Examining Digital Egalitarianism through the Moderating Effect of Job Level on G2E Systems Adoption

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Abstract

To support budget efficiency and bureaucratic reform, while embodying the ASN "Adaptive" Core Value regarding technology, it is essential to evaluate the existing Government-to-Employee (G2E) systems in the Deputy of Economic Cooperation and Investment, Coordinating Ministry of Economic Affairs, Republic of Indonesia. In this context, the Sipentakel platform was developed to digitally integrate program and governance services. This study aims to evaluate the performance of Sipentakel by employing a hybrid framework that integrates the DeLone & McLean IS Success Model, the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Human-Organization-Technology (HOT) Fit model. Additionally, this study assesses the moderating role of Job Level on the relationship between Human Factors and Behavioral Intention. The analysis was performed using Partial Least Squares Structural Equation Modeling (PLS-SEM) on data from 52 system users. The findings indicate that Behavioral Intention to use the system is significantly driven by Human and Technology factors, whereas Organization factors and User Satisfaction do not demonstrate a significant effect. Furthermore, Net Benefits are primarily determined by Behavioral Intention. The Technology factor emerged as the most critical driver, suggesting that enhancing system and information quality is the most effective strategy for optimizing Sipentakel implementation. Notably, the assessment reveals that Job Level does not significantly moderate the influence of Human Factors on Behavioral Intention. This finding highlights a phenomenon of digital egalitarianism, indicating that user acceptance is driven by system utility rather than hierarchical position.

Keywords: DeLone and McLean, UTAUT, HOT-Fi, job level

Introduction

Bureaucratic reform, as a national priority agenda aimed at creating good governance, has accelerated the digitalization of government administrative services. As a main subject in the body of the Minister of Administrative and Bureaucratic Reform (PANRB) Regulation No. 9 of 2023, bureaucratic reform includes the strengthening of an integrated and comprehensive Electronic-Based Government System (SPBE) (Kementerian PANRB, 2023). The implementation of this SPBE is manifested in the achievement of the Bureaucratic Reform (RB) index through the SPBE index and the implementation level of the SPBE architecture policy on the strategic target of "The Realization of an Effective, Agile,

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and Collaborative Digital Government Governance," as it becomes an element of evaluation through the annual measurement of the bureaucratic reform index.

However, the Coordinating Ministry for Economic Affairs, the institution responsible for coordinating economic issues (Presiden Republik Indonesia, 2024), has not yet achieved an optimal bureaucratic reform score. Based on the results of the bureaucratic reform evaluation by the Ministry of Administrative and Bureaucratic Reform, which serves as the Coordinating Ministry's internal data, the achievement score of the Coordinating Ministry of Economic Affairs is 88.58, with a breakdown of a general RB score of 81.82 and a thematic RB of 6.76. The breakdown results from the general RB score related to SPBE are the implementation level of the SPBE architecture policy, valued at 3.00, and the SPBE index, valued at 4.00 out of a 5-point scale. This score is still not optimal to reach the aggregate RB target value of 90.77 in 2025. As a note, referring to the Minister of PANRB Regulation No. 8 of 2024, an RB index above 90.01 is required to propose a performance allowance adjustment to 100% (Kementerian PANRB, 2024). The suboptimality of the RB score could lead to a decrease in employee welfare due to the impossibility of proposing a performance allowance adjustment.

The implementation of bureaucratic reform through the implementation of the SPBE architecture policy and the SPBE index is the practical responsibility of all work units (Iswanto & Putra, 2023), which is then orchestrated by the Bureau of Performance Management and Cooperation, including the Deputy of Economic Cooperation and Investment at the Coordinating Ministry for Economic Affairs. As stipulated in Presidential Regulation No. 143 of 2024, the Coordinating Ministry of Economic Affairs coordinates issues in the economic sector, one of which relates to economic cooperation and investment, through the Deputy of Economic Cooperation and Investment (Presiden Republik Indonesia, 2024). Referring to the Regulation of the Coordinating Minister for Economic Affairs No. 15 of 2024 concerning the Organization and Work Procedure of the Coordinating Ministry for Economic Affairs, the provision of services and program support, including the implementation of bureaucratic reform and the management of information systems at the Deputy for Economic Cooperation and Investment, falls under the responsibility of the Deputy's Secretary. In order to strengthen SPBE implementation, which is a component of bureaucratic reform implementation (Iswanto & Putra, 2023), the Secretary of the Deputy Minister for Economic Cooperation and Investment developed a Sistem Pelayanan Program dan Tata Kelola (Sipentakel) that integrates program and governance services into a unified and integrated information system.

The Sipentakel information system contains program, governance, and other services. Program services include important matters in the deputy's program administration, covering budget planning and execution, including budget monitoring, completeness of financial accountability documents (SPJ), and performance agreements. Governance services include monitoring of key performance indicators (IKU), official correspondence management, to the documentation of performance appraisals and employee work targets. Other services in Sipentakel include add-on services that fall within the program and governance categories, such as scientific papers for functional policy analysts, proposals for study publications, and performance satisfaction surveys.

Until the time this research was conducted, there had been no effort to gather constructive feedback through an adequate performance evaluation of the Sipentakel information system, even though continuous and user-centric evaluation is key to the success of digital public service platforms (Weigl et al., 2024). The absence of this information system performance evaluation effort has the potential to cause budget inefficiencies and hinder efforts to improve the effectiveness of government system digitalization. The procurement of an information system that does not provide good net benefit value is certainly an inefficiency that contradicts Presidential Instruction (Inpres) No. 1 of 2025 concerning Expenditure Efficiency in the Implementation of the State Budget (APBN) and Regional Budget (APBD) for the 2025 Fiscal Year. This has the potential to become a finding by government internal control apparatus (the Financial and Development Supervisory Agency) and independent government auditors (the Supreme Audit Agency). The absence of an information system performance evaluation also has the potential to impact the performance assessment of the Deputy's Secretariat in the context of Key Performance Indicator (IKU) and bureaucratic reform index evaluations. Both of these are important indicators of an organization's performance and will certainly affect all employees at the Deputy for Economic Cooperation and Investment.

As aligned with the effort for continuous improvement as an implementation of the core value of State Civil Apparatus (ASN) Berakhlak in the value of service orientation (Syaputra et al., 2023) and the strengthening of bureaucratic reform, the Sipentakel information system needs to undergo a performance evaluation. The practice of information system evaluation in the public sector has become a standard to ensure service quality. In Indonesia, various studies have been conducted to measure the performance and user satisfaction of government information systems. A study conducted by Hidayatullah et al. in 2022 measured the success rate of the PeduliLindungi application using the DeLone & McLean IS Success Model evaluation method. This method assesses system success by measuring success dimensions and their relationship with system quality, information quality, user satisfaction, and net benefit (Hidayatullah et al., 2022). The performance of an information system can also be evaluated from the perspective of user acceptance using the Unified Theory of Acceptance and Use of Technology (UTAUT) method, as in the research conducted by Marsintauli et al. (2023) which evaluated the acceptance of the government's E-Invoicing Web system. The UTAUT method is used to measure factors such as performance expectancy and social influence that affect users' behavioral intentions towards a technology (Marsintauli & Sari, 2023; Omol & Ondiek, 2021). The alignment between users, organization, and technology can also be an evaluation perspective through the Human Organization Technology (HOT) Fit method. The HOT-Fit method measures the success of an information system by evaluating three main factors: humans as users, the organization, and technology, as well as the fit of the relationships among the three in generating net benefits (Arsyad & Sfenrianto, 2023). Research with this approach was conducted by Rifial et al. (2025) in the evaluation of the Hospital Management Information System (SIMRS) at Madani Regional General Hospital in Palu. The study concluded that the system usage factor is the most dominant factor influencing the utilization and net benefits of the SIMRS (Rifial et al., 2025).

