applications include automating tax payment services, reducing corruption rates in procurement, enhancing contract transparency, improving e-government services, and automating routine administrative tasks.

AI Usage in Government

Researchers[28] concludes that the use of AI in public services has led to the innovation of new service models and enhanced accountability to citizens. Their study focuses on the ethical application of AI in public service delivery and emphasizes the importance of citizen engagement in the innovation process to avoid negative outcomes.

Meanwhile, research results[2] shows a positive correlation between perceived AI intelligence and knowledge acquisition. Similarly, the findings of[12]researcher illustrate that intensive AI implementation can motivate employees to perform better. These studies indicate that researchers acknowledge the usefulness and

necessity of AI in the workplace. However, to fully understand in what specific ways AI is beneficial, deeper research is required.

There are numerous potential benefits of AI in government operations, such as increased productivity,streamlined procedures, improved public service delivery, facial recognition, and more. AI can assist with a range of tasks, including drone navigation, prioritization of medical care, and fraud detection. It is estimatedthat government institutions adopting AI into their operations will achieve significant progress in program and policy implementation. Although challenges remain in AI usage, it holds the potential to revolutionize government operations and overall efficiency through automation, data analysis, and decision-making processes [29].

AI enhances governmental efficiency through more cost-effective and user-friendly e-government services, supported by the integration of the Internet of Things (IoT). This technology aids in service analysis, addresses data privacy and security threats, and reduces the risk of cyberattacks [30, 31]. Moreover, AI can improve decision-making by utilizing public and private data to uncover new patterns, enhance predictive capabilities, and promote better governance [23, 32].

Given these explanations, the application of AI in government can encompass improvements in public service delivery, policy-making processes, and the strengthening of internal public administration management. AI technology can be utilized to detect emerging social issues for policymakers, assist in monitoring policy implementation, improve public service delivery mechanisms, and support internal functions such as recruitment, cybersecurity, financial management, and asset maintenance [31, 33].

Technologies such as Big Data Algorithmic Systems (BDAS) are used in governmental decision-making to enhance predictive power and uncover new data patterns. Data governance is crucial for regulating data quality and ensuring compliance with legal norms and ethical standards for reliable evaluations. However, empirical research on the challenges and opportunities of AI integration in the public sector remains limited, particularly in traditional government institutions that tend to be less adaptive and more technology followers [23, 32]. Nonetheless, there is growing recognition of governments adapting to and embracing AI integration to remain competitive and better serve their constituents.

AI must adhere to ethical standards, especially when it possesses significant influence and high levels of autonomous learning capability. Leadership must integrate ethical considerations into their decision-making processes and have an ethical reference framework to align potential decisions with ethical principles. The complexity and autonomy of AI decision-making raise ethical concerns, making it increasingly difficult to understand AI decisions and their future implications.

The rising autonomy of AI in decision-making processes raises concerns about unsupervised decisions. Therefore, organizations need to consider AI ethics to avoid negative impacts. Discussions on AI ethics within organizations are still evolving and require further theoretical exploration [34].

2.2 The Relationship Between Intrinsic Motivation and AI Usage

Motivation theory explains the factors that drive, direct, and sustain individual behavior in achieving goals.

This theory studies what motivates a person to act and how such motivation influences performance, productivity, and satisfaction. There are two sources of motivation: external and internal.

Conceptually, motivation plays an important role in various contexts, including workplace dynamics and technology usage. Motivation is the driving force behind goal-oriented behavior and enthusiasm in the workplace [35]. Renita [36] defines motivation as a process that initiates, guides, and sustains goal-oriented behavior, arising from both internal and external factors. Meanwhile, Habsy[37] describe motivation as the energi-

zer of behavior in the pursuit of goals. Motivation acts as the driving element to fulfill basic needs such as food, water, sex, and social interaction.

Motivation is categorized into extrinsic motivation and intrinsic motivation. Extrinsic motivation arises due to stimuli from outside the individual, such as salary, incentives, or influences from family, peers, and others. Intrinsic motivation, on the other hand, originates from within, such as personal desires, self-confidence, integrity, and so forth [37]. Intrinsic motivation stems from inner satisfaction and the fulfillment of psychological needs. With intrinsic motivation, dependency on external rewards is reduced, leading to greater job satisfaction and improved performance [38].

Many factors motivate government employees, including work motivation, budget participation, emotional intelligence, and others. Improvements can be made by providing motivation to employees and fostering high levels of intrinsic motivation within them. Factors such as empowerment and recognition can enhance employee motivation, leading to improved organizational achievement and performance. Employee dissatisfaction due to monotonous work and societal pressure can weaken organizational performance. Each individual may be motivated by different strategies, such as recognition, job satisfaction, a comfortable working environment, salary, incentives, and others.

Employees with high motivation tend to be more enthusiastic, productive, and able to outperform their peers, thereby contributing to increased organizational performance. Creating a positive work environment and providing growth opportunities are key factors in maintaining employees' intrinsic motivation.

Intrinsic motivation is an important determinant in explaining employees' engagement with technology-based changes, including AI. Employees who feel satisfied, have a high sense of responsibility, and possess self-confidence are more likely to be open to adopting new technologies.

