

HOT-Fit Analysis and Intelligent Information System Model for SI-Kariwari in Jayapura City

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ABSTRACT

This study aims to analyze the factors influencing the success of the implementation of the SI-Kariwari application as an electronic office information system in supporting the digital transformation of the Jayapura City Government, and to design an intelligent information system model based on the evaluation results. The evaluation used the Human-Organization-Technology Fit (HOT-Fit) model, which consists of the Technology, Human, Organization, and Net Benefit dimensions. A quantitative approach was employed, with questionnaires distributed to all 116 SI-Kariwari users (total population sampling) from 29 Regional Government Organizations (Organisasi Perangkat Daerah/OPD). The data were analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). All constructs satisfied the convergent validity and reliability criteria ($AVE > 0.50$; Composite Reliability > 0.70), and the R^2 values of the endogenous constructs ranged from 0.742 to 0.837. Eight of the twelve hypothesized relationships were significant: Organizational Structure and Organizational Environment significantly affected both System Use and User Satisfaction; System Quality and Information Quality significantly affected User Satisfaction; and System Use and User Satisfaction significantly affected Net Benefit, with User Satisfaction having the strongest effect ($\beta = 0.634$). The four non-significant relationships all originated from the Technology dimension (System Quality, Information Quality, and Service Quality to System Use, and Service Quality to User Satisfaction), indicating that system use is driven more by organizational factors than by perceived technical quality. Based on these results, this study proposes a conceptual design of an intelligent information system model for SI-Kariwari with four features: Intelligent Document Verification based on Artificial Intelligence (AI) and Optical Character Recognition (OCR), Document Classification and Auto-Routing, Smart Document Search, and an Internal Service Virtual Assistant. The features have not yet been implemented or tested; they are intended to address the weaknesses in the Technology dimension and to support Smart Governance in Jayapura City.

Keywords: HOT-Fit, SI-Kariwari, Smart Governance, SEM-PLS, Intelligent Document Verification



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1. INTRODUCTION

A. Research Background

Smart governance is a concept of public governance that utilizes information and communication technology to improve the effectiveness of public services, transparency, public participation, and data-driven decision-making. Its success is determined not only by the utilization of technology but also by the readiness of human resources, organizational support, the quality of digital services, and the capability of the system to provide accurate and integrated information [1]. To support these objectives, a smart information system is required, namely a system that integrates technologies such as Artificial Intelligence (AI), data analytics, and automation to manage, analyze, and present information adaptively, thereby improving business process efficiency and the quality of decision-making [2]. Therefore, smart information systems have become one of the essential foundations for the effective implementation of smart governance in the era of digital transformation.

Such a system must effectively manage, analyze, and present information in accordance with user needs [3]. Smart information systems generally possess characteristics such as ease of use, accurate and relevant information quality, reliable system quality, and responsive service quality [4]. In addition,

these systems are expected to provide tangible benefits, including improved productivity, work effectiveness, and ease of decision-making [5].

The digital transformation of government in Indonesia has continued to show positive progress, as reflected by the National Electronic-Based Government System (SPBE) Index, which increased from 2.79 in 2023 to 3.12 in 2024, achieving the "Good" category [6]. This progress is further supported by Indonesia's performance in the 2024 UN E-Government Survey, where the country ranked 64th out of 193 countries, improving by 13 positions compared to 2022 [6]. At the regional level, Jayapura City is one of the few regions in Papua Province that has participated in the SPBE implementation evaluation conducted by the Ministry of Administrative and Bureaucratic Reform (Kementerian PANRB). Based on the 2024 SPBE evaluation results, the Jayapura City Government obtained an SPBE Index of 2.35, categorized as "Fair," indicating that the implementation of SPBE in Jayapura City, including the utilization of information systems, remains at an intermediate level of development and still has considerable room for improvement, particularly in the technology dimension (D3), which received the lowest score of 1.00 [6], [7]. As part of its efforts to accelerate digital transformation, the Jayapura City Government has adopted and replicated several electronic public service applications from other regions that had previously implemented the smart city concept, as a strategic initiative to strengthen technology-based public governance [8].

To support the implementation of electronic-based government, the Jayapura City Government has operated several information systems across various public service sectors. One of these is the Pacemace application, which is used by the Department of Population and Civil Registration to accelerate population administration services [9]. In addition, the Jayapura City Government has implemented the SI-Kariwari application as an electronic correspondence and office administration (e-office) system used by 29 Regional Government Organizations (Organisasi Perangkat Daerah/OPD) within the Jayapura City Government [10].

SI-Kariwari is an electronic correspondence and office administration application developed to support the digital management of official correspondence and document disposition within the Jayapura City Government. The application was officially launched by the Jayapura City Government and implemented across 29 OPDs with the objective of accelerating office administrative processes that were previously performed manually [10]. The implementation of SI-Kariwari, particularly in administrative services at the Abepura District level, has demonstrated its contribution to improving the effectiveness of office administrative services [11].

The utilization of information systems in office administrative services, particularly through SI-Kariwari, represents one of the implementations of the principles of good governance, which emphasize transparency, accountability, participation, as well as effectiveness and efficiency in public administration [12]. The digitalization of office administrative processes through SI-Kariwari enables a more transparent and accountable workflow, as every correspondence and document disposition process can be monitored electronically. This is consistent with the principles of good governance, which require transparency in bureaucratic processes for the public and stakeholders [13]. At the same time, the implementation of SI-Kariwari also represents a practical realization of the smart government concept, namely the intelligent utilization of information technology to improve the efficiency of internal government administration and accelerate administrative decision-making processes [3]. Nevertheless, to ensure that the implementation of the Electronic-Based Government System (SPBE) through SI-Kariwari consistently supports the principles of good governance, periodic technical evaluations are required to identify areas that still require improvement and further development [3].

Such technical evaluations are intended not only to ensure the sustainability of good governance principles but also as a strategic step toward achieving smart governance, which refers to intelligent, adaptive, and technology-driven governance aimed at improving the quality of public services [14]. To achieve this objective, an evaluation approach capable of comprehensively analyzing various aspects of information system utilization within an organization is required, so that the evaluation results can serve as the basis for future system development aligned with the goals of smart governance. Several

approaches commonly used to evaluate information system utilization in organizational environments include the DeLone and McLean Information Systems Success Model [15], Usability Testing [16], the User Experience Questionnaire (UEQ) [17], and the Human–Organization–Technology Fit (HOT-Fit) model [18].

The DeLone and McLean Information Systems Success Model evaluates information system success based on the dimensions of system quality, information quality, service quality, system use, user satisfaction, and net benefits [15]. Usability testing is an evaluation method that focuses on the ease of use of a system interface through direct testing with users [16]. User Experience (UX) evaluation assesses the overall user experience when interacting with a system, including aspects of usability, accessibility, and users' emotional satisfaction [19]. Meanwhile, the Human–Organization–Technology Fit (HOT-Fit) model evaluates the success of information systems more comprehensively by considering three main components—human, organization, and technology—as well as the alignment among these components in generating net benefits [18]. Compared with other approaches that tend to focus on a single aspect, the HOT-Fit model is considered more appropriate for information systems in government organizations because it can measure the influence of organizational factors, such as management support and bureaucratic structure, which play essential roles in the successful implementation of information systems in public institutions, while simultaneously considering technological aspects and the benefits delivered to users [20].

The results of evaluations using these approaches can subsequently serve as a basis for organizations to develop information systems that are more adaptive to user needs. Advances in Artificial Intelligence (AI) technology have created opportunities for transforming conventional information systems into intelligent information systems. This transformation is not merely a software upgrade but rather a gradual paradigm shift: from passive systems that depend on manual input (the conventional phase), to systems capable of integrating workflows automatically (the automation phase), and ultimately to systems capable of learning and providing recommendations independently (the intelligent system phase) [21]. This transition toward intelligent systems has been shown to significantly improve organizational operational efficiency, provided that it is supported by reliable data quality and the readiness of human resources to manage it [21]. Therefore, information systems in the digital era no longer function solely as simple administrative tools but have evolved into strategic organizational partners capable of addressing data complexity and supporting better decision-making [21].