In the context of evaluating the performance of the Sipentakel information system, the required evaluation perspectives may include the performance success of the information system, the acceptance of target users towards the use of technology within the information system, and the alignment between human resources at the Deputy of Economic Cooperation and Investment work unit with the organization and the applied technology. The performance success dimension is necessary to directly evaluate the system's performance so that technical improvements can be made. The acceptance of target users, in this case, the employees at the Deputy's office, needs to be evaluated to observe the behavioral shift of employees in accepting technology that is in line with the adaptive value in the ASN BerAKHLAK core values. The dimension of alignment between employees, organization, and technology needs to be evaluated to assess the support of the organization (Secretariat of Deputy of Economic Cooperation and Investment) and its relationship with employees and technology in viewing the Sipentakel information system.

To comprehensively study these three dimensions, the most appropriate approach is to integrate several theoretical frameworks with complementary advantages in success, acceptance, and alignment models through a combination of the DeLone & McLean, UTAUT, and HOT-Fit evaluation models. This integration method has been successfully adopted by Dewangga et al. in 2025 in evaluating the LPD Mobile application in Bali. The DeLone & McLean, UTAUT, and HOT-Fit evaluation model is an integrated model that can provide a better representation for evaluating from the aspects of success, acceptance, and alignment (Dewangga et al., 2025). DeLone & McLean is specifically designed to evaluate the success of a system. This model measures various variables such as system quality, information quality, and service quality, which then impact the intention to use, user satisfaction, and ultimately net benefit (Purwati et al., 2021). From the perspective of acceptance, the UTAUT method has high explanatory power to explain technology acceptance (Almaiah et al., 2019; Xue et al., 2024). UTAUT identifies four main factors that influence behavioral intention and use, namely performance expectancy, effort expectancy, social influence, and facilitating conditions (Nugroho et al., 2023). Meanwhile, HOT-Fit is used to evaluate the alignment or fit of the relationship between three crucial components: human, organization, and technology (Kumorowani & Mulyanti, 2023).

Previous evaluation studies utilizing these frameworks have predominantly focused on Business-to-Consumer (B2C) or Government-to-Citizen (G2C) applications, where technology adoption is largely voluntary and users operate outside of a formal hierarchical structure (Dewangga et al., 2025). A

significant research gap exists in evaluating internal, mandatory Government-to-Employee (G2E) systems within highly bureaucratic environments. In such settings, users are bound by structural hierarchies and job levels, which may fundamentally alter the dynamics of technology acceptance (Kuciapski, 2019). To address this gap, this study pioneers a comprehensive internal evaluation of a mandatory G2E system (Sipentakel) by integrating the DeLone & McLean, UTAUT, and HOT-Fit models. Furthermore, it specifically investigates the moderating role of hierarchical job levels to determine if structural rank influences digital acceptance in a modern bureaucracy (Kuciapski, 2019).

Based on the aforementioned problem background, to provide an adequate performance evaluation, especially in supporting bureaucratic reform and budget efficiency, this study will evaluate the performance of the Sipentakel information system of the Deputy of Economic Cooperation and Investment from the aspects of success, acceptance, and alignment through the integrated method of DeLone & McLean, UTAUT, and HOT-Fit to identify areas that require improvement and provide strategic recommendations for the relevant work unit. Therefore, this study aims to answer the following research questions: (1) How does the Sipentakel information system perform based on the integrated DeLone & McLean, UTAUT, and HOT-Fit framework? (2) What strategic recommendations can be formulated for the improvement and development of the system based on these findings?

Literature Review

Information System Performance Evaluation Models

The evaluation of information system performance is a fundamental process used to assess the condition of an implemented system, justify IT investments, identify areas requiring improvement, and provide data-driven foundations for managerial decision-making and organizational learning (Khairani et al., 2022). A widely accepted and foundational framework in this domain is the DeLone and McLean (D&M) Information Systems Success Model. Originally grounded in Shannon and Weaver's communication theory, the model was expanded to provide a comprehensive structure for measuring system success (Meilani et al., 2020). The updated 2003 D&M model operates on six primary dimensions: system quality, information quality, service quality, intention to use/use, user satisfaction, and net benefits (Rahmatullah et al., 2025). System quality assesses the technical characteristics of the system, such as ease of use and reliability, which are assumed to directly enhance user satisfaction and usage intention (Purwati et al., 2021). Information quality focuses on the accuracy, relevance, and completeness of the system's output, while service quality measures the responsiveness and assurance provided by IT support (Meilani et al., 2020). Although the D&M model allows researchers to systematically diagnose system strengths and weaknesses (Putri et al., 2021), it is limited in its ability to explain the psychological antecedents and individual perceptions that drive initial user acceptance.

To address the psychological and behavioral aspects of technology adoption, the Unified Theory of Acceptance and Use of Technology (UTAUT) model offers a robust framework designed to explain individuals' intentions and actual use behaviors (Purwanto & Loisa, 2020; Xue et al., 2024). Synthesized from eight prior technology acceptance theories by Venkatesh et al., the UTAUT model evaluates adoption through four main determinants: performance expectancy, effort expectancy, social influence, and facilitating conditions (Nugroho et al., 2023). While performance expectancy, effort expectancy, and social influence theoretically shape the behavioral intention to use a technology, facilitating conditions directly affect actual use behavior (Purwanto & Loisa, 2020). Despite its comprehensive approach to behavioral antecedents, the UTAUT model's primary limitation lies in its lack of explicit evaluation of intrinsic system qualities—such as technical reliability and information accuracy—which are critical for long-term satisfaction and sustainable success.

Offering an alternative perspective that emphasizes alignment, the Human-Organization-Technology Fit (HOT-Fit) model posits that the success of an information system depends heavily on the harmonization of human, organizational, and technological components. Introduced by Yusof et al., the HOT-Fit framework was developed to assess systems by evaluating not only technical aspects but also user contexts and organizational environments (Saputro et al., 2020). The technology component mirrors the D&M quality metrics (system, information, and service quality) (Ayuardini & Ridwan, 2019), while the human component evaluates system use and user satisfaction. Finally, the

organizational component accounts for internal structures, such as management support, and external environmental factors (Sari et al., 2016). Together, these components are evaluated based on their collective influence on achieving optimal net benefits.