A study by a researcher[39] emphasized that intrinsic motivation plays a crucial role in promoting effective AI usage. They proposed the need for a theoretical framework that integrates AI's technical aspects with employees' psychological dynamics. Meanwhile, others researcher[40,41] found that highly motivated employees are more open to learning new technologies. This implies that individuals with high intrinsic motivation are better able to develop themselves in line with technological advancements.

Motivation plays a vital role in encouraging employees to work diligently and intelligently to achieve set goals. There are many indicators for measuring motivation, such as wages, workplace communication, task andjob type, working hours, work environment, superior approaches, and psychological burdens [42]. Habsy [37] measured intrinsic motivation through personal desire, self-confidence, and integrity that arise from within the individual. Hejazi [43] suggested measuring intrinsic motivation through internal enjoyment and psychological satisfaction. Based on existing references, this study measures intrinsic motivation using indicators such as interest and desire, personal satisfaction, sense of responsibility, and enthusiasm.

Motivation plays an essential role in boosting employee productivity and performance by increasing job commitment, leading to higher levels of productivity. Motivation is crucial for employees in improving productivity [44].

There is a strong relationship between employee motivation and the adoption and effectiveness of technology. Motivation and work stress are significantly associated with technology adoption. Studies show that understanding employee behavior during new technology adoption can help organizations improve workplace efficiency and performance [45]. Likewise, the relationship between motivation and AI usage in the workplace is complex and multifaceted.

Various studies have shown that motivational factors play a significant role in individuals' engagement with AI technology, but there is no theory-based framework yet to comprehensively understand these factors [39]. Research findings conclude that understanding the dynamics of motivation alongside AI's technical aspects is crucial for effective AI implementation in organizational settings [39]. Longitudinal research on

changes in motivation toward AI usage could provide valuable insights into the evolving relationship between individuals and AI technology, as well as uncover challenges in the widespread adoption of AI. Future research should focus on developing a comprehensive understanding of the motivational factors that drive individuals to engage with AI in the workplace.

3 Research Methodology

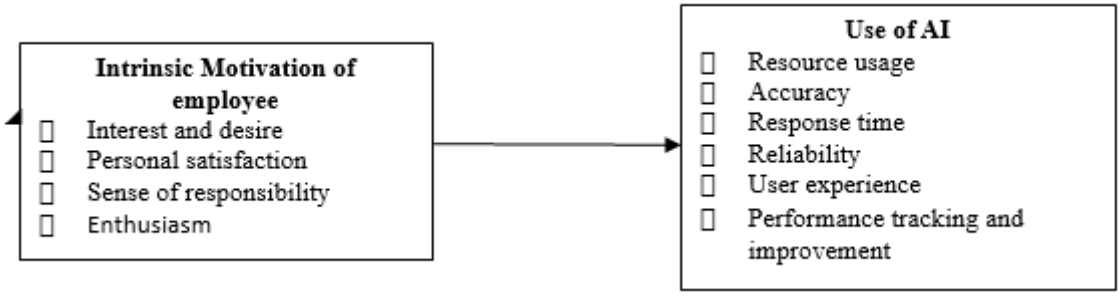
This study employed an explanatory survey to evaluate employee motivation in the context of AI usage among Indonesian government employees. This method is utilized to understand complex events and situations and is highly valuable for exploring and tracing human environments, which can be translated into practical behavioral changes [46]. The research was conducted from February to April 2024 in West Java Province, Indonesia. This province is one of the four largest and most densely populated provinces in Indonesia.

To determine the sample size, an internal approach was used by multiplying the minimum number of indicators by 5 to 7 [47, 48]. In this study, the number of research indicators was multiplied by 15, resulting in a total sample of 150 participants. The internal approach was chosen because the exact population size was unknown.

Data were collected randomly using a questionnaire. The questionnaire was designed using a Likert scale with answer options ranging from 1 to 5, or from strongly agree to strongly disagree. Before its use, the questionnaire underwent a pretest involving 30 prospective respondents. The results showed that all measurement instruments were correlated with the total respondents' answers with coefficients greater than 0.3, indicating that the instruments were valid and appropriate for this study [48, 49].

Subsequently, the questionnaire was distributed to the respondents. The collected data were then tested for reliability. The reliability testing results showed Cronbach's Alpha values of 0.843 for the employee motivation variable and 0.873 for the AI variable. This means the data were deemed suitable for the study, as $\alpha > 0.6$ [47, 49]

Figure 1. Initial Research Model



Data analysis was conducted using mean tests, factor analysis, and path analysis. To facilitate faster data processing, SPSS and SmartPLS software were utilized.The initial research model is illustrated in Figure 1.

4 Research Results

This study analyzed the data using the Partial Least Squares (PLS) technique, with validity testing based on the standardized loading factor and average variance extracted (AVE), both of which have a mini-

mum threshold of 0.5 and a p-value < 0.05. Data reliability was assessed through composite reliability and Cronbach's Alpha, with a minimum acceptable value of 0.7. Additionally, the model's goodness-of-fit was evaluated using several indicators, as shown in Table 2.

The results of the data processing using factor analysis provided information as shown in Table 1: for the intrinsic motivation variable, all indicators remained within a single component. This means that the variable's items stayed consistent, and the label did not change. Meanwhile, for the AI usage variable, the factor analysis results grouped the items into two clusters.