The advancement of Artificial Intelligence (AI), data analytics, and intelligent computing techniques also provides opportunities to enhance the capabilities of conventional information systems, which have traditionally functioned only as tools for recording, storing, and presenting information. By integrating these intelligent technologies, information systems can evolve into intelligent information systems capable of automatically analyzing data, providing recommendations, predicting specific conditions, and supporting more effective and efficient decision-making processes [2]. Intelligent information systems generally possess characteristics such as adaptability to user needs, the ability to learn from historical data, automated analytical processes, and the capability to generate recommendations or predictions that support real-time decision-making [21].

Based on the HOT-Fit evaluation results, the development of an intelligent information system for SI-Kariwari can be designed by referring to the gaps identified in the relationships among variables, particularly within the technology dimension related to system quality and information quality, as well as their influence on system use and user satisfaction. Variables that exhibit insignificant relationships or require further improvement can serve as the basis for determining the most relevant enhancement features to be implemented. These include Intelligent Document Verification, Intelligent Document Classification and Auto-Routing, Smart Document Search, and an AI- and OCR-based Internal Service Virtual Assistant, as responses to the weaknesses of the current document verification process, which is still performed manually [22].

This study aims to evaluate the utilization of SI-Kariwari using the HOT-Fit approach by analyzing the relationships among the most influential variables, followed by analyzing the requirements for Artificial Intelligence (AI) in SI-Kariwari based on the HOT-Fit evaluation results. The

findings are expected to support the development of smart governance within the Jayapura City Government by proposing a conceptual design of an intelligent information system for SI-Kariwari.

B. Research Objective

Previous studies have shown that the implementation of the SI-Kariwari application has made a positive contribution to administrative services in the Abepura District through the digitalization of correspondence processes, electronic document management, and improved coordination efficiency among employees. However, these studies primarily focused on the effectiveness of the application's utilization and did not comprehensively evaluate the factors influencing the success of system implementation based on the Human, Organization, Technology, and Net Benefit dimensions. In fact, previous research has demonstrated that evaluation using the Human–Organization–Technology Fit (HOT-Fit) model is essential for identifying the relationships among technology quality, user factors, organizational support, and system benefits, thereby determining the aspects that still require improvement as the basis for the sustainable development of information systems [18]. Furthermore, the implementation of SI-Kariwari within the Regional Government Organizations (Organisasi Perangkat Daerah/OPD) of Jayapura City still encounters several challenges, such as manual document verification processes, the potential for administrative data entry errors, and the absence of an automated mechanism for verifying document completeness, all of which may affect information quality and the efficiency of administrative services.

Based on this review, four research gaps can be identified.

Theoretical gap. Previous studies have used the HOT-Fit model to evaluate the success of information system implementation by considering the Human, Organization, Technology, and Net Benefit aspects [18], [20], [24], [25]. However, HOT-Fit generally functions as an evaluation framework and does not explicitly explain how evaluation results can be translated into an intelligent information system model that supports better government governance. For example, a HOT-Fit evaluation of a Malaysian e-government system identified misfits among the human, organization, and technology factors and concluded with factors and lessons learned to guide future development [39], whereas the literature on AI in public governance mainly examines the adoption and implications of AI itself [40], [41]. To the authors' knowledge, the link between the two, in which evaluation results determine which intelligent features are developed, remains underexplored.

Empirical gap. Comprehensive empirical evidence is not yet available on the fit among the Human, Organization, and Technology factors and Net Benefit in the implementation of SI-Kariwari, or on its implications for the development of an intelligent information system. The only available study on SI-Kariwari [11] examined the effectiveness of its use in one district and did not test the relationships among HOT-Fit constructs.

Contextual gap. The HOT-Fit framework and its findings are well established and have been shown to be applicable to e-government projects [39], but they have mainly been applied to hospital, asset management, and university information systems [20], [24], [25]. Its application to a government e-office system under specific institutional conditions (29 OPDs of the Jayapura City Government) and technological conditions (the technology domain of the 2024 SPBE evaluation of Jayapura City scored 1.00 [6], [7]) remains limited. To the authors' knowledge, HOT-Fit has not yet been tested on SI-Kariwari.

Practical gap. There is a discrepancy between the expected and the actual conditions. According to the HOT-Fit model, technology quality (system, information, and service quality) is expected to encourage system use and user satisfaction, which in turn generate net benefits [18]. The HOT-Fit analysis in this study shows that, in practice, only two of the six relationships originating from the Technology dimension are significant (System Quality → User Satisfaction and Information Quality → User Satisfaction). None of the Technology constructs significantly affects System Use, and Service Quality affects neither System Use nor User Satisfaction. In contrast, organizational factors significantly affect both System Use and User Satisfaction ($\beta = 0.200\text{--}0.373$). SI-Kariwari is therefore used mainly because of organizational factors rather than the perceived quality of its technology, and document completeness

verification is still performed manually. The full comparison of expected and actual conditions is presented in Table 7.

Therefore, this study aims to (1) analyze the implementation of SI-Kariwari using the Human–Organization–Technology Fit (HOT-Fit) model, and (2) design a conceptual intelligent information system model, consisting of Intelligent Document Verification, Intelligent Document Classification and Auto-Routing, Smart Document Search, and an Internal Service Virtual Assistant, as the foundation for developing digital services to support Smart Governance in Jayapura City. The proposed model is a conceptual design that has not yet been implemented or tested.

2. LITERATURE REVIEW

A. Information System Evaluation Using the HOT-Fit Model

Information system evaluation not only serves to describe the current level of implementation success but also provides a foundation for developing future system improvement strategies. The results of evaluations using the HOT-Fit model can be used to identify variables that still exhibit weak or insignificant relationships, allowing these findings to serve as a reference for determining the highest-priority areas for system development [24].

Several previous studies have applied the HOT-Fit model as a framework for evaluating the success of information system implementation while also providing a basis for system improvement. Amiruddin, Widodo, and Isnanto [24] evaluated the acceptance level of an Asset Management System using the HOT-Fit model and PLS-SEM. The evaluation results were used to identify factors requiring improvement in order to increase user acceptance of the system. Suandari, Adi, and Suryawati [20] evaluated the implementation of the Radiology Information System–Picture Archiving and Communication System (RIS-PACS) using the HOT-Fit approach to identify the human, organization, and technology factors influencing system success in a hospital environment. Meanwhile, Yuhana, Setiawan, and Utomo [25] evaluated the E-Dimas system at Universitas Jambi using the HOT-Fit approach to determine the level of system success and identify the factors affecting user satisfaction as the basis for future system improvement recommendations.

Table 1 compares these studies, together with the previous SI-Kariwari study and an AI-based document verification study, in terms of object, variables and method, main findings, and the research gap that remains.