Integration of DeLone & McLean, UTAUT, and HOT-Fit

In information systems research, relying on a single theoretical model often presents inherent limitations when attempting to capture the multifaceted phenomenon of system success (Omol & Ondiek, 2021). For instance, while the D&M model is highly reliable for post-implementation evaluation, it lacks a strong focus on the contextual factors driving initial user acceptance. Conversely, the UTAUT model excels at predicting behavioral intentions but does not deeply measure intrinsic system quality or long-term organizational impacts. Meanwhile, the HOT-Fit model offers a holistic perspective on alignment, though its concept of "fit" can sometimes remain abstract in practical application. Consequently, integrating the D&M, UTAUT, and HOT-Fit models provides a highly comprehensive framework capable of simultaneously assessing user acceptance, implementation success, and contextual alignment (Dewangga et al., 2025; Pamugar et al., 2014).

Structurally, this integrated approach synthesizes the dimensions of the three models into a cohesive, parsimonious framework. Adopting the architectural foundation of the HOT-Fit model, independent variables are categorized into human, technology, and organization factors. The human factor consistently integrates the core constructs from the UTAUT model, specifically performance expectancy, effort expectancy, and social influence. The technology factor adopts the quality dimensions from the D&M model, which include information quality, system quality, and service quality. Furthermore, the organization factor merges the facilitating conditions construct from UTAUT with contextual organizational variables, such as organizational support, which have proven crucial in shaping system success (Dewangga et al., 2025; Pamugar et al., 2014). Together, these three primary factors are hypothesized to influence the mediating variables—behavioral intention (derived from UTAUT) and user satisfaction (derived from D&M)—which ultimately culminate in determining the overall net benefits of the information system.

Conceptual Model

The research is built upon an integrated conceptual framework that synthesizes dimensions from three perspectives of information system evaluation models: the DeLone & McLean IS Success Model, the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Human-Organization-Technology (HOT) Fit model. This integrated model, adapted from Dewangga et al. (2025), categorizes antecedent variables into three core factors: the Human Factor (comprising Performance Expectancy, Effort Expectancy, and Social Influence), the Technology Factor (including Information Quality, System Quality, and Service Quality), and the Organization Factor (integrating Facilitating Conditions and Organization Support) (Dewangga et al., 2025). These factors are hypothesized to influence the central variables of Behavioral Intention and User Satisfaction, which in turn are expected to affect the Net Benefits.

While the foundational integration of these three models is adapted from Dewangga et al. (2025), this study introduces a theoretical modification by incorporating Job Level (JL) as a moderating variable. This modification aims to investigate the phenomenon of digital egalitarianism within a hierarchical bureaucratic context (Kuciapski, 2019). The Job Level stated as a moderating variable on the relationship between the Human Factor and Behavioral Intention. Job Level is proposed as a moderating variable because hierarchical positions in government organizations often correlate with different administrative tasks, experiences, and access to resources. As suggested by Kuciapski (2019), the type of job position can significantly influence technology acceptance (Kuciapski, 2019). Therefore, it is hypothesized that a hierarchical job level may moderate the influence of the Human Factor on Behavioral Intention (Kuciapski, 2019). The conceptual workflow illustrated as in Figure 1.

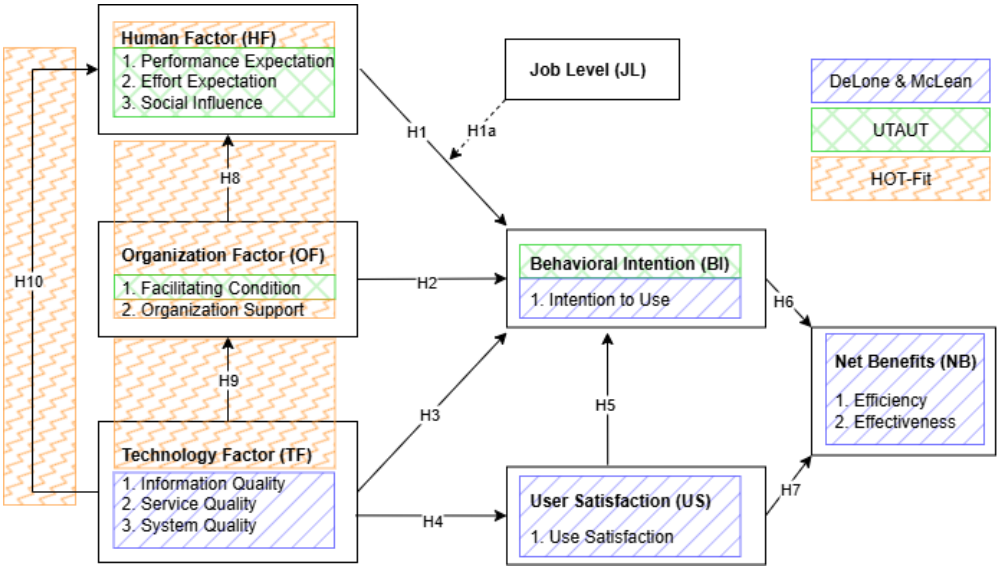


Figure 1. Proposed Conceptual Model

Based on the structural equation model depicted in Figure 1, this study incorporates six latent variables and one moderating variable to assess the causal relationships among constructs. The Technology Factor serves as the primary exogenous variable, hypothesized to influence the Human Factor, Organization Factor, Behavioral Intention, and User Satisfaction. Conversely, the endogenous variables include the Human Factor, Organization Factor, User Satisfaction, Behavioral Intention, and Net Benefits (Apsari et al., 2022; Dewangga et al., 2025; Pamugar et al., 2014). Additionally, Job Level is proposed as a moderating variable to examine whether a higher hierarchical position strengthens the positive influence of the Human Factor on Behavioral Intention. Finally, Net Benefits functions as the ultimate dependent variable, aggregating the comprehensive system assessment derived from the integrated DeLone & McLean, UTAUT, and HOT-Fit frameworks. The structural model was subsequently analyzed through a two-stage assessment process.

Based on the integrated theoretical framework of DeLone & McLean, UTAUT, and HOT-Fit as illustrated in Figure 1, this study proposes eleven hypotheses to evaluate the Sipentakel system, as described in Table 1.

Table 1. Hypothesis and Its Description

Hypothesis		**Description**
H_1	Human Factor has a positive and significant effect on Behavioral Intention.	The Human Factor encompasses performance expectancy, effort expectancy, and social influence, which act as direct determinants of behavioral intention. Consistent with Marsintauli et al. (2023) and Dewangga et al. (2025), these elements, particularly the expectation of improved job performance, significantly drive users' intent to adopt a system (Dewangga et al., 2025; Marsintauli et al., 2023).
H_{1a}	Job Level moderates the relationship between Human Factor and Behavioral Intention.	Hierarchical job positions correlate with varying administrative responsibilities, experiences, and resource access. As posited by Kuciapski (2019), the type of job position significantly influences technology acceptance (Kuciapski, 2019). Therefore, Job Level is proposed to moderate the impact of the Human Factor on Behavioral Intention to observe digital egalitarianism within bureaucracies.
H_2	Organization Factor has a positive and significant effect on Behavioral Intention.	The Organization Factor reflects the availability of technical resources, helpdesks, and management backing through facilitating conditions and organizational support. Adequate facilities and leadership support enhance users' confidence and their subsequent