The first group consists of the following questionnaire items: i24, i26, i28, i30, i31, and i32, and was newly named "AI Capabilities & Users" (abbreviated as AICU). The second group consists of the items: i25, i27, and i29, and was newly named "Benefits of AI" (abbreviated as BAI). The naming of each group refers to the content of the questionnaire items, as shown in Table 1.

Table 1. Classification of respondent answers and variable naming

Measure items	Indicators	Factor loading	New Variables name	Cronbach α values
i24	User knowledge	0.811	AI Capabilities & Users (AICU)	0.873
i26	Response time	0.834		
i28	Physical resource usage	0.617		
i30	User experience	0.821		
i31	Reliability	0.744		
i32	Software resource usage	0.824		
i25	Accuracy	0.914	Benefits of AI (BAI)	0.780
i27	Performance tracking	0.832		
i29	Performance improvement	0.744		
i20	Interest and desire	0.777	Intrinsic motivation of employees (IME)	0.843
i21	Personal satisfaction	0.867		
i22	Sense of responsibility	0.793		
i23	Antusiasme	0.810		

Subsequently, a path analysis (full model) was conducted, along with a significance test using 500 bootstrap samples and final model testing. The results are presented in Figure 2, Figure 3, and Table 2.

Figure 2.Changes in the research model and the relationships among research variables

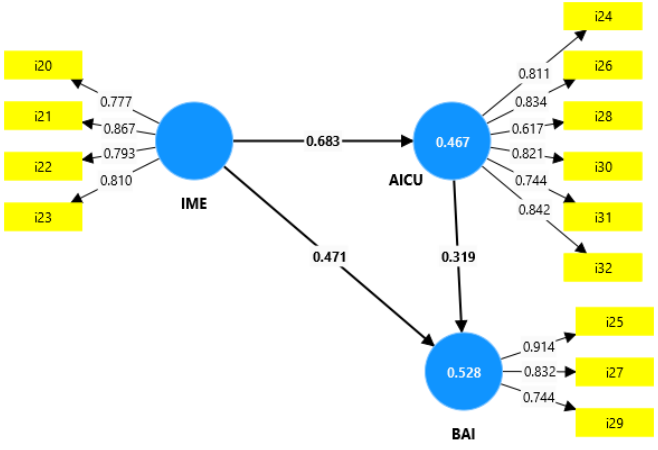
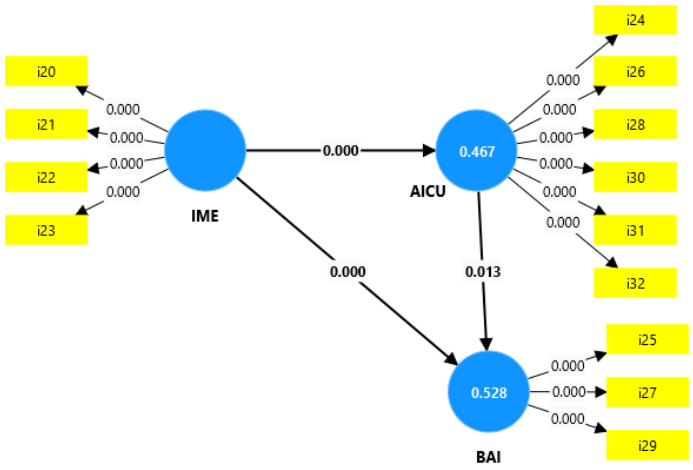


Figure 3.Research model after bootstrapping with 500 data samples



The results of the bootstrap analysis using 500 data samples show that the paths from IME to BAI and to AIC have a significance level of <0.05. All paths are significant, as illustrated in Figure 3. The conclusions from the model testing are presented in Table 2 below:

Table 2. Goodness of Fit Index

Index	Standard value*	Result value	Model Evaluation
Cronbach's Alpha (Three dimensions)	>0.7	0.873; 0.780; 0.843	Good
Composite Reliability (CR) (Three dimensions)	>0.6	0.893; 0.843; 0.886	Good
Average Variance Extracted (AVE) (Three dimensions)	>0.5	0.612; 0.694; 0.660	Good
SRMR (Standardized Root Mean Square Residual)	<0.08	0.032	Fit
P Values (Sig. level)	<0.05		
AICU ----> BAI		0.013	Significant
IME ----> AICU		0.000	Significant
IME ----> BAI		0.000	Significant
R-Squared (R^2):			
AICU ($R1^2$)	<1 (approaching 1)	0.467	Strong enough
BAI ($R2^2$)	<1 (approaching 1)	0.528	Strong enough
Q^2 (AICU)	>0.05	0.259	Relevant model
Q^2 (BAI)	>0.05	0.343	Relevant model
GoF	<1 (approaching 1)	57,03%	Relevant

*)Kompilasidaribeberapareferensi

Notes: IME = Intrinsic motivation of employees; AICU = AI Capabilities & Users; BAI= Benefits of AI

The data analysis using the 'Blindfolding' procedure in SmartPLS yielded a Q^2 value of 0.259 for AICU and 0.343 for BAI (see Table 2). A Q^2 value greater than 0.05 indicates that the IME variable is relevant as a predictor of AICU. Similarly, the IME and AICU variables are relevant for measuring the BAI variable. Meanwhile, the Goodness of Fit (GoF) value is calculated by averaging the AVE values and dividing by the average of $R1^2$ and $R2^2$, as shown in Table 3.