Table 1. Comparison of Previous Studies and This Study

Study	Object	Variables and Method	Main Findings	Remaining Gap
Suandari et al. [20]	RIS-PACS in a hospital	Human, organization, and technology factors; HOT-Fit	Identified the human, organization, and technology factors influencing system success	Healthcare context; ends at evaluation; no system design
Amiruddin et al. [24]	Asset management system	HOT-Fit constructs; HOT-Fit with PLS-SEM	Identified factors requiring improvement to increase user acceptance	Asset management context; improvement factors not translated into a system model
Yuhana et al. [25]	E-Dimas academic information system, Universitas Jambi	Factors affecting user satisfaction; HOT-Fit with SEM-PLS	Determined the success level and the factors affecting user satisfaction; gave improvement recommendations	Higher-education context; recommendations not translated into a system model

Study	Object	Variables and Method	Main Findings	Remaining Gap
Imanto et al. [11]	SI-Kariwari, Abepura District	Effectiveness of application use in administrative services (HOT-Fit not used)	Positive contribution to digital correspondence, document management, and coordination	Did not analyze Human–Organization–Technology relationships; no intelligent system model
Hudaya et al. [22]	E-KTP identity documents	Automated verification and matching; Faster R-CNN and ORB	Improved accuracy of automated identity document verification	Technical focus; not linked to the evaluation of an operational government system
Yusof and Yusuff [39]	Project Monitoring System, Malaysian e-government	HOT-Fit; qualitative case study (interviews, observation, document analysis)	Found misfits among human, organization, and technology factors and identified factors influencing system effectiveness	Qualitative, Malaysian context; no intelligent system model
This study	SI-Kariwari, 29 OPDs, Jayapura City	Eight HOT-Fit constructs, 12 hypotheses; SEM-PLS, N = 116	8 of 12 hypotheses supported; organizational factors dominate; all non-significant paths originate from the Technology dimension	Links the HOT-Fit results to a conceptual intelligent information system model

Table 1 shows that HOT-Fit has been applied to healthcare [20], asset management [24], and higher education [25] information systems, and that these studies generally end with the identification of factors that need improvement. They do not specify how those factors can be addressed through a concrete system design (theoretical gap), none of them examined SI-Kariwari (empirical and contextual gaps), and none compared the relationships expected by the HOT-Fit model with the actual conditions of a government e-office system (practical gap). The only previous SI-Kariwari study [11] examined the effectiveness of its use in one district without the HOT-Fit model, whereas AI-based verification studies such as [22] focus on technical accuracy and are not linked to an evaluation of the human, organizational, and technological factors of an operational system.

B. Development of Intelligent Information Systems Based on Artificial Intelligence

Several previous studies have also discussed the design of information systems that integrate Artificial Intelligence (AI) technologies to improve the accuracy and efficiency of services. One study proposed a verification and matching system for Electronic Identity Cards (E-KTP) using the Faster R-CNN and ORB algorithms to improve the accuracy of automated identity document verification [22]. Another study developed and evaluated the Jakarta Smart City (JAKI) application, which integrates various data-driven smart services for urban communities [23]. Furthermore, studies on smart governance emphasize that government digital transformation requires systems that are not only digitalized but also capable of enhancing transparency, coordination, service efficiency, and data utilization in administrative processes [1]. In the context of intelligent technology implementation, the development of an Internet of Things (IoT)-based monitoring system for public services has also demonstrated that the integration of real-time data and automated notifications can improve response speed and information management efficiency [26]. These findings indicate that innovations based on AI, Optical Character Recognition (OCR), and document automation have strong potential to be implemented in government administrative systems, including the management of incoming and outgoing official correspondence. Systematic reviews of AI in the public sector show that existing

research largely concerns the adoption, implications, and governance of AI [40], [41]; this study complements these reviews by linking AI features to the results of a HOT-Fit evaluation of an operational government system.

3. MATERIAL AND METHOD

This study was conducted through seven stages: problem identification, formulation of the HOT-Fit model and research hypotheses, development of the questionnaire instrument, data collection from Regional Government Organization (Organisasi Perangkat Daerah/OPD) employees who use SI-Kariwari, data analysis using Structural Equation Modeling–Partial Least Squares (SEM-PLS), interpretation of the results to identify the factors influencing the successful implementation of the system, and the design of an Artificial Intelligence (AI)-based intelligent information system model to support the realization of smart governance in Jayapura City, as illustrated in Fig. 1.

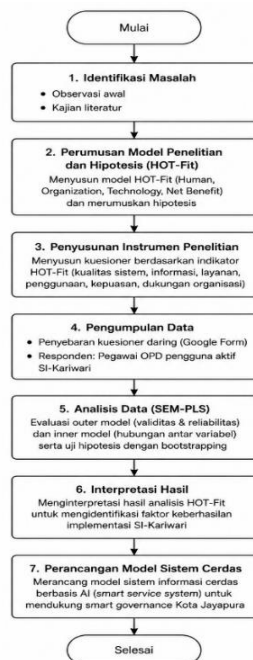


Fig. 1. Research Flow Diagram

A. Problem Identification

This study was conducted to identify the issues encountered in the implementation of the SI-Kariwari application within the Jayapura City Government. Problem identification was carried out through preliminary observations and a literature review related to the implementation of government information systems. The results indicated that the implementation of SI-Kariwari within the Regional Government Organizations (Organisasi Perangkat Daerah/OPD) of Jayapura City still faces several challenges in optimally supporting government administrative processes. Although the application has been used to manage incoming and outgoing correspondence, document disposition, and electronic document archiving [10], the preliminary observations conducted in this study revealed that document completeness verification is still performed manually. This condition may lead to data entry errors, document inconsistencies, and delays in administrative processes. In addition, no automated verification mechanism is currently available to assist users in ensuring document completeness before further processing. These conditions may affect the efficiency of administrative services, information quality, and the speed of decision-making within the OPDs. Therefore, it is necessary to evaluate the

implementation of SI-Kariwari and propose recommendations for the development of an intelligent information system to support more effective, transparent, and accountable government governance as part of the effort to realize Good Governance toward Smart Governance [27].

The Human–Organization–Technology Fit (HOT-Fit) model is one of the information system success evaluation models developed by Yusof et al. [18]. This model integrates three primary dimensions—Human, Organization, and Technology—which interact with one another in determining the success of an information system implementation. The success of the implementation is measured by the Net Benefit obtained by the organization as a result of the alignment (fit) among these three dimensions [15], [18].

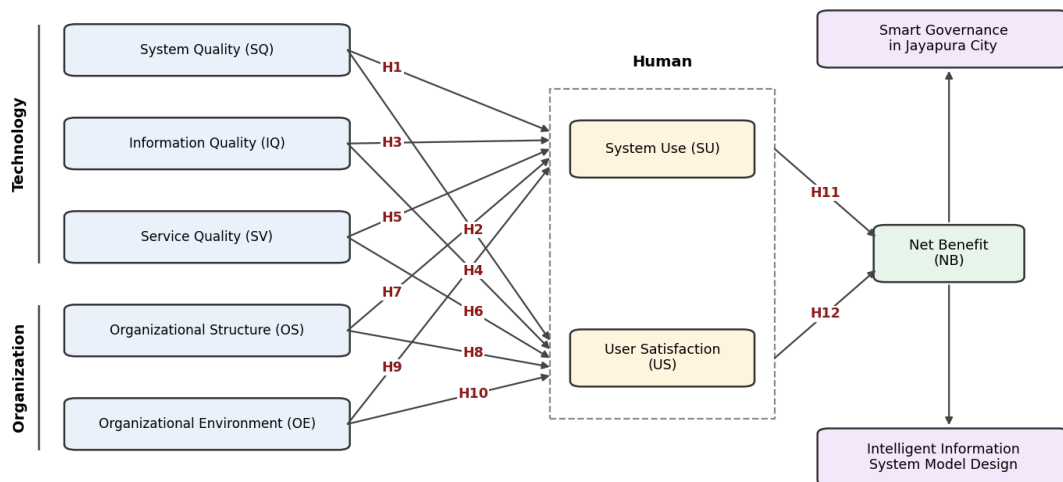


Fig. 2. Research Conceptual Framework

Based on Fig. 2, the Technology dimension consists of System Quality, Information Quality, and Service Quality. The Human dimension includes System Use and User Satisfaction, while the Organization dimension comprises Organizational Structure and Organizational Environment [15], [18]. These three dimensions interact with one another and form the alignment (fit) that ultimately generates Net Benefit for the organization. In this study, the evaluation results obtained using the HOT-Fit model are not only used to assess the level of success of the SI-Kariwari implementation but also serve as the basis for designing an intelligent information system model based on smart services to support the realization of smart governance within the Jayapura City Government.