Hypothesis		Description
		intention to utilize the technology (Marsintauli et al., 2023; Pamugar et al., 2014).
H_3	Technology Factor has a positive and significant effect on Behavioral Intention.	The Technology Factor represents intrinsic system qualities, including information, system, and service quality. High technical reliability and accurate outputs create positive user perceptions. Akbar & Fajar (2024) demonstrate that superior system and information quality significantly enhances the behavioral intention to use the system (Akbar & Fajar, 2024).
H_4	Technology Factor has a positive and significant effect on User Satisfaction.	System reliability, ease of access, and comprehensive information are prerequisites for user gratification. Studies confirm that high technology factor qualities directly and positively affect overall user satisfaction (Akbar & Fajar, 2024; Dewangga et al., 2025).
H_5	User Satisfaction has a positive and significant effect on Behavioral Intention.	User Satisfaction reflects the affective feedback following system interaction. Research by Dewangga et al. (2025) and Kurnianto et al. (2019) establishes that users who are satisfied with a system's interface and performance exhibit a stronger behavioral intention for continued and sustainable use (Dewangga et al., 2025; S. Kurnianto et al., 2019).
H_6	Behavioral Intention has a positive and significant effect on Net Benefits.	Net Benefits represent the ultimate positive impacts, such as improved operational efficiency, derived from system implementation. High usage intention drives actual adoption, which in turn realizes these benefits. Studies by Akbar & Fajar (2024) and Dewangga et al. (2025) validate that behavioral intention is a significant predictor of net benefits (Akbar & Fajar, 2024; Dewangga et al., 2025).
H_7	User Satisfaction has a positive and significant effect on Net Benefits.	According to the DeLone & McLean model, the realization of organizational and individual impacts is heavily dependent on user satisfaction. Consistent with Akbar & Fajar (2024) and Dewangga et al. (2025), satisfied users are more likely to achieve and report operational net benefits (Akbar & Fajar, 2024; Dewangga et al., 2025).
H_8	Organization Factor has a positive and significant effect on Human Factor.	The HOT-Fit framework emphasizes the necessary alignment between human and organizational components. As stated by Apsari et al. (2022) and Arsyad & Sfenrianto (2023), robust organizational support and strategic implementation directly influence human readiness and performance expectations (Apsari et al., 2022; Arsyad & Sfenrianto, 2023).
H_9	Technology Factor has a positive and significant effect on Organization Factor.	Technological quality shapes organizational capabilities. Arsyad & Sfenrianto (2023) and Apsari et al. (2022) highlight that the implementation of high-quality technology significantly strengthens organizational support systems and facilitating conditions (Apsari et al., 2022; Arsyad & Sfenrianto, 2023).
H_{10}	Technology Factor has a positive and significant effect on Human Factor.	User productivity and readiness are heavily influenced by their fit with the provided technology. Apsari et al. (2022) and Arsyad & Sfenrianto (2023) assert that superior system and information quality positively influences human expectations regarding performance and effort (Apsari et al., 2022; Arsyad & Sfenrianto, 2023).

Methodology

Research Design

This study employs a quantitative approach with a causal explanatory design (Richter et al., 2022). While primary data was collected via questionnaires, unstructured interviews and direct observations were utilized exclusively as supplementary methods to contextualize and enrich the interpretation of the quantitative findings, rather than constituting a formal mixed-methods design (Dewangga et al., 2025). The research evaluates the impact of independent variables—specifically human, organization, and technology factors—on dependent variables, including behavioral intention, user satisfaction, and net benefits, based on the integrated DeLone & McLean, UTAUT, and HOT-Fit models. The population for this study consists of 100 government employees at the Deputy for International Economic Cooperation and Investment who interact with the Sipentakel information system across various work units. A purposive sampling technique was utilized to select respondents based on specific criteria aligned with the research objectives, ensuring that the participants chosen are highly relevant and capable of providing accurate diagnostic data regarding the system's performance (Ahmed, 2024; Dewangga et al., 2025; Winarno, 2013).

Data Collection

Primary data was collected through an online questionnaire distributed via Google Forms during September 2025, utilizing a combination of closed and open-ended questions. A 4-point Likert scale (ranging from Strongly Disagree to Strongly Agree) was applied to the closed questions to explicitly avoid the central tendency effect, preventing respondents from selecting a neutral middle option (Dewangga et al., 2025). Open-ended questions were included to gather in-depth qualitative data regarding specific issues, critiques, and suggestions. To enrich and validate the quantitative findings, interviews were conducted with personnel involved in Sipentakel's design and management, alongside direct observations of user interactions with the system's interface. Furthermore, secondary data was gathered through a systematic literature review of relevant scientific journals, books, and regulations to build a strong theoretical foundation. Prior to widespread distribution, an Aiken's V test was conducted to ensure the readability and validity of the research instrument (B. Kurnianto & Sarwono, 2023). Following the "10-times rule" for partial least squares structural equation modeling (PLS-SEM), the minimum sample size required was determined to be 50 respondents, calculated as ten times the maximum number of structural paths (five) directed at the Behavioral Intention construct (J. F. Hair et al., 2021).

The population for this study consisted of 100 government employees at the Deputy of Economic Cooperation and Investment who use the Sipentakel information system. A sample of 52 respondents was selected using a purposive sampling technique to ensure that the participants were directly relevant to the research objectives (Ahmed, 2024; Winarno, 2013). The sample size adheres to the 10-times rule recommended for PLS-SEM (J. F. Hair et al., 2021). The study involved a sample of 52 respondents representing all work units within the Deputy of Economic Cooperation and Investment, with data collected via an online questionnaire. The demographic analysis focused on work unit, tenure, and specifically job level, as the latter is hypothesized and analyzed as a crucial moderating variable in the relationship between the human factor and behavioral intention.

Prior to participation, respondents were provided with an informed consent form integrated into the first page of the online questionnaire. This form explicitly stated the academic purpose of the study, guaranteed the confidentiality and anonymity of the respondents' data, and emphasized that participation was entirely voluntary.

The following in Table 2 are the respondents' overview based on work unit, job level, and work period.

Table 2. Respondents' Overview

	Respondent	Percentage (%)
Work Units		
Secretariat of the Deputy	13	25.0
Assistant Deputy of Bilateral Economic Cooperation	8	15.4
Assistant Deputy of Regional Economic Cooperation	7	13.5
Assistant Deputy of Multilateral Economic Cooperation	8	15.4
Assistant Deputy of Investment and Downstreaming Acceleration	10	19.2
Assistant Deputy of Macro and Fiscal Economy	6	11.5
Job Levels		
Echelon II	1	1.9
Echelon III or equivalent	3	5.8
Echelon IV or equivalent	9	17.3
Staffs	39	75.0
Work Period		
< 5 years	13	25.0
5–10 years	27	51.9
11–20 years	7	13.5
> 20 years	5	9.6

Data Analysis

The data analysis in this study was conducted using Structural Equation Modeling (SEM) with a Partial Least Squares (PLS) approach, known as PLS-SEM. This method was selected due to its capability to analyze complex research models and its primary focus on prediction (Richter et al., 2022). The conceptual model built in WarpPLS 8.0 as illustrated on Figure 2.