Table 3. Average AVE and R-Square

Variables	AVE	R-Square
Intrinsic motivation of employees (IME)	0.660	
AI Capabilities & Users (AICU)	0.612	0.467
Benefits of AI (BAI)	0.694	0.528
Average	0.653	0.498

Gof= $\sqrt{AVExR^2}$

Gof= $\sqrt{0.653x0.498}$

Gof= 0.5703 = 57,03%

The GoF calculation result is 0.5703 or 57.03%. This indicates that the model explains 57.03% of the data variation. Since the GoF value is close to 1, it suggests that the research model has high predictive accuracy and a strong ability to explain the research variables.The test results show that all variables are proven to be influential and can be accepted, as shown in Table 4.

Table 4. Total and partial effects

Variables			Coefficients	Correlations	R-square (p< 0.05)	p Values	Significance	Notes
IME	--->	AICU	0.683	0.683	0.467 ($R1^2$)	0.000	Yes	Partial effect
AICU	--->	BAI	0.319	0.640	0.204	0.013	Yes	Partial effect
IME	--->	BAI	0.471	0.688	0.324	0.000	Yes	Partial effect
IME, AICU	--->	BAI			0.528 ($R2^2$)	0.000	Yes	Simultaneous effect

Notes: IME = Intrinsic motivation of employees; AICU = AI Capabilities & Users; BAI= Benefits of AI

Tables 2 and 4 provide information that all paths have an influence on AICU and BAI. This study finds that:

1. All items in the intrinsic motivation variable have an AVE > 0.5, indicating that the intrinsic motivation of government employees in using AI consists of interest and desire, enthusiasm, personal satisfaction, and a sense of responsibility (see Table 1).
2. Similarly, for the AI variable, it was found that AI consists of two components: AI Capabilities & Users (AICU) and Benefits of AI (BAI). AICU includes indicators such as user experience, resource utilization, response time, and reliability, while BAI consists of accuracy, tracking, and performance improvement (see Table 1).
3. The research model changed from the initial design (see Figure 1) to the model shown in Figure 2. Based on the data processing results (see Table 4), IME partially influences AICU by 46.7%, with a significance level of 0.000. This influence is categorized as moderate. This means that employees' intrinsic motivation contributes to determining AI capabilities and user engagement.
4. AICU partially influences BAI by 20.4%, with a significance level of 0.013. Although the effect is relatively low, it is positive. This implies that AI capabilities and user engagement also play a role in determining the benefits of AI usage (see Table 4).
5. IME partially influences BAI by 32.4%, with a significance level of 0.000. This indicates strong evidence supporting the notion that increasing employees' intrinsic motivation to use AI has a positive partial effect on the benefits of AI in the workplace (see Table 4).
6. Simultaneously, IME and AICU influence BAI by 52.8%, with a significance level of 0.000. This means that employees' intrinsic motivation, when combined with the ability to use AI, significantly enhances the benefits of AI for work (see Figure 3 and Table 4).

5 Discussion

Research on the relationship between government employees' intrinsic motivation and the use of artificial intelligence (AI) in the workplace remains very limited. Therefore, this study aims to explore and explain the connection between individual psychological aspects and the acceptance and utilization of AI-based technology within the public bureaucracy.

The research data were processed using SEM-PLS. The findings of this study indicate that AI in the context of public organizations can be categorized into two main dimensions: AI Capabilities & Users (AICU) and Benefits of AI (BAI). The AICU dimension includes indicators such as resource utilization, response speed, system reliability, and user experience. Meanwhile, the BAI dimension consists of accurate tracking, performance improvement, and reliable outcomes.

Based on these indicators, AI Capabilities are defined as the ability of AI systems to carry out specific tasks by efficiently utilizing resources, providing quick responses, ensuring system reliability, and delivering optimal user experiences. User Capabilities refer to the individual's ability to effectively and efficiently use AI systems, focusing on resource management, response speed, result accuracy, and user experience quality. The benefits of AI refer to the gains derived from AI implementation, particularly in enhancing efficiency, productivity, and accuracy in various work aspects, with a focus on information tracking, performance improvement, and output accuracy.

Through quantitative and qualitative data analysis, it was found that intrinsic motivation has a positive influence on AI Capabilities & Users. This means that the higher a person's intrinsic motivation, the greater their ability to learn and use AI technology independently and proactively. This finding is in line with Self-Determination Theory, which explains that individuals are more likely to exert effort when they feel in control of their actions, believe they can master specific tasks and skills, and receive social recognition for their efforts. In the long term, strong intrinsic motivation enhances an individual's capacity to adopt and develop AI in the workplace.

The results also show that intrinsic motivation positively influences the Benefits of the AI dimension. This study highlights that intrinsic motivation plays a crucial role in determining the degree to which employees benefit from AI use. This finding is supported by the study of Blagoev[12], which showed that intensive AI implementation in organizations can improve employee performance motivation. However, the success of AI adoption is not solely determined by motivation, but also by the presence of ethical guidelines governing its use.