B. Research Model and Hypothesis Development

At this stage, the research model was developed based on the Human–Organization–Technology Fit (HOT-Fit) framework [18]. As shown in Fig. 2, the Technology constructs (System Quality, Information Quality, and Service Quality) and the Organization constructs (Organizational Structure and Organizational Environment) are exogenous constructs that influence the Human constructs (System Use and User Satisfaction), which in turn influence Net Benefit as the outcome variable. Following the HOT-Fit and DeLone and McLean frameworks [15], [18], higher technology quality and stronger organizational support are expected to increase system use and user satisfaction, and greater use and satisfaction are expected to increase net benefits. Twelve hypotheses were therefore formulated: System Quality positively affects System Use (H1) and User Satisfaction (H2); Information Quality positively affects System Use (H3) and User Satisfaction (H4); Service Quality positively affects System Use (H5)

and User Satisfaction (H6); Organizational Structure positively affects System Use (H7) and User Satisfaction (H8); Organizational Environment positively affects System Use (H9) and User Satisfaction (H10); System Use positively affects Net Benefit (H11); and User Satisfaction positively affects Net Benefit (H12). The hypotheses were tested using SEM-PLS [28]. The HOT-Fit results were then used as the basis for designing the intelligent information system model, which is a design stage outside the structural model.

C. Research Instrument Development

The research instrument was developed based on the Human–Organization–Technology Fit (HOT-Fit) indicators proposed by Yusof et al. [18] and by adopting the system quality dimensions of the DeLone and McLean Information Systems Success Model [15]. Each construct was operationalized into several indicators, which were then translated into questionnaire items. All questionnaire items were measured using a five-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The details of the constructs, indicators, and the number of questionnaire items are presented in Table 2.

Table 2. Research Instrument

Variable	Indicators	Number of Items	Source
System Quality	User Friendly, Ease of Learning, Accessibility, Usefulness	4	Yusof et al. (2008); DeLone & McLean (2003)
Information Quality	Accuracy, Timeliness, Relevancy, Reliability	4	Yusof et al. (2008)
Service Quality	Technical Support, Responsiveness, Assurance, Training	4	Yusof et al. (2008)
System Use	Amount of Use, System Acceptance, Perceived Usefulness, Frequency of Use	4	Yusof et al. (2008)
User Satisfaction	Overall Satisfaction, Satisfaction with Software, Continuance Intention, Comfort	4	DeLone & McLean (2003)

D. Data Collection

Data were collected by distributing questionnaires to employees of the Regional Government Organizations (Organisasi Perangkat Daerah/OPD) of Jayapura City who use the SI-Kariwari application. The respondents were determined using total population sampling (census), a non-probability sampling technique, which is a variant of purposive sampling in which all members of a population that meet the specified criteria are included as respondents [29]. This technique was selected because the population of active SI-Kariwari users was specific, limited, and identifiable, consisting of 116 employees across 29 OPDs in Jayapura City. The inclusion criterion was being an OPD employee who actively uses SI-Kariwari in daily administrative work. Because the entire population was included, no sampling procedure or sample size calculation was applied, and the 116 users constitute the respondents of this study. The questionnaire was distributed online using Google Forms to obtain primary data, which were subsequently analyzed using the SEM-PLS method.

E. Data Analysis

Data analysis was conducted using SmartPLS. SEM-PLS was selected because it is suitable for models with several constructs and relatively small samples [28]. The analysis consisted of evaluating the measurement model (outer model), including convergent validity (AVE > 0.50), discriminant validity

(Fornell–Larcker criterion and heterotrait–monotrait ratio, HTMT), and construct reliability (Cronbach's Alpha and Composite Reliability > 0.70), followed by evaluating the structural model (inner model) using R^2 , Q^2 , and path coefficients. Hypothesis testing was performed using the bootstrapping method, and a relationship was considered significant at $p < 0.05$ [28].

In addition to hypothesis testing, the SEM-PLS evaluation results were used as the basis for analyzing the requirements for developing an intelligent information system. Variables and relationships among constructs that were found to be statistically insignificant during hypothesis testing were further analyzed to identify their underlying causes. These findings were subsequently used as references for determining relevant system enhancement features. Through this approach, the development of the Intelligent Document Verification feature based on Artificial Intelligence (AI) and Optical Character Recognition (OCR) was not designed independently of the HOT-Fit evaluation results but rather as a direct follow-up to the empirical findings indicating that the Technology dimension had not yet been fully optimized.

F. Results Interpretation

This stage was conducted after the completion of data analysis using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) method. The purpose of the results interpretation was to explain the relationships among the variables based on the outer model, inner model, and hypothesis testing results in order to identify the factors influencing the successful implementation of the SI-Kariwari application. At this stage, variables that showed significant and insignificant effects on system success based on the HOT-Fit model were identified. The interpretation results were subsequently used as the basis for formulating recommendations for future system development.

G. Intelligent Information System Model Design

This stage aimed to develop an intelligent information system model based on the evaluation results of the SI-Kariwari implementation using the HOT-Fit model, using the evaluation results as inputs for identifying improvement priorities, as recommended in HOT-Fit-based evaluation studies [20], [24]. The system design was developed by referring to the factors that still required improvement based on the interpretation of the SEM-PLS analysis results. Therefore, the interpretation of the HOT-Fit evaluation and the identified system development requirements served as the primary inputs for the design process.

One of the proposed recommendations is the development of an Intelligent Document Verification feature based on Optical Character Recognition (OCR) and Artificial Intelligence (AI). This feature is intended to automatically verify the completeness of administrative documents, detect data entry errors, and provide notifications to users before documents are processed further, consistent with AI-based document verification approaches that have been shown to improve the accuracy of administrative data matching [22]. The proposed system is visualized through a system architecture and an interface prototype as a conceptual representation of the development of SI-Kariwari into an intelligent information system that supports Smart Governance in Jayapura City [30], [31]. The final output of this stage is an intelligent information system model consisting of the system architecture, interface prototype, and implementation recommendations for Intelligent Document Verification, Intelligent Document Classification and Auto-Routing, Smart Document Search, and an AI-based Internal Service Virtual Assistant as the foundation for the future development of SI-Kariwari.

4. RESULTS AND DISCUSSION

This study analyzed the data using SmartPLS with 116 respondents (the entire population of SI-Kariwari users). Data were collected by distributing questionnaires to employees from 29 Regional Government Organizations (Organisasi Perangkat Daerah/OPD) in Jayapura City. Based on the SmartPLS analysis results, all constructs satisfied the validity and reliability criteria. These findings indicate that the indicators used were able to adequately and consistently represent their respective latent constructs.

Table 3. Average Variance Extracted (AVE), Cronbach's Alpha, and Composite Reliability

No	Variable	AVE	Cronbach's Alpha	Composite Reliability
1	System Quality (SQ)	0.680	0.842	0.894
2	Information Quality (IQ)	0.724	0.873	0.913
3	Service Quality (SV)	0.732	0.817	0.891
4	Organizational Structure (OS)	0.679	0.842	0.894
5	Organizational Environment (OE)	0.692	0.778	0.871
6	System Use (SU)	0.682	0.845	0.896
7	User Satisfaction (US)	0.729	0.876	0.915
8	Net Benefit (NB)	0.688	0.774	0.869

The measurement model evaluation was conducted to assess the validity and reliability of the constructs in the HOT-Fit model. Based on the SmartPLS analysis, all constructs achieved AVE values greater than 0.50, indicating satisfactory convergent validity. The highest AVE value was obtained by Service Quality (SV) (0.732), while the lowest was obtained by Organizational Structure (OS) (0.679). Therefore, all indicators adequately represented their respective latent constructs.