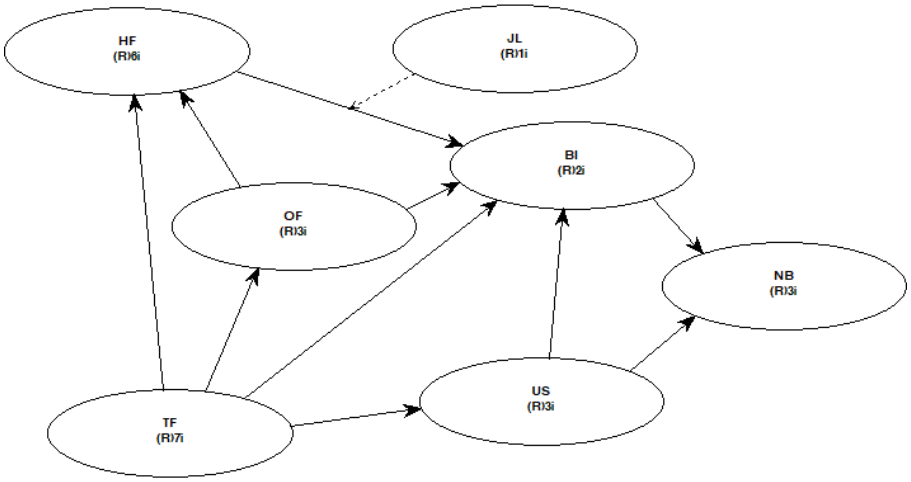


Figure 2. Conceptual Model Built in WarpPLS 8.0

The analysis process was executed using WarpPLS 8.0 software with Stable3 p-value calculation algorithm (Kock, 2024), encompassing two main stages: the evaluation of the measurement model (outer model) and the structural model (inner model).

The analysis of the measurement model (outer model) was conducted to ensure the validity and reliability of the constructs. The evaluation was based on the following criteria:

1. **Convergent Validity**

   Convergent validity assesses the extent to which a measure correlates positively with alternative measures of the same construct. It is evaluated using outer loadings and Average Variance Extracted (AVE). According to Hair et al. (2021), an indicator is considered valid if its outer loading value exceeds 0.708, and the construct's AVE value is greater than 0.50 (J. F. Hair et al., 2021).

2. **Discriminant Validity**

   Discriminant validity ensures that a construct is empirically distinct from other constructs in the structural model. This study employs the Heterotrait-Monotrait (HTMT) ratio of correlations, which is considered superior to the Fornell-Larcker criterion. To establish discriminant validity, the HTMT value should be below the threshold of 0.90 (J. F. Hair et al., 2021).

3. **Composite Reliability and Cronbach's Alpha**

   Reliability measures the consistency of the instrument. This study uses Composite Reliability and Cronbach's Alpha. A construct is deemed reliable if both values exceed 0.70 (J. F. Hair et al., 2021).

After confirming the validity and reliability of the measurement model, the structural model was evaluated to assess the causal relationships between constructs and the model's predictive power (J. F. Hair et al., 2021). This evaluation focuses on the Coefficient of Determination (R^2), Predictive Relevance (Q^2), Effect Size (f^2), and the significance of path coefficients.

Research Instruments

The structural model comprises six latent variables and one moderating variable, Job Level, which assesses the impact of job rank on the relationship between Human Factor and Behavioral Intention. The sole exogenous variable, Technology Factor, consists of 7 indicators measuring information quality, system quality, and service quality. The endogenous variables are operationalized as follows: Human Factor includes 6 indicators measuring performance expectancy, effort expectancy, and social influence; Organization Factor includes 3 indicators assessing facilitating conditions and organizational support; Behavioral Intention is measured by 2 indicators focused on intention to use; User Satisfaction utilizes 3 indicators ; and Net Benefits acts as the peak aggregating variable, measured by 4 indicators evaluating efficiency and effectiveness.

The measurement instruments were adapted from validated scales in prior studies, including Dewangga et al. (2025), Pamugar et al. (2014), and Apsari et al. (2022). The complete list of indicators and questionnaire items is provided in Appendix A.

Results

Measurement Model Evaluation (Outer Model)

The outer model evaluation aims to assess the validity and reliability of each construct used in the research. This process involves three key assessments: convergent validity, discriminant validity, and composite reliability (J. F. Hair et al., 2021).

Convergent Validity

Convergent validity measures the extent to which a construct explains the variance of its indicators (J. F. Hair et al., 2021). The assessment of convergent validity for reflective measurement models is based on the correlation between item scores and construct scores. The primary criteria used are the outer loading value of each indicator and the Average Variance Extracted (AVE). An indicator is considered reliable if it has an AVE value above 0.50 and an outer loading above 0.708, indicating that the construct is able to explain more than 50% of the indicator's variance (J. Hair & Alamer, 2022).

In the initial model analysis, the study included all hypothesized indicators. However, the evaluation revealed that several indicators did not meet the validity criteria. Specifically, they had outer loadings below 0.708, AVE values lower than other indicators in the construct, or contributed to high HTMT values and low internal consistency. Consequently, a stepwise removal of indicators was performed (J. F. Hair et al., 2021). The indicators excluded from the model were HF1, HF3, OF3, TF2, TF4, TF5, TF6, US1, US2, and NB3.

The convergent validity test result after a stepwise removal of indicator is as ilustrated on the Table 3.

Table 3. Outer Loading Test Result

	JF	HF	OF	TF	BI	US	NB	JL*HF
JL	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HF2	-0.336	(0.800)	-0.076	0.003	0.057	-0.516	0.062	0.329
HF4	0.146	(0.828)	-0.232	0.132	0.191	0.049	-0.132	-0.108
HF5	0.065	(0.857)	0.053	0.100	0.059	-0.045	0.046	-0.039
HF6	0.118	(0.785)	0.264	-0.251	-0.324	0.523	0.026	-0.179
OF1	-0.007	-0.109	(0.909)	-0.113	0.446	0.096	-0.368	-0.033
OF2	0.007	0.109	(0.909)	0.113	-0.446	-0.096	0.368	0.033
TF1	-0.067	-0.212	-0.055	(0.933)	-0.189	0.139	0.326	0.034
TF3	0.079	-0.032	0.038	(0.879)	0.275	0.032	-0.171	-0.129
TF7	-0.008	0.256	0.020	(0.882)	-0.074	-0.179	-0.174	0.093
BI1	-0.039	0.081	0.049	0.179	(0.942)	-0.261	-0.048	0.022
BI2	0.039	-0.081	-0.049	-0.179	(0.942)	0.261	0.048	-0.022
US3	0.000	0.000	0.000	0.000	0.000	-1.000	0.000	0.000
NB1	0.046	0.155	0.030	-0.074	-0.163	0.087	(0.962)	-0.049
NB2	-0.046	-0.155	-0.030	0.074	0.163	-0.087	(0.962)	0.049
JL*HF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-1.000

Based on the analysis of the outer loadings presented in Table 3, all values have met the threshold of being above 0.708. The exceptionally high outer loading value (-1.000) is attributed to the fact that the construct consists of only one indicator (single-item construct) as the User Satisfaction consists only one indicator, justified by Hair that satisfaction-related construct oftenly being a single-item construct (J. F. Hair et al., 2021). Following the indicator removal process, the User Satisfaction (US) construct was reduced to a single-item construct. This is methodologically acceptable in PLS-SEM, as Hair et al. (2021) justify that constructs related to general satisfaction are often robustly and appropriately measured as single-item constructs without compromising validity (J. F. Hair et al., 2021).