If AI is used without ethical considerations, it may lead to negative consequences such as misinformation, breaches of personal data privacy, AI-based fraud, unauthorized digital surveillance, and erosion of public trust in the technology. Therefore, government organizations need to establish ethical policies to guide responsible and beneficial AI usage.

In the Indonesian context, most respondents reported using AI technologies such as ChatGPT, Quillbot, Meta.ai, and others. Observations show that employees have a strong drive to use AI as a form of self-modernization. They use AI to expand their information comprehension, enhance data interpretation abilities, obtain more relevant recommendations, and formulate alternative decisions. Although institutional AI implementation is still in a transitional phase, several government units have adopted AI-based services, such as online tax payment systems, electronic traffic ticketing, and facial recognition systems at airports.

The data analysis results reveal that the relationship between AICU and BAI is statistically partial and weak, though still positive. This suggests that improved user and AI capabilities, coupled with stronger intrinsic motivation among employees, lead to greater benefits from AI implementation. To minimize the

negative impacts of AI usage, such as job disruption and change resistance, continuous development of both technological and human resource capabilities must become a governmental priority.

Habsy [37] stated that motivation is the primary driver for achieving work goals. Employees with high intrinsic motivation more easily master technology and can serve as change agents within organizations. Therefore, public institution leaders are encouraged to identify and empower such individuals as digital transformation pioneers. Alhosani [29] also emphasized that AI has tremendous potential to revolutionize the public sector through automation, data analysis, and more effective decision-making. However, this potential can only be fully realized when AI use is grounded in ethical principles and aimed at public benefit.

Previous studies [16, 50] have shown that AI implementation in the workplace positively impacts efficiency and productivity. Nevertheless, challenges arise when some employees remain passive or reject digital technology. Those unwilling to adopt AI risk falling behind in future skills and knowledge. To address this, organizations must provide regular training, establish technology update teams, and appoint highly motivated employees as AI ambassadors in the workplace.

Studies by Fernando[9],Filgona[11], andFitzGibbon[10] affirm that individuals with strong intrinsic motivation tend to pursue new knowledge without financial incentives. These employees can serve as positive examples for voluntarily and consistently adopting AI. To support sustainable AI adoption, organizational strategies should focus on recognition, creating a comfortable work environment, and fostering a culture of technological learning.[1]

Theoretically, individual motivation to use AI is influenced by several factors, including emotional states, the context of interaction with technology, the desire to appear modern, and curiosity about new information. The findings of this study show that the desire to enhance self-capability is the main reason motivating employees to use AI. This reason warrants special attention from bureaucratic leaders, as in the long term it can encourage employees to work harder and smarter, ultimately improving productivity.

Therefore, leadership's role in fostering intrinsic motivation is crucial. Steps that can be taken include providing internet access in various office areas, increasing bandwidth capacity, drafting ethical guidelines for digital technology use, promoting open discussions on AI usage, and incorporating educational segments about digital technology in work meetings. By creating a work environment that supports positive and ethical AI use, the potential of AI to enhance public sector performance can be fully optimized.

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9FERNANDO, Yogi; ANDRIANI, Popi; SYAM, Hidayani; ISLAM, Universitas KH. A; SJECH, Negeri; M.DJAMIL, and BUKITTINGGI, Djambek. The Importance of Learning Motivation in Improving Student Learning Outcomes (Pentingnya Motivasi Belajar Dalam Meningkatkan Hasil Belajar Siswa, in Indonesian). ALFIHRIS : Jurnal Inspirasi Pendidikan, 2024.

10FITZGIBBON, Lily; LAU, Johnny King L., and MURAYAMA, Kou. The seductive lure of curiosity: information as a motivationally salient reward. Current Opinion in Behavioral Sciences, v. 35, p. 21-27, 2020/10/01/, 2020.

11FILGONA, Jacob; SAKIYO, John; GWANY, D. M., and OKORONKA, Augustine Ugwumba. Motivation in Learning. Asian Journal of Education and Social Studies, 2020.

12BLAGOEV, Vesselin; SHUSTOVA, Elena, and PROTAS, Nina. Work Motivation of Bank Employees in Case of Implementing AI and Robots in the Bank Activities: Comparative Analysis of Russia and Kazakhstan. Институт за икономически изследвания при Българска академия на науките (Institute for Economic Research at the Bulgarian Academy of Sciences), n. 7, p. 63-80, 2022.

29ALHOSANI, Khalifa, and ALHASHMI, Saadat M. Opportunities, challenges, and benefits of AI innovation in government services: a review. Discover Artificial Intelligence, v. 4, n. 1, p. 18, 2024/03/04, 2024.

37HABSY, Bakhrudin All; SANTOSO, Hikmal Ramdhan Priyo; NURFIRDA, Ida, and PUTRI, Cindy Kartika. Motivation as a Key Role in Education (Motivasi sebagai Kunci Peran dalam Pendidikan, in Indonesian). TSAQOFAH, v. 4(2), , n. 2, p. 587-603, 2023.