In terms of reliability, all constructs also demonstrated good internal consistency. Cronbach's Alpha values ranged from 0.774 to 0.876, while Composite Reliability values ranged from 0.869 to 0.915. All values exceeded the recommended thresholds, indicating that all constructs were valid, reliable, and suitable for structural model evaluation.

The inner model represents the structural model used to predict causal relationships among variables through the bootstrapping procedure, R-square values, and t-statistics to determine the significance of the proposed research model [28]. The R-square values for the endogenous variables obtained from the PLS analysis are presented in Table 4.

Table 4. R-Square Values

No	Variable	R-Square	R-Square Adjusted
1	System Use (SU)	0.819	0.811
2	User Satisfaction (US)	0.837	0.829
3	Net Benefit (NB)	0.742	0.738

Based on Table 4, the R-square values for System Use (SU), User Satisfaction (US), and Net Benefit (NB) were 0.819, 0.837, and 0.742, respectively. Following the rule of thumb of 0.75, 0.50, and 0.25 for substantial, moderate, and weak explanatory power [28], System Use and User Satisfaction show substantial explanatory power, while Net Benefit (0.742) lies at the upper end of the moderate category, close to substantial.

More specifically, System Use is explained by the technology and organization variables by 81.9%, while User Satisfaction is explained by 83.7%. Meanwhile, Net Benefit is explained by System Use

and User Satisfaction by 74.2%. These findings indicate that the HOT-Fit constructs explain a large proportion of the variance in the endogenous constructs for the implementation of SI-Kariwari.

In addition to R-square, the structural model was also evaluated using the Q-Square (Q^2) statistic to assess the predictive relevance of the model. The Q^2 value was calculated based on the R-square values of all endogenous constructs, namely System Use (SU), User Satisfaction (US), and Net Benefit (NB), using the following equation:

$$Q^2 = 1 - (1 - R_1)(1 - R_2)(1 - R_3) \quad (1)$$

where:

$R_1 = 0.819$ for System Use,

$R_2 = 0.837$ for User Satisfaction,

$R_3 = 0.742$ for Net Benefit.

$$Q^2 = 1 - (1 - 0.819)(1 - 0.837)(1 - 0.742)$$

$$Q^2 = 1 - (0.181)(0.163)(0.258)$$

$$Q^2 = 1 - 0.0076$$

$$Q^2 = 0.992$$

The Q^2 value of 0.992 is greater than zero, indicating that the model has predictive relevance for the endogenous constructs [28]. Because this value is derived from the R^2 values of all endogenous constructs, it is inherently high when the R^2 values are high, and it should be interpreted as an overall indicator of predictive relevance rather than as a measure of out-of-sample predictive accuracy. Construct-level Q^2 obtained through blindfolding and PLSpredict are recommended for future studies.

Based on the empirical model proposed in this study, hypothesis testing was performed using the PLS method. The hypotheses were evaluated based on the p-values and t-statistics, as presented in Table 5.

Table 5. Hypothesis Testing Results

ID	Relationship	Path Coefficient	t-value	p-value	Result
H1	System Quality → System Use	0.093	0.955	0.339	Not Significant
H2	System Quality → User Satisfaction	0.227	2.671	0.008	Significant
H3	Information Quality → System Use	0.104	1.055	0.292	Not Significant
H4	Information Quality → User Satisfaction	0.199	2.238	0.025	Significant
H5	Service Quality → System Use	0.173	1.547	0.122	Not Significant

H6	Service Quality → User Satisfaction	-0.020	0.223	0.823	Not Significant
H7	Organizational Structure → System Use	0.239	2.669	0.008	Significant
H8	Organizational Structure → User Satisfaction	0.373	4.271	0.000	Significant
H9	Organizational Environment → System Use	0.367	4.069	0.000	Significant
H10	Organizational Environment → User Satisfaction	0.200	3.041	0.002	Significant
H11	System Use → Net Benefit	0.255	2.395	0.017	Significant
H12	User Satisfaction → Net Benefit	0.634	6.156	0.000	Significant

Based on Table 5, eight of the twelve hypotheses were supported (H2, H4, H7, H8, H9, H10, H11, and H12), while four were not supported (H1, H3, H5, and H6). Among the supported hypotheses, User Satisfaction had the strongest effect on Net Benefit (H12: $\beta = 0.634$; $p < 0.001$), Organizational Structure had the strongest effect on User Satisfaction (H8: $\beta = 0.373$; $p < 0.001$), and Organizational Environment had the strongest effect on System Use (H9: $\beta = 0.367$; $p < 0.001$). System Use also had a significant positive effect on Net Benefit (H11: $\beta = 0.255$; $p = 0.017$). From the Technology dimension, only System Quality (H2: $\beta = 0.227$; $p = 0.008$) and Information Quality (H4: $\beta = 0.199$; $p = 0.025$) significantly influenced User Satisfaction. All four unsupported hypotheses originated from the Technology dimension, namely System Quality → System Use (H1: $\beta = 0.093$; $p = 0.339$), Information Quality → System Use (H3: $\beta = 0.104$; $p = 0.292$), Service Quality → System Use (H5: $\beta = 0.173$; $p = 0.122$), and Service Quality → User Satisfaction (H6: $\beta = -0.020$; $p = 0.823$).

In the HOT-Fit model, the Technology dimension consists of three sub-dimensions: System Quality, Information Quality, and Service Quality [18]. In this study, these dimensions were operationalized through indicators including user friendliness, ease of learning, accessibility, and usefulness (System Quality); accuracy, timeliness, relevancy, and reliability (Information Quality); and technical support, responsiveness, assurance, and training (Service Quality) (Table 2). Although all indicators satisfied the validity and reliability requirements in the measurement model evaluation, they were not sufficiently strong to encourage actual system use or improve user satisfaction.

Table 6. Mapping of Insignificant Relationships in the Technology Dimension to the Proposed Features

No	Insignificant Relationship	Coefficient (β)	p-value	Proposed Feature
1	System Quality → System Use	0.093	0.339	Intelligent Document Verification; Intelligent Document Classification & Auto-Routing

2	Information Quality → System Use	0.104	0.292	Intelligent Document Verification; Smart Document Search & Retrieval
3	Service Quality → System Use	0.173	0.122	Internal Service Virtual Assistant
4	Service Quality → User Satisfaction	-0.020	0.823	Internal Service Virtual Assistant

These findings indicate that the current use of SI-Kariwari is driven primarily by administrative obligations and organizational support (organizational structure and organizational environment), rather than by employees' perceptions of the system's technical quality. This finding is consistent with the characteristics of government information systems, which are generally mandatory-use systems, where employees continue using the application because it is required for their work even though the system quality may not yet be perceived as optimal [39], [42]. Furthermore, the insignificant relationship between Service Quality and User Satisfaction suggests that the document verification process and technical support in SI-Kariwari, which are still performed manually during the verification of incoming and outgoing correspondence, do not provide a service experience that sufficiently differentiates user satisfaction because they remain vulnerable to processing delays and inconsistencies among personnel responsible for document verification. This interpretation is based on the pattern of the results and on the characteristics of government information systems; it was not tested directly (for example, through a voluntariness-of-use variable) and should be confirmed in future research.