Therefore, the outer loading test results demonstrate that the model fulfills the convergent validity requirements, allowing for the subsequent assessment of the AVE values.

Based on the AVE analysis results presented in Table 4, all AVE values have exceeded the 0.50 threshold. Therefore, the model testing results based on primary data are concluded to fulfill the convergent validity requirements.

Table 4. AVE Test Result

	JL	HF	OF	TF	BI	US	NB	JL*HF
JL	-1.000	-0.016	0.312	0.095	0.015	-0.158	0.163	0.241
HF	-0.016	(0.818)	0.393	0.761	0.738	0.667	0.688	-0.010
OF	0.312	0.393	(0.909)	0.459	0.288	0.281	0.398	-0.012
TF	0.095	0.761	0.459	(0.898)	0.728	0.723	0.687	0.067
BI	0.015	0.738	0.288	0.728	(0.942)	0.645	0.788	0.030
US	-0.158	0.667	0.281	0.723	0.645	-1.000	0.501	0.125
NB	0.163	0.688	0.398	0.687	0.788	0.501	(0.962)	0.008
JL*HF	0.241	-0.010	-0.012	0.067	0.030	0.125	0.008	-1.000

Discriminant Validity

Discriminant validity measures the extent to which a construct is empirically distinct from other constructs in the structural model. The recommended method for this assessment is the Heterotrait-Monotrait (HTMT) ratio of correlations (J. F. Hair et al., 2021). The HTMT criterion is considered more reliable than the Fornell-Larcker criterion and cross-loadings (J. F. Hair et al., 2021). The suggested threshold for HTMT is below 0.90 to ensure distinctiveness (J. F. Hair et al., 2021). The HTMT test results are presented in the Table 5.

Table 5. HTMT Test Result

	JF	HF	OF	TF	BI	US	NB	JL*HF
JF								
HF								
OF		0.485						
TF		0.888	0.551					
BI		0.863	0.347	0.830				
US								
NB		0.783	0.466	0.762	0.878			
JL*HF								

Based on the discriminant validity test results on Table 5, the HTMT indicated that all values in the adjusted model were within the acceptable range (< 0.90), confirming that the constructs are valid and distinct.

Composite Reliability and Cronbach's Alpha

Composite reliability measures the internal consistency of the indicators forming a construct. This test ensures that all indicators consistently measure the same construct. The metrics used are Composite Reliability and Cronbach's Alpha. A construct is considered to have good reliability if the values of Composite Reliability and Cronbach's Alpha are greater than 0.70 (J. F. Hair et al., 2021). These two indicators are used complementarily because Cronbach's Alpha tends to be conservative, producing lower reliability values, while Composite Reliability can be optimistic (J. F. Hair et al., 2021). Furthermore, the composite reliability and Cronbach's Alpha test result is as presented in Table 6.

Table 6. Composite Reliability and Cronbach's Alpha Test Result

	JF	HF	OF	TF	BI	US	NB	JL*HF
Composite Reliability	1.000	0.890	0.905	0.926	0.941	1.000	0.962	1.000
Cronbach's Alpha	1.000	0.835	0.791	0.880	0.874	1.000	0.920	1.000

Based on the assessment of Composite Reliability and Cronbach's Alpha presented in Table 6, all constructs generally fall within the acceptable thresholds. Notably, the Net Benefits (NB) construct exhibited a Composite Reliability value exceeding 0.95 (with a standard deviation of 0.012), while its corresponding Cronbach's Alpha remained within the excellent category.

It is important to acknowledge that reliability metrics can sometimes be overstated; therefore, a robust assessment requires a simultaneous examination of both Composite Reliability and Cronbach's Alpha (J. F. Hair et al., 2021). However, in practical PLS-SEM applications, a Composite Reliability score exceeding 0.95 remains valid and acceptable, as supported by recent empirical findings from (Rahmatullah et al., 2025). Consequently, based on the primary data analysis, it can be concluded that the measurement model satisfies the requirements for internal consistency reliability.

Structural Model Evaluation (Inner Model)

The structural model evaluation was conducted to assess the predictive capabilities of the model and the relationships between constructs. This assessment encompasses the coefficient of determination (R^2), predictive relevance (Q^2), effect size (f^2), and the significance of path coefficients.

Coefficient of Determination (R^2)

The R^2 value measures the model's predictive power, indicating the proportion of variance in the endogenous variable explained by the exogenous variables (J. F. Hair et al., 2021). According to Hair et al. (2021), R^2 values of 0.75, 0.50, and 0.25 are interpreted as strong, medium, and weak, respectively (J. F. Hair et al., 2021). Futhermore, the R^2 values are as presented in Table 7.

Table 7. Coefficient of Determination (R^2) Value

	JL	HF	OF	TF	BI	US	NB	JL*HF
R-squar	-	0.609	0.244	-	0.882	0.522	0.635	-
Adj, R-	-	0.593	0.229	-	0.869	0.513	0.620	-
Interpretation	-	Medium	Weak	-	Strong	Medium	Medium	-

Based on the coefficient of determination value presented in the Table 7, the analysis results demonstrate that the model possesses substantial predictive accuracy for Behavioral Intention (R^2= 0.882), indicating that 88.2% of the variance in intention is explained by the predictors. Meanwhile, the constructs of Net Benefits (R^2= 0.635) and User Satisfaction (R^2= 0.522) fall into the moderate category.

Predictive Relevance (Q^2)

To further validate the model's predictive accuracy, the Stone-Geisser Q^2 test was employed. This metric evaluates the model's capability to reconstruct observed values and parameter estimates (Ratnasari et al., 2022). A Q^2 value greater than zero indicates that the model has predictive relevance for a specific endogenous construct (J. F. Hair et al., 2021). Futhermore, the Q^2 values are as presented in Table 8.

Table 8. Predictive Relevance (Q^2) Value

	JL	HF	OF	TF	BI	US	NB	JL*HF
Q-squar	-	0.609	0.233	-	0.745	0.534	0.631	-

Based on the predictive relevance value presented in Table 8, the results confirm that all endogenous variables exhibit values above zero, thereby confirming the model's predictive relevance.

Effect Size (f^2)

The effect size (f^2) assesses the relative impact of a predictor construct on an endogenous construct regarding the f^2 value. Hair and Alamer (2022) classify f^2 values of 0.02, 0.15, and 0.35 as representing

small, medium, and large effects, respectively (J. Hair & Alamer, 2022). Futhermore, the f^2 values are as presented in Table 9.