50ALSHAMSI, Mohammed Khalfan Obaid Alhosan; CHIK, Norlaila binti Abdullah, and BENLAHCENE, Abderrahmane. Influence Of Employee Integration, and Maintenance and Motivation on Employee Retention in the UAE Public Sector – Moderation of Technology and AI Adoption. International Journal of Intellectual Human Resource Management (IJIHRM), v. 4, n. 02, p. 57-66, 2023.

6 Conclusions

This study reveals that intrinsic motivation is a key factor in enhancing the capability to use AI within government settings. However, the success of digital transformation is not solely determined by motivation; it also depends on a supportive work environment, visionary leadership, and strong ethical guidelines.

AI capabilities and user competence are the primary factors influencing the extent of AI benefits, while individuals with high motivation can serve as change agents in the adoption of AI technology. For successful AI implementation, leaders must provide adequate facilities, ethical guidance, and a supportive work environment to ensure the organization's productivity improves sustainably.

Theoretical recommendations

This research should be continued by further exploring the concepts of AI capabilities and users' capabilities across different organizations. Emphasizing the ethics of AI usage is also crucial to prevent negative impacts such as data misuse. Collaboration between academics, the government, and industry needs to be strengthened to produce practical AI solutions, especially in the public sector.

Recommendations for government organizations

Governments in developing countries should focus on enhancing employee motivation through structured training and providing rewards for those who master AI technology. Additionally, AI infrastructure needs to be strengthened by ensuring access to fast internet and adequate devices for public sector employees. Ethical guidelines for AI usage should also be developed and implemented to prevent the misuse of AI technology. Furthermore, it is important to accelerate digital transformation and the implementation of AI in public services to improve efficiency and the quality of public services.

References

1.SHRIVASTAVA, Anurag. Artificial Intelligence (AI): Evolution, Methodologies, and Applications. *International Journal for Research in Applied Science and Engineering Technology*, 2024.

2.JO, Hyeon, and PARK, Do-Hyung. AI in the Workplace: Examining the Effects of ChatGPT on Information Support and Knowledge Acquisition. *International Journal of Human–Computer Interaction,* v. 40, n. 23, p. 8091-8106, 2024/12/01, 2024.

3.MARABELLI, Marco, and LIRIO, Pamela. AI and the metaverse in the workplace: DEI opportunities and challenges. *Personnel Review,* v. ahead-of-print, n. ahead-of-print, 2024.

4.BANKINS, Sarah; OCAMPO, Anna Carmella; MARRONE, Mauricio; RESTUBOG, Simon Lloyd D., and WOO, Sang Eun. A multilevel review of artificial intelligence in organizations: Implications for organizational behavior research and practice. *Journal of Organizational Behavior,* v. 45, n. 2, p. 159-182, 2024.

5.EINOLA, Katja, and KHOREVA, Violetta. Best friend or broken tool? Exploring the co-existence of humans and artificial intelligence in the workplace ecosystem. *Human Resource Management,* v. 62, n. 1, p. 117-135, 2023.

6.BOUWER, Anna. Under Which Conditions Are Humans Motivated to Delegate Tasks to AI? A Taxonomy on the Human Emotional State Driving the Motivation for AI Delegation. inMarketing and Smart Technologies, Singapore, V, n: Springer Nature Singapore, in, pp. 37-53, doi, 2022//.

7.MOYBEKA, Adolfina M. S.; SYARIATIN, Nur; TATIPANG, Devilito Prasetyo; MUSHTHOZA, Dina Amaliyah; DEWI, Ni Putu Juliani Lestari, and TINEH, Sulfany. Artificial Intelligence and English Classroom: The Implications of AI Toward EFL Students' Motivation. *Edumaspul: Jurnal Pendidikan*, 2023.

8.LEE, Heejun; CHO, Chang-Hoan; LEE, So-Yoon, and KEEL, Young-Hwan. A Study on Consumers' Perception of and Use Motivation of Artificial Intelligence(AI) Speaker. *The Journal of the Korea Contents Association,* v. 19, p. 138-154, 2019.

9.FERNANDO, Yogi; ANDRIANI, Popi, and SYAM, Hidayani. The Importance of Learning Motivation in Improving Student Learning Outcomes (Pentingnya Motivasi Belajar Dalam Meningkatkan Hasil Belajar Siswa, in Indonesian). *ALFIHRIS : Jurnal Inspirasi Pendidikan*, 2024.

10.FITZGIBBON, Lily; LAU, Johnny King L., and MURAYAMA, Kou. The seductive lure of curiosity: information as a motivationally salient reward. *Current Opinion in Behavioral Sciences,* v. 35, p. 21-27, 2020/10/01/, 2020.

11.FILGONA, Jacob; SAKIYO, John; GWANY, D. M., and OKORONKA, Augustine Ugwumba. Motivation in Learning. *Asian Journal of Education and Social Studies*, 2020.

12.BLAGOEV, Vesselin; SHUSTOVA, Elena, and PROTAS, Nina. Work Motivation of Bank Employees in Case of Implementing AI and Robots in the Bank Activities: Comparative Analysis of Russia and Kazakhstan. Институт за икономически изследвания при Българска академия на науките (Institute for Economic Research at the Bulgarian Academy of Sciences), n. 7, p. 63-80, 2022.