These findings constitute the primary basis for proposing the development of Intelligent Document Verification, Intelligent Document Classification and Auto-Routing, Smart Document Search, and an AI- and OCR-based Internal Service Virtual Assistant in this study. These features are intended to address the three Technology sub-dimensions that were found to be insignificant. First, they are expected to improve Information Quality through automated verification that ensures the accuracy and timeliness of document validation. Second, they are intended to enhance System Quality by automating document verification processes, thereby reducing dependence on users' manual capabilities in checking document completeness. Third, they are expected to improve Service Quality by enabling the system to provide verification scores and corrective recommendations in real time, thereby reducing variations in service quality that previously depended on human technical support. Consequently, the proposed features are expected to strengthen the relationships between the Technology dimension and both System Use and User Satisfaction in future HOT-Fit evaluations conducted after the features are implemented.

A. Feature Design

Based on the HOT-Fit evaluation results, the Human and Organization dimensions are generally well supported: Organizational Structure and Organizational Environment significantly influence System Use and User Satisfaction, which in turn significantly influence Net Benefit ($R^2 = 0.742$). However, there are still opportunities to improve the Technology dimension in order to enhance System Use and User Satisfaction. One of the identified issues, based on the preliminary observations of this study, is that document completeness verification is still performed manually, which may lead to administrative errors and slow down the verification process.

To address this issue, this study proposes the development of four intelligent features for SI-Kariwari: Intelligent Document Verification, Intelligent Document Classification and Auto-Routing, Smart Document Search, and an AI-based Internal Service Virtual Assistant, utilizing Artificial Intelligence (AI) and Optical Character Recognition (OCR) technologies. The proposed features are based on AI-driven document verification approaches that have been reported to improve the accuracy of identity document matching [22], as well as the use of OCR for text extraction from administrative documents [32]. This proposal is consistent with the direction of smart governance development, which

emphasizes the utilization of intelligent technologies to improve service efficiency, information management accuracy, and administrative responsiveness [1]. Furthermore, the implementation context of SI-Kariwari within the Jayapura City Government has previously been demonstrated through studies evaluating its effectiveness in supporting administrative services in the Abepura District [11].

It should be noted that the four features presented in this section are conceptual designs derived from the HOT-Fit results. They have not yet been implemented in SI-Kariwari, and the interface prototypes in Figs. 4, 5, 7, 9, and 11 are mock-ups used to illustrate the concepts. Their effectiveness, technical accuracy (for example, OCR accuracy and classification precision), and acceptance by users have not been empirically tested.

1. Intelligent Document Verification Feature Concept

This feature is designed to address the weak influence of System Quality and Information Quality on System Use, as identified during hypothesis testing. The concept utilizes Optical Character Recognition (OCR) to read and extract text from documents uploaded by users. Subsequently, an Artificial Intelligence (AI) model verifies the completeness of the administrative elements contained in the document based on the applicable official correspondence standards [33]. The verification results are presented as a document verification score together with detailed information on any missing administrative elements, enabling users to correct deficiencies before the document proceeds to the next processing stage. Through this mechanism, the verification process, which previously depended on manual inspection by administrative staff, is expected to be performed more consistently and efficiently. The concept of the proposed feature is illustrated in Fig. 3.

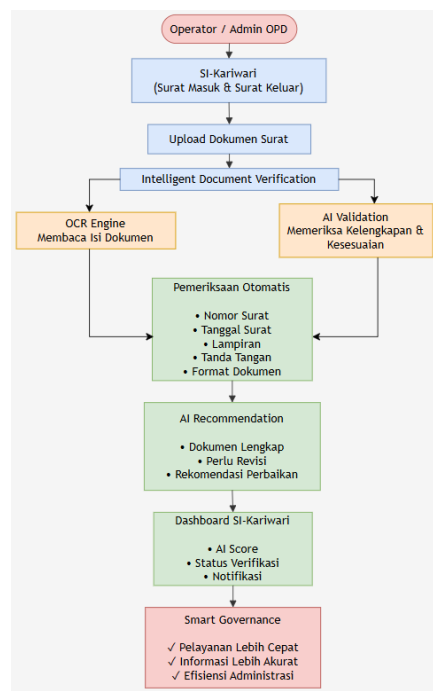


Fig. 3. Intelligent Document Verification Feature Concept

The interface prototype of the Intelligent Document Verification feature is presented in Fig. 4. The prototype illustrates the automated verification process within the Incoming Mail and Outgoing Mail modules, displaying the AI verification status, document verification results, verification score, and improvement recommendations before the document is processed further in SI-Kariwari.

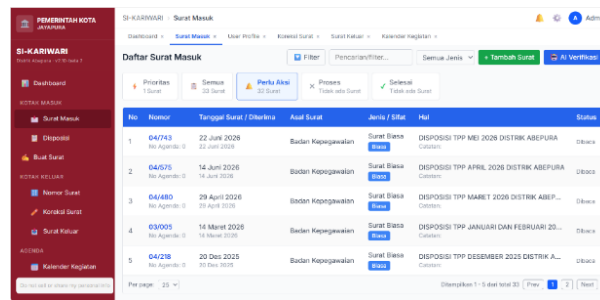
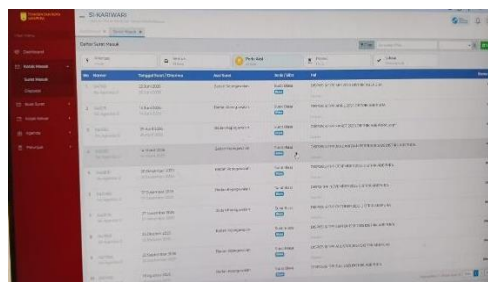
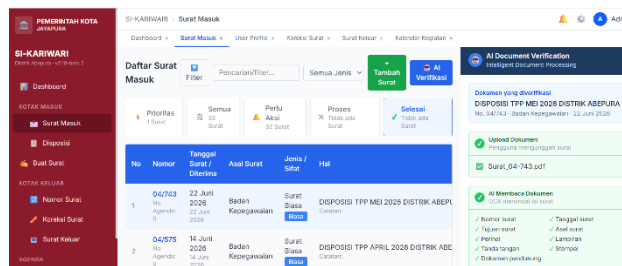


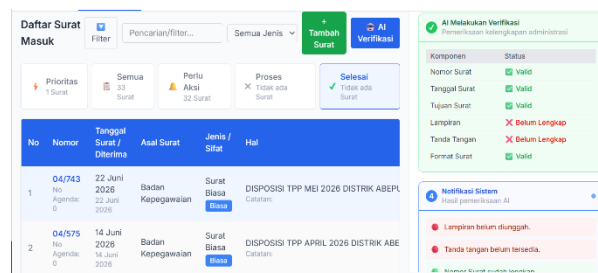
Fig. 4. Prototype of the Intelligent Document Verification Feature



(a)



(b)



(c)

Fig. 5. (a) Current SI-Kariwari menu interface; (b) OCR text extraction results displayed in the Incoming Mail module, showing the "AI Verification in Progress" status together with the extracted document text; (c) Verification score and improvement recommendations generated by the system before the document is processed further by government employees.