Table 9. Effect Size (f^2) Value

No	Constructs Relation	f^2	Interpretation
1	HF → BI	0.302	Medium
1_a	JL.HF → BI	0.038	Small
2	OF → BI	0.025	Small
3	TF → BI	0.474	Large
4	TF → US	0.522	Large
5	US → BI	0.044	Small
6	BI → NB	0.631	Large
7	US → NB	0.005	Very Small
8	OF → HF	0.073	Small
9	TF → OF	0.244	Medium
10	TF → HF	0.536	Large

Based on the effect size value presented in Table 9, the analysis reveals varying degrees of impact, for instance, the Technology Factor demonstrates a large effect on both Behavioral Intention (f^2 = 0.474) and User Satisfaction (f^2 = 0.522). In contrast, the Organization Factor shows a small effect on Behavioral Intention (f^2 = 0.025).

Path Coefficients and Hypothesis Testing

Hypothesis testing was performed by examining the path coefficients and their corresponding significance levels. The significance was determined using the Stable3 algorithm in WarpPLS 8.0, a quasi-parametric approach based on exponential smoothing for p-value calculation (Kock, 2024). Hypothesis testing was conducted applying a 5% significance level (α = 0.05) using a two-tailed approach, with a critical t-value of 1.960 (J. F. Hair et al., 2021). A relationship between constructs is considered statistically significant if the *p-value* is less than the significance level of 0.05 (J. F. Hair et al., 2021). The specific results of the path analysis, which serve as the basis for accepting or rejecting the proposed hypotheses, are detailed in Table 10.

Table 10. Inner Model Calculation

No	Construct Relation	*p-value*	*Path Coefficient*	*t-value*	Hypothesis Status
1	HF → BI	<0.001	0.407	3.423	Supported
1_a	JL.HF → BI	0.123	0.153	1.172	Rejected
2	OF → BI	0.266	0.085	0.630	Rejected
3	TF → BI	<0.001	0.571	5.170	Supported
4	TF → US	<0.001	0.723	6.844	Supported
5	US → BI	0.309	0.068	0.500	Rejected
6	BI → NB	<0.001	0.791	7.687	Supported
7	US → NB	0.473	0.009	0.068	Rejected
8	OF → HF	0.122	0.154	1.177	Rejected
9	TF → OF	<0.001	0.494	4.295	Supported
10	TF → HF	<0.001	0.687	6.542	Supported

In summary, the structural model analysis indicates that hypotheses H_1, H_3, H_4, H_6, H_9, and H_{10} were supported, whereas H_{1a}, H_2, H_5, H_7, and H_8 were rejected. The path coefficients across the hypothesized relationships exhibited considerable variation. The finalized structural relationships following the analysis are illustrated in Figure 3. Note: Solid green lines indicate accepted hypotheses; thin red lines indicate rejected hypotheses.

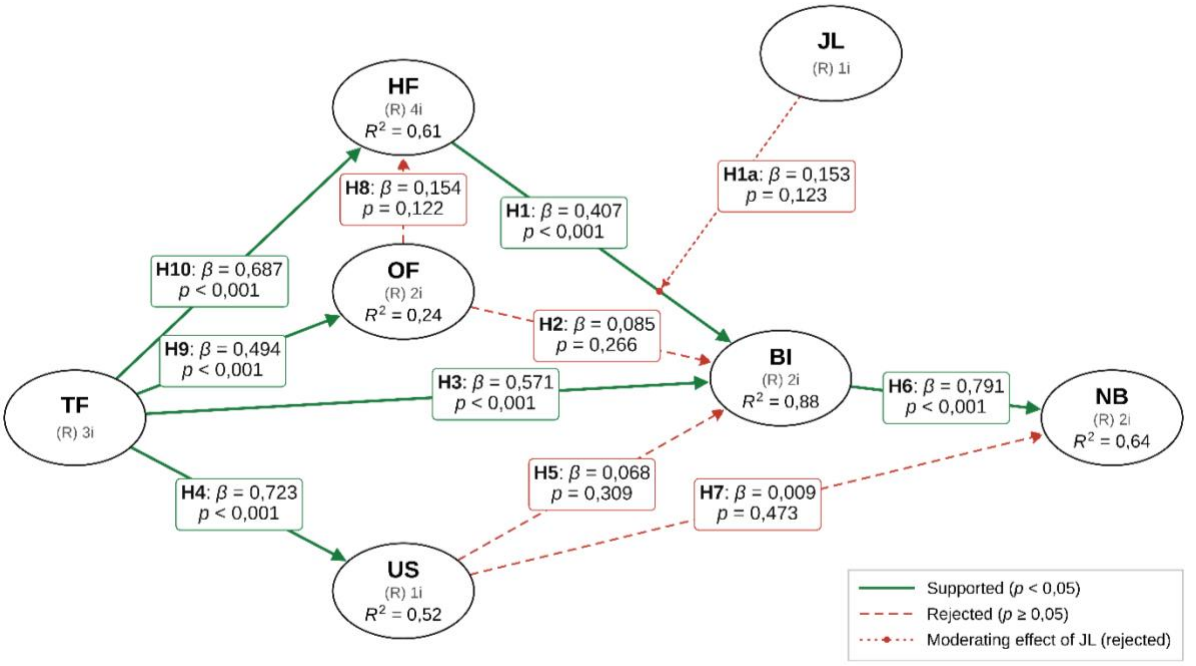


Figure 3. Structural Model Result

Discussions

The study highlights that Human Factors and Technology Factors significantly influence Behavioral Intention. This finding aligns with previous studies, such as Dewangga et al. (2025), which found that user intention is strongly driven by performance expectancy and system quality. In the context of Sipentakel, qualitative observations of user interactions support this outcome; when employees perceive the system as facilitating administrative tasks—such as efficiently accessing key performance indicators or managing travel orders—and see it being embraced by their peers, their motivation to use it increases. Direct observations confirmed that seamless navigation through these specific modules visibly reduces administrative bottlenecks, reinforcing why enhancing intrinsic system functionality and information completeness is more critical than formal persuasion.

Additionally, this study confirms that Technology Factors significantly boost User Satisfaction. This result is in line with Apsari et al. (2022), indicating that accurate information and system reliability are prerequisites for user gratification. However, an interesting insight from this study is that User Satisfaction is not a significant predictor of Behavioral Intention or Net Benefits, which contrasts with the findings of Dewangga et al. (2025). One logical reason for this is the mandatory nature of the system within the Deputy of Economic Cooperation and Investment. This statistical paradox is strongly validated by qualitative insights gathered from unstructured interviews. Interviewees expressed that because their primary daily workload consists of substantive policy tasks, administrative tools like Sipentakel are viewed strictly through a functional lens. Since the system is integral to daily workflows, employees are compelled to use it to fulfill bureaucratic obligations quickly, regardless of their satisfaction levels. This reflects a utilitarian culture where users focus on Net Benefits (efficiency and effectiveness) achieved through the act of using the system (Behavioral Intention), rather than emotional satisfaction.