13.MARTÍN-NÚÑEZ, José Luis; AR, Anil Yasin; FERNÁNDEZ, Rodrigo Pérez; ABBAS, Asad, and RADOVANOVIĆ, Danica. Does intrinsic motivation mediate perceived artificial intelligence (AI) learning and computational thinking of students during the COVID-19 pandemic? *Computers and Education: Artificial Intelligence,* v. 4, p. 100128, 2023/01/01/, 2023.

14.ROBERT, Lionel P.; PIERCE, Casey; MARQUIS, Liz; KIM, Sangmi, and ALAHMAD, Rasha. Designing fair AI for managing employees in organizations: a review, critique, and design agenda. *Human–Computer Interaction,* v. 35, n. 5-6, p. 545-575, 2020/11/01, 2020.

15.ZHU, Yu-Qian; CORBETT, Jacq ueline, and CHIU, Yi-Te. Understanding employees' responses to artificial intelligence. *Organizational Dynamics,* v. 50, n. 2, p. 100786, 2021/04/01/, 2021.

16.SUSSKIND, Daniel. Work and meaning in the age of AI. https://www.brookings.edu/wp-content/uploads/2023/01/Work-and-meaning-in-the-age-of-AI_Final.pdf [December 20, 2024, 2023].

17.WEST, Darrell M. *The future of work Robots AI and automation*. Washinton DC: Brookings Institution Press, 2018.

18.LIU, Dapeng ; WU, Meijun; SUN, Hongyan, and HO, Micahel. Beyond utility: unpacking the enjoyment gap in e-government service use. *International Journal of Electronic Governance,* v. 16, n. 3, p. 334-353, 2024.

19.SOFIA, Samoili; MONTSERRAT, Lopez Cobo; EMILIA, Gomez Gutierrez; GIUDITTA, De Prato; FERNANDO, Martinez-Plumed, and BLAGOJ, Delipetrev. *AI WATCH. Defining Artificial Intelligence*. Publications Office of the European Union, Luxembourg, 2020.

20.SUSAR, Deniz, and AQUARO, Vincenzo. Artificial Intelligence: Opportunities and Challenges for the Public Sector. in Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance, Melbourne, VIC, Australia, p. 418–426, 2019.

21.JIMENEZ-GOMEZ, Carlos E.; CARRILLO, Jesús Cano, and FALCONE, Francisco. Artificial Intelligence in Government. *Computer,* v. 53, p. 23-27, 2020.

22.LEDDY, Marie, and MCCREANOR, Niall. The Potential Utilisation of Artificial Intelligence (AI) in Enterprises. inThe 18th European Conference on Innovation and Entrepreneurship, Part 1, Porto, Purtu-

gal, V 18, n 1: Universidade Portucalense, in, doi: https://doi.org/10.34190/ecie.18.1.1720, 21-22 September 2023.

23.KUZIEMSKI, Maciej, and MISURACA, Gianluca. AI governance in the public sector: Three tales from the frontiers of automated decision-making in democratic settings. *Telecommunications Policy,* v. 44, n. 6, p. 101976, 2020/07/01/, 2020.

24.RIEGER, Tobias; MANZEY, Dietrich; MEUSSLING, Benigna; ONNASCH, Linda, and ROESLER, Eileen. Be careful what you explain: Benefits and costs of explainable AI in a simulated medical task. *Computers in Human Behavior: Artificial Humans,* v. 1, n. 2, p. 100021, 2023/08/01/, 2023.

25.DUBEY, Rameshwar; GUNASEKARAN, Angappa; CHILDE, Stephen J.; BRYDE, David J.; GIANNAKIS, Mihalis; FOROPON, Cyril; ROUBAUD, David, and HAZEN, Benjamin T. Big data analytics and artificial intelligence pathway to operational performance under the effects of entrepreneurial orientation and environmental dynamism: A study of manufacturing organisations. *International Journal of Production Economics,* v. 226, p. 107599, 2020/08/01/, 2020.

26.LIU, Feiting. Research and Outlook on the Role of Artificial Intelligence in Enterprise Operations and Management. *Journal of Education, Humanities and Social Sciences*, 2024.

27.SAINI, Aarti, and SAINI, Vandana. Impact of AI on Business Management. *International Journal of Engineering Science and Humanities,* v. 14, n. (Special Issue 1), p. 143-146, 2024.

28.KINDER, T.; STENVALL, J.; KOSKIMIES, E.; WEBB, H., and JANENOVA, S. Local public services and the ethical deployment of artificial intelligence. *Government Information Quarterly,* v. 40, n. 4, p. 101865, 2023/10/01/, 2023.

29.ALHOSANI, Khalifa, and ALHASHMI, Saadat M. Opportunities, challenges, and benefits of AI innovation in government services: a review. *Discover Artificial Intelligence,* v. 4, n. 1, p. 18, 2024/03/04, 2024.

30.AHN, Michael J., and CHEN, Yu-Che. Artificial Intelligence in Government: Potentials, Challenges, and the Future. in Proceedings of the 21st Annual International Conference on Digital Government Research, Seoul, Republic of Korea, p. 243–252, 2020.

31.VAN NOORDT, Colin, and MISURACA, Gianluca. Artificial intelligence for the public sector: results of landscaping the use of AI in government across the European Union. *Government Information Quarterly,* v. 39, n. 3, p. 101714, 2022/07/01/, 2022.