2. Intelligent Document Classification and Auto-Routing Feature Concept

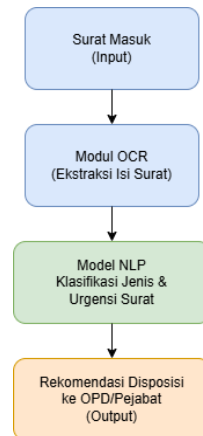
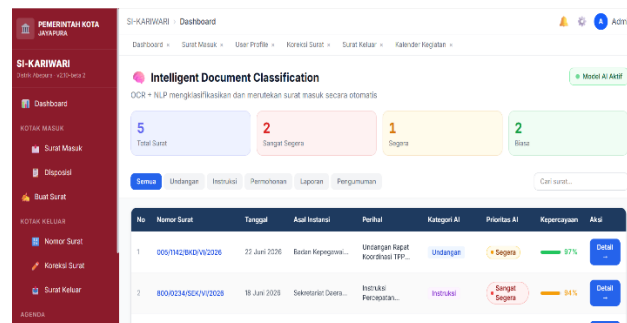
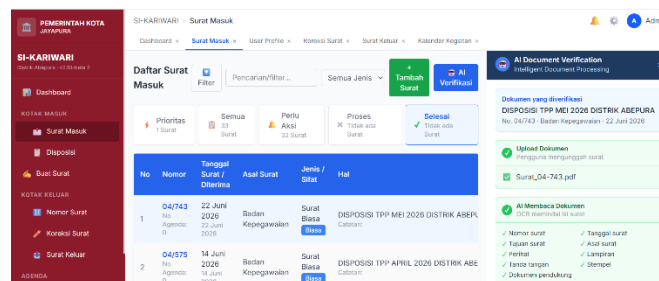


Fig. 6. Intelligent Document Classification and Auto-Routing Feature Concept

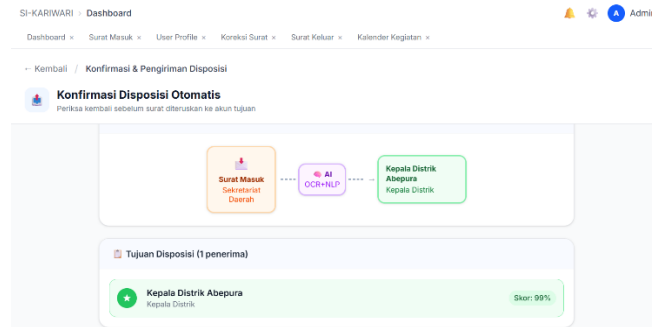
This feature is designed to strengthen the influence of System Quality on System Use by reducing manual workload during the document disposition process. The proposed concept combines OCR technology to extract the content of incoming documents with a Natural Language Processing (NLP) model that classifies document type and urgency based on textual patterns and document context [34]. Based on the classification results, the system automatically recommends the appropriate destination for document disposition to the relevant Regional Government Organization (OPD) or authorized official. The recommendation can then be confirmed by the responsible staff before the document is forwarded. This approach is intended to accelerate administrative workflows while reducing errors in determining document disposition destinations that previously relied on manual processing.



(a)



(b)



(c)

Fig. 7. (a) Incoming document list displaying automatically generated category and priority labels; (b) document detail page with disposition recommendations; (c) disposition confirmation and submission page.

3. Smart Document Search Feature Concept

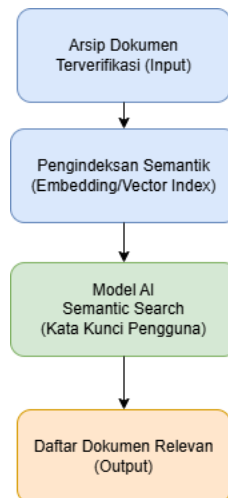
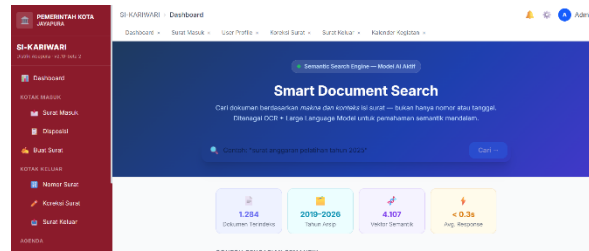
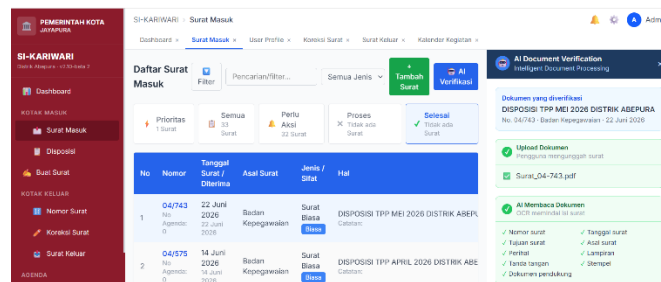


Fig. 8. Smart Document Search Feature Concept

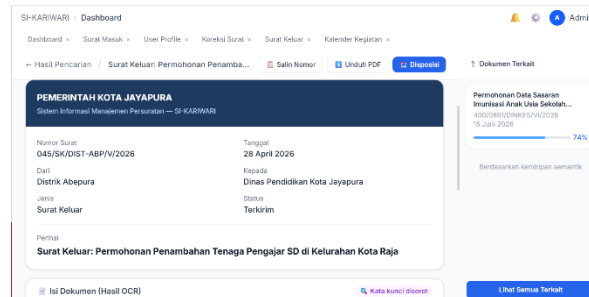
This feature is designed to address the weak influence of Information Quality on System Use, particularly regarding the relevance and accessibility of archived information. The concept utilizes OCR-extracted text from all verified documents, which is subsequently indexed using an AI-based semantic search approach [35]. Through this approach, users can search for documents based on the context or meaning of their contents rather than relying solely on document numbers or dates, as commonly found in conventional archive systems. Search results are ranked according to semantic relevance, enabling users to locate the most relevant documents more quickly and accurately.



(a)



(b)



(c)

Fig. 9. (a) Search field with an example query; (b) search results displayed as document cards; (c) document preview page.

4. Internal Service Virtual Assistant Feature Concept

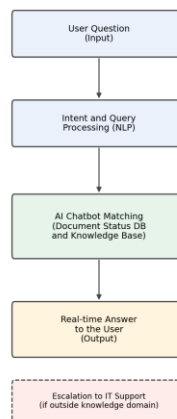
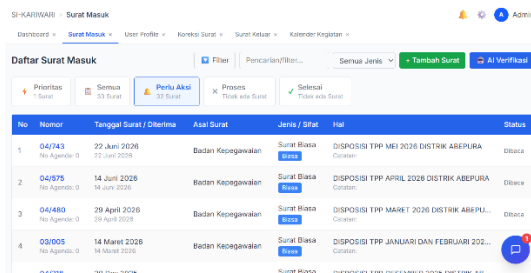
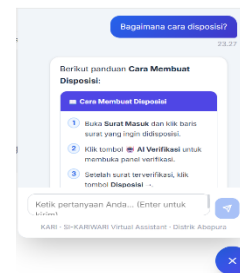


Fig. 10. Internal Service Virtual Assistant Feature Concept

This feature is designed to address the insignificant influence of Service Quality on User Satisfaction. The concept is implemented as an AI-based chatbot integrated into the SI-Kariwari interface, capable of responding to user inquiries in real time regarding document status, administrative procedures, and technical issues related to system usage [36]. The AI model processes user queries and matches them against the document status database and the system knowledge base containing user guidance and administrative procedures. If a user's question falls outside the chatbot's knowledge domain, the request is automatically escalated to IT support personnel. Through this mechanism, technical assistance is expected to be delivered more consistently, without depending entirely on the availability of support staff.



(a)



(b)

Fig. 11. (a) Floating chat button located at the bottom-right corner of the interface; (b) chat window displaying conversational question-and-answer bubbles.

B. Discussion

The HOT-Fit evaluation results in this study provide further empirical evidence that the HOT-Fit model is an appropriate framework for measuring the success of information system implementation within an organization while simultaneously assessing the alignment among the technology, human, and organization dimensions. The findings are consistent with previous studies showing that System Quality, Information Quality, Service Quality, and Organizational Structure collectively influence User Satisfaction, indicating that the HOT-Fit model is recommended as a framework for the continuous evaluation of information system success [37]. The results are also consistent with other studies evaluating information system implementation in government institutions using the HOT-Fit model, in which the Organization dimension was found to have a more dominant influence than the Technology dimension on system utilization [38]. This similarity in findings supports the plausibility of the present results and suggests that the HOT-Fit model developed by Yusof et al. can be applied across various organizational contexts, including both the healthcare and public sectors, as a basis for formulating strategies to improve information system quality [18].