Furthermore, regarding organizational dynamics, the study reveals that Job Level does not moderate the relationship between Human Factors and Behavioral Intention. This contrasts with Kuciapski (2019)

and suggests a form of digital egalitarianism where the system's utility is perceived equally across hierarchies, from high-ranking officials to execution staff. Similarly, Organization Factors were found to have no significant impact on Behavioral Intention or Human Factors. Qualitative interviews further enriched this finding; users explicitly confirmed that formal technical guidance is currently absent and organizational support is limited primarily to domain and server hosting. This lack of impact can be attributed to the users' self-sufficiency. Despite the limited formal support (e.g., lack of a dedicated helpdesk), users reported relying on the system's intuitive design. Thus, Technology Factors (quality and ease of use) effectively bridge the gap, as evidenced by the significant influence of Technology on both Organization and Human Factors. This implies that in this specific government setting, investing in system quality yields a higher return on adoption than investing in traditional organizational support mechanisms.

Implications

Theoretical & Managerial Implications

The theoretical implication of this study is that it extends the integrated evaluation framework of DeLone & McLean, UTAUT, and HOT-Fit by applying it to the Government-to-Employee (G2E) context in Indonesia, specifically to explore the determinants of Sipentakel system adoption. While previous research often examines these models in isolation or focuses heavily on voluntary user settings, this study fills a significant gap by investigating mandatory digital adoption within a high-stakes bureaucratic environment. The findings suggest that Technology Factors and Human Factors play a more dominant role than User Satisfaction and Organization Factors in the Indonesian government context. This contribution challenges the conventional DeLone & McLean theory by providing empirical evidence of a satisfaction paradox, where satisfaction is not a significant predictor of continuance intention or net benefits in mandatory settings. This highlights that in a rigid administrative culture, usage is driven primarily by functional utility and obligation rather than affective gratification. Furthermore, the study introduces the concept of digital egalitarianism by demonstrating that Job Level does not moderate adoption intention, extending the understanding that digital acceptance in modern bureaucracies is uniform across hierarchical lines.

Managerial implications of this study are that it provides actionable insights for the Secretariat of Deputy of Economic Cooperation and Investment to optimize the implementation of Sipentakel and future e-government systems. To ensure sustained engagement and budget efficiency, the Deputy Secretariat should pivot its strategy from satisfaction-centric to utility-centric. Since Organization Factors (such as formal training and helpdesks) were found to have no significant impact on intention, the organization can implement a self-service support strategy. This involves reducing budget allocation for formal technical guidance aligning with Presidential Instruction No. 1 of 2025 regarding expenditure efficiency and redirecting resources towards enhancing System Quality and Information Quality. By improving the system's intrinsic reliability and data completeness, the system becomes a facilitator that drives adoption without the need for extensive extrinsic support. Additionally, given that Job Level is not a barrier, policymakers should deploy a unified internal communication strategy that emphasizes practical efficiency gains for all employees, regardless of their rank, ensuring that the system is perceived as a critical tool for simplifying their daily administrative duties.

Conclusions

This study concludes that the success of the mandatory Sipentakel G2E system is fundamentally driven by Technology Factors and Human Factors. Specifically, the intention to use the system is significantly influenced by intrinsic system quality, information accuracy, and user expectations of performance, rather than by formal Organization Factors or overall User Satisfaction. A critical finding is that Net Benefits, primarily defined by operational efficiency, are realized solely through active usage (Behavioral Intention) independent of the user's emotional gratification. Furthermore, the assessment theoretically contributes by confirming a phenomenon of digital egalitarianism within a bureaucratic setting, where hierarchical Job Level does not moderate system acceptance, contrasting previous

assumptions regarding hierarchical influence on adoption (Kuciapski, 2019). The system's utility is perceived uniformly across hierarchical lines, from high-ranking officials to execution staff.

This research is subject to several methodological limitations. The relatively small sample size (n=52) evaluated against a highly complex conceptual model comprising 11 hypotheses introduces a potential risk of overfitting. Although the sample size satisfies the minimum threshold of the "10-times rule" commonly accepted in PLS-SEM literature (J. F. Hair et al., 2021), the high ratio of estimated structural paths to observations implies that model parsimony is stretched, which may limit the broader generalizability of these findings (Richter et al., 2022).

The rigorous measurement model evaluation necessitated the removal of numerous indicators to fulfill the strict criteria for convergent and discriminant validity (J. F. Hair et al., 2021). While this step ensured statistical reliability, it inherently compromised content validity by narrowing the conceptual meaning of several constructs. For instance, the necessary removal of the Service Quality and Organization Support dimensions restricted the original theoretical breadth of the Technology and Organization Factors (Pamugar et al., 2014). Furthermore, reducing Net Benefits solely to the Efficiency dimension constrained the holistic measurement of the system's impact (Rahmatullah et al., 2025).

To address these methodological constraints, future research should expand the population scope to secure much larger sample sizes. A larger sample would not only mitigate the risk of overfitting but also allow for the application of Covariance-Based SEM (CB-SEM) to perform stricter model fit evaluations. Additionally, utilizing a wider rating scale (e.g., 5-point or 7-point Likert scales) is strongly recommended to capture more nuanced user response variance (Alan & Atalay Kabasakal, 2020; Menon et al., 2025). This adjustment may prevent the excessive dropping of indicators, thereby preserving the comprehensive theoretical meaning of the integrated constructs in future evaluations.

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Appendices

Appendix A
Research Instrument

Construct	Dimension	Questionnaire Item	Adapted From
Human Factor (HF)	Performance Expectancy	1. Sipentakel increases my work productivity.	Dewangga et al. (2025); Pamugar et al. (2014)
		2. Sipentakel makes program administration management easier.	
	Effort Expectancy	1. Sipentakel is easy to use.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. Sipentakel makes it easier to obtain information.	
	Social Influence	1. My work environment considers the use of Sipentakel important.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. My work environment supports the use of Sipentakel.	
Organization Factor (OF)	Facilitating Condition	1. The Deputy Secretariat provides adequate resources and technical support.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. The Deputy Secretariat provides the necessary guidance for users.	
	Organization Support	1. The Deputy Secretariat encourages the use of Sipentakel in daily work.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
Technology Factor (TF)	Information Quality	1. Sipentakel provides complete information.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. Sipentakel provides accurate information.	
		3. Sipentakel provides information relevant to my work.	
	System Quality	1. Sipentakel has an attractive interface and features.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. Sipentakel is easily accessible.	
	Service Quality	1. Sipentakel administrators provide quick responses to complaints.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. Sipentakel provides easy-to-understand usage instructions.	
Behavioral Intention (BI)	Intention to Use	1. I will continue to use Sipentakel in my work.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. I recommend Sipentakel to my colleagues.	
User Satisfaction (US)	Use Satisfaction	1. I am satisfied with the Sipentakel interface.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. I am satisfied with the information provided by Sipentakel.	
		3. Overall, I am satisfied using Sipentakel.	

Construct	Dimension	Questionnaire Item	Adapted From
Net Benefits (NB)	Efficiency	1. Sipentakel speeds up the completion of my work.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)
		2. Sipentakel makes my work easier.	
	Effectiveness	1. Sipentakel helps reduce errors in my work.	Apsari et al. (2022); Dewangga et al. (2025); Pamugar et al. (2014)