32.CHARLES, Vincent; RANA, Nripendra P., and CARTER, Lemuria. Artificial Intelligence for data-driven decision-making and governance in public affairs. *Government Information Quarterly,* v. 39, n. 4, p. 101742, 2022/10/01/, 2022.

33.KANKANHALLI, Atreyi; CHARALABIDIS, Yannis, and MELLOULI, Sehl. IoT and AI for Smart Government: A Research Agenda. *Government Information Quarterly,* v. 36, n. 2, p. 304-309, 2019/04/01/, 2019.

34.BRENDEL, Alfred Benedikt; MIRBABAIE, Milad; LEMBCKE, Tim-Benjamin, and HOFEDITZ, Lennart. Ethical Management of Artificial Intelligence. *Sustainability,* v. 13, n. 4, p. 1974, 2021.

35.OKTIANI, Ifni. Teacher Creativity in Increasing Students' Learning Motivation (Kreativitas Guru dalam Meningkatkan Motivasi Belajar Peserta Didik. Jurnal Kependidikan, in Indonesian). v. 5, n. 2, p. 216–232, 2017.

36.RENIȚĂ, Mihaela. Motivarea angajaților: trăsături, tendințe şi forme în realitatea actuală. inSimpozion ştiinţific al tinerilor cercetători, V, n, in, pp. 125-127, doi.

37.HABSY, Bakhrudin All; SANTOSO, Hikmal Ramdhan Priyo; NURFIRDA, Ida, and PUTRI, Cindy Kartika. Motivation as a Key Role in Education (Motivasi sebagai Kunci Peran dalam Pendidikan, in Indonesian). *TSAQOFAH,* v. 4(2), , n. 2, p. 587-603, 2023.

38.YAKOVENKO, Yaroslava; BILYK, Maryna, and OLIINYK, Yevheniia V. The Transformative Impact of the Development of Artificial Intelligence on Employment and Work Motivation in Business in the Conditions of the Information Economy. *2022 IEEE 4th International Conference on Modern Electrical and Energy System (MEES)*, p. 01-06, 2022.

39.YURT, Eyup, and KASARCI, Ismail A Questionnaire of Artificial Intelligence Use Motives: A Contribution to Investigating the Connection between AI and Motivation. *International Journal of Technology in Education,* v. 7, n. 2, p. 308-325, 2024.

40.GUNAWAN, Hendra; AFRIYANI, Afriyani, and HARMA, Ramli. Unlocking Work Motivation: How the Role of Training and Career Development Effectiveness *Journal of Business and Management (IOSR-JBM),* v. 26, n. 9, p. 11-18, 2024.

41.ICHDAN, Dany Amrul. The effect of training, work environment, motivation, job satisfaction, and career satisfaction on employee productivity. *Annals of Management and Organization Research,* v. 6, n. 1, p. 57-69, 2024.

42.HITKA, Miloš; ĎURIAN, Jozef; LORINCOVÁ, Silvia, and DÚBRAVSKÁ, Bianka. Influence of selected macroeconomic indicators on employee motivation. 2021.

43.HEJAZI, Elaheh; SALEHNAJAFI, Mahsa, and AMANI, Javad. The mediating role of intrinsic motivation on the relationship between basic psychological needs and life satisfaction. *Contemporary Psychology,* v. 9, n. 2, p. 77-88, 2015.

44.ILESANMI, OA, and FAMOLU, G. The role of motivation in enhancing productivity in Nigeria. *European Journal of Business and Management, 8 (28),* v. 18, 2016.

45.BASKARAN, Shathees; LAY, Ho Sze; MING, Beh Sze, and MAHADI, Nomahaza. Technology adoption and employee's job performance: an empirical investigation. *International Journal of Academic Research in Economics and Management Sciences,* v. 9, n. 1, p. 78-105, 2020.

46.DAVIDOFF, Frank. Understanding contexts: how explanatory theories can help. *Implementation Science,* v. 14, n. 1, p. 23, 2019/03/06, 2019.

47.HAIR, Josep F.; BLACK, William C.; BABIN, Barry J., and ANDERSON, Rolph E. *Multivariate Data Analysis*. 8 ed., Hampshire, United Kingdom: Cengage, 2019.

48.CHANIAGO, Harmon; MUHARAM, Hari, and EFAWATI, Yen. Business Research Methods and Modeling (Metode Riset Bisnis dan Permodelan, in Indonesian). Efawati, Yen, ed., Edukasi Riset Digital, PT, p. 260, 2023.

49.SUGIYONO. *Qualitative Quantitative Research Methods and R & D (Metode Penelitian Kuantitatif Kualitatif dan R & D; in Indonesia)*. Bandung: Alfabeta, 2021.

50.ALSHAMSI, Mohammed Khalfan Obaid Alhosan; CHIK, Norlaila binti Abdullah, and BENLAHCENE, Abderrahmane. Influence Of Employee Integration, and Maintenance and Motivation on Employee Retention in the UAE Public Sector – Moderation of Technology and AI Adoption. *International Journal of Intellectual Human Resource Management (IJIHRM),* v. 4, n. 02, p. 57-66, 2023.

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