Addressing the theoretical gap, the results show that HOT-Fit results can be used not only to judge implementation success but also as an analytical basis for selecting improvement features. Whereas the HOT-Fit studies reviewed in Table 1 [20], [24], [25] ended with the identification of factors requiring improvement, this study maps each non-significant Technology relationship to a specific intelligent feature (Table 6).

Addressing the empirical gap, this study provides quantitative evidence on the fit among the Human, Organization, and Technology factors and Net Benefit in SI-Kariwari, which was not available in the earlier effectiveness study in Abepura District [11]. The high R^2 values of System Use (0.819) and User Satisfaction (0.837) indicate that the HOT-Fit constructs account for most of the variance in these outcomes, although most of the significant paths originate from the Organization dimension rather than the Technology dimension.

Addressing the contextual gap, the dominance of the Organization dimension ($\beta = 0.200\text{--}0.373$) over the Technology dimension in a local government e-office system is consistent with the HOT-Fit study of a government budget-performance information system [38]. By contrast, a study of an integrated student information system reported that system, information, and service quality, together with organizational structure, influenced user satisfaction [37], whereas in the present study only System Quality and Information Quality did, and Service Quality did not. This difference is consistent with the mandatory-use character of government administrative systems, in which employees continue to use the system because their work requires it, regardless of the perceived technical quality [39], [42]; however, this explanation remains an interpretation that was not tested directly.

Addressing the practical gap, Table 7 compares the conditions expected by the HOT-Fit model with the actual conditions observed in SI-Kariwari. The largest discrepancies concern the Technology dimension, particularly Service Quality and the paths to System Use, and the manual document verification process; these are the conditions targeted by the proposed features.

Table 7. Expected and Actual Conditions Based on the HOT-Fit Analysis of SI-Kariwari

HOT-Fit Relationship	Expected Condition	Actual Condition in This Study
System Quality $\rightarrow$ System Use and User Satisfaction (H1, H2)	Higher system quality (user friendliness, ease of learning, accessibility, usefulness) increases use and satisfaction [18].	Supported for User Satisfaction (H2: $\beta = 0.227$; $p = 0.008$) but not for System Use (H1: $\beta = 0.093$; $p = 0.339$).
Information Quality $\rightarrow$ System Use and User Satisfaction (H3, H4)	Higher information quality (accuracy, timeliness, relevancy, reliability) increases use and satisfaction [18].	Supported for User Satisfaction (H4: $\beta = 0.199$; $p = 0.025$) but not for System Use (H3: $\beta = 0.104$; $p = 0.292$).
Service Quality $\rightarrow$ System Use and User Satisfaction (H5, H6)	Better service quality (technical support, responsiveness, assurance, training) increases use and satisfaction [18].	Not supported for either outcome (H5: $\beta = 0.173$; $p = 0.122$; H6: $\beta = -0.020$; $p = 0.823$).
Organizational Structure and Environment $\rightarrow$ System Use and User Satisfaction (H7–H10)	Organizational support encourages system use and user satisfaction [18].	All four relationships supported ($\beta = 0.200\text{--}0.373$; $p \leq 0.008$); the Organization dimension is the main driver.
System Use and User Satisfaction $\rightarrow$ Net Benefit (H11, H12)	Use and satisfaction generate net benefits [15], [18].	Both supported; User Satisfaction (H12: $\beta = 0.634$; $p < 0.001$) is stronger than System Use (H11: $\beta = 0.255$; $p = 0.017$).
Document verification process	Completeness of correspondence documents is verified consistently before further processing to maintain information quality.	Verification is still performed manually (preliminary observations), with potential data entry errors and processing delays.

Unlike previous HOT-Fit studies, which generally concluded at the evaluation stage by providing organizational recommendations, this study extends the application of the evaluation results by using the insignificant relationships identified within the Technology dimension as the basis for designing a technical solution. Specifically, it proposes the development of SI-Kariwari into an intelligent information system through the integration of Artificial Intelligence (AI) and Optical Character Recognition (OCR) technologies. This approach is consistent with the concept of intelligent information systems, which states that the ability of a system to support smart governance depends on information quality, system reliability, and the capability of services to respond effectively to user needs [1]. Therefore, the integration of AI and OCR is not merely the addition of new technological features but rather a solution specifically designed to address the weaknesses identified through the HOT-Fit evaluation results.

The relevance of these findings to the realization of Smart Governance in Jayapura City indicates that government digital transformation cannot be achieved solely through the implementation of electronic-based applications but also requires continuous improvements in system quality based on systematic evaluation results. The proposed development of SI-Kariwari into an intelligent information system is expected to improve bureaucratic efficiency, enhance the accuracy of administrative services, and support data-driven decision-making. Consequently, the HOT-Fit evaluation results presented in this study serve not only as an instrument for measuring the success of information system implementation but also as the foundation for developing a roadmap to transform SI-Kariwari into an intelligent information system that supports the realization of Smart Governance in Jayapura City.

This study has several limitations. First, it is cross-sectional and based on self-reported perceptions from a single city government; with 116 respondents (the entire population of active users), the findings may not be generalizable to other regions. Second, the Q^2 value was calculated from the R^2 values and is therefore high by construction; construct-level blindfolding Q^2 and PLSpredict were not reported in this study. Third, the mandatory-use explanation of the results was not tested directly. Fourth, the intelligent features are conceptual designs that have not been implemented, so their effects on System Quality, Information Quality, and Service Quality remain untested; their implementation should also consider data privacy, the accuracy of OCR and classification models on official documents, and human oversight of automated recommendations.

5. CONCLUSION

This study evaluated the implementation of SI-Kariwari using the Human–Organization–Technology Fit (HOT-Fit) model with the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach, based on data collected from 116 respondents representing 29 Regional Government Organizations (Organisasi Perangkat Daerah/OPD) in Jayapura City. All constructs satisfied the validity and reliability criteria, and the model showed strong explanatory power and predictive relevance ($R^2 = 0.742\text{--}0.837$; $Q^2 = 0.992$). Hypothesis testing revealed that 8 of the 12 hypothesized relationships were statistically significant, with the Organization dimension exerting a more dominant influence on System Use and User Satisfaction than the Technology dimension, all four non-significant relationships originating from the Technology dimension. Furthermore, User Satisfaction had the strongest influence on Net Benefit ($\beta = 0.634$), making it the main determinant of the net benefits perceived by SI-Kariwari users.

Based on these evaluation results, this study proposes a conceptual Intelligent Information System Model for SI-Kariwari consisting of four features: Intelligent Document Verification, Intelligent Document Classification and Auto-Routing, Smart Document Search, and an Internal Service Virtual Assistant, using Artificial Intelligence (AI) and Optical Character Recognition (OCR). The Intelligent Document Verification feature is designed to verify the completeness and format of incoming and outgoing official documents, identify data entry errors, and provide recommendations before documents are processed further. These features have not yet been implemented; they are expected to improve the technological quality of the system, reduce administrative errors, accelerate document verification, and support Smart Governance in Jayapura City, but these expected effects remain to be tested.

Overall, this study not only evaluates the implementation of SI-Kariwari using the HOT-Fit model but also links the evaluation results to a conceptual design of an intelligent information system, which can serve as a recommendation for the future development of SI-Kariwari. Future research should implement and test the proposed features (for example, OCR accuracy, classification precision, and user acceptance), report construct-level predictive relevance (blindfolding Q^2 and PLSpredict), and re-evaluate SI-Kariwari with the HOT-Fit model after implementation.

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