Assessing the Implementation of the Audit Management Information System (SIMAUDI) in the Directorate General of Customs and Excise Using the DeLone and McLean Model

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ABSTRACT

A Management Information System (MIS) provides managers with essential tools and information to facilitate informed decision-making. This study evaluates the implementation of the Audit Management Information System (SIMAUDI) at the Directorate General of Customs and Excise (DGCE) using the DeLone and McLean Information System Success Model (ISSM). The research focuses on SIMAUDI users at the DGCE, including auditors, structural officials, and staff, with respondents selected through purposive sampling from both the DGCE Headquarters and Regional Offices. A mixed-methods approach was employed, combining quantitative and qualitative methodologies. Data collection involved surveys, interviews, and document analysis to capture a comprehensive understanding of the system's effectiveness. The findings reveal that system quality enhances accessibility and reliability, though challenges with outdated data persist. Information quality supports audit monitoring but requires improvement to ensure timeliness. Service quality expedites technical responses, although training opportunities remain limited. While system usage facilitates administrative tasks, its adoption is still constrained. User satisfaction is influenced by perceived efficiency, and the system's overall impact contributes to productivity but has yet to significantly reduce the manual workload. In conclusion, SIMAUDI demonstrates considerable potential to improve accountability and transparency in the audit process. However, regular evaluation and continuous improvements are essential to optimize its performance and fully realize its benefits.

Keywords: *Information System Success Model; SIMAUDI; Audit Efficiency; User Satisfaction*

Penilaian Implementasi Sistem Informasi Manajemen Audit (SIMAUDI) di Direktorat Jenderal Bea dan Cukai Menggunakan Model DeLone dan McLean

ABSTRAK

Sistem Informasi Manajemen (SIM) adalah sistem yang menyediakan alat dan informasi yang diperlukan bagi manajer untuk membuat keputusan yang terinformasi. Penelitian ini bertujuan untuk mengevaluasi implementasi Sistem Informasi Manajemen Audit (SIMAUDI) di Direktorat Jenderal Bea dan Cukai (DJBC) menggunakan pendekatan Information System Success Model Delone-McLean (ISSM DM). Populasi penelitian adalah pengguna SIMAUDI di DJBC, termasuk auditor, pejabat struktural, dan staf pelaksana. Teknik pengambilan sampel menggunakan purposive sampling, dengan responden dari Kantor Pusat dan Kantor Wilayah DJBC. Metode penelitian ini mencakup pendekatan kuantitatif dan kualitatif dengan pengumpulan data melalui survei, wawancara, dan analisis dokumen. Hasil penelitian menunjukkan bahwa kualitas sistem memengaruhi aksesibilitas dan keandalan, kualitas informasi mendukung pemantauan audit meski data sering tidak up-to-date, kualitas layanan mempercepat respon teknis namun pelatihan terbatas, penggunaan sistem membantu administrasi tetapi masih terbatas, kepuasan pengguna dipengaruhi efisiensi, dan dampak sistem meningkatkan produktivitas namun belum signifikan dalam mengurangi beban kerja manual. Kesimpulannya, SIMAUDI memiliki potensi besar untuk meningkatkan akuntabilitas dan transparansi, namun evaluasi berkala dan penyesuaian diperlukan untuk optimalisasi lebih lanjut

Kata Kunci: Sistem Informasi; SIMAUDI; Efisiensi Audit; Kepuasan Pengguna

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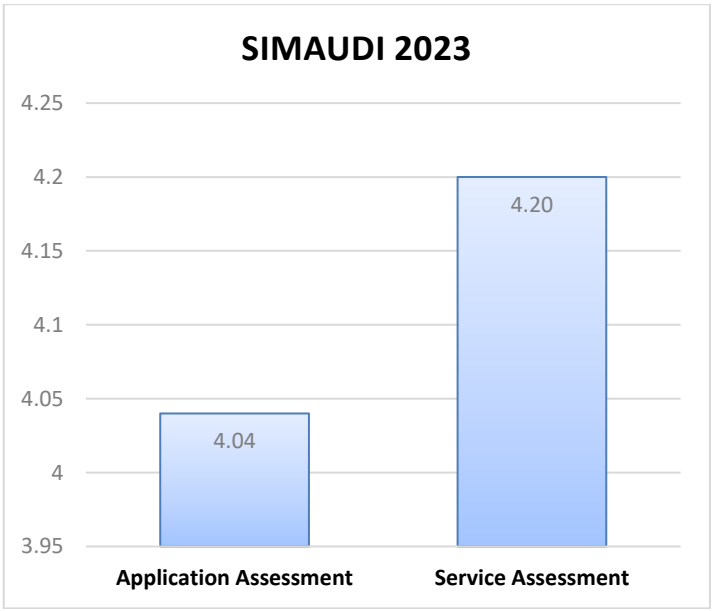
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INTRODUCTION

The integration of information technology into audit management processes is increasingly critical as organizations face growing demands for transparency and accountability. The Directorate General of Customs and Excise (DGCE) in Indonesia has encountered challenges in ensuring the effectiveness and efficiency of its audit processes. To address these issues, DGCE developed the Audit Management Information System (SIMAUDI), a platform designed to streamline audit activities from planning to evaluation.

SIMAUDI serves as a management information system that facilitates the administrative processes involved in all stages of customs and excise audits at DGCE. It is primarily used by the Directorate of Customs and Excise Audit (DCEA) at the DGCE Head Office and by Regional Offices tasked with conducting customs and excise audits (Direktorat Audit Kepabeanan dan Cukai, 2021). While SIMAUDI has been operational for several years, its effectiveness in fully achieving organizational goals remains an area for improvement, particularly in its utilization and functionality.

An assessment report conducted in 2023 evaluated the utilization of SIMAUDI, with participation from auditors at the DGCE Head Office and Regional Offices (formerly referred to as Ex-Zoning). Respondents provided feedback on a scale from 1 to 5. The results, as illustrated in Figures 1 through 3, provide insights into the current performance and areas requiring enhancement to optimize the system's role in supporting audit processes.



Figures 1 Application Assessment and Service Assessment of SIMAUDI
Source: Directorate of Customs and Excise Audit, DGCE (2023)

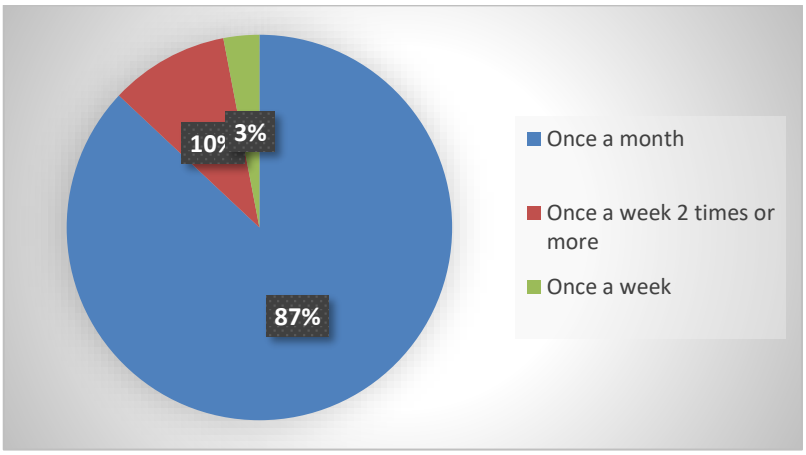


Figure 2 Intensity in Using SIMAUDI

Source: Directorate of Customs and Excise Audit, DGCE (2023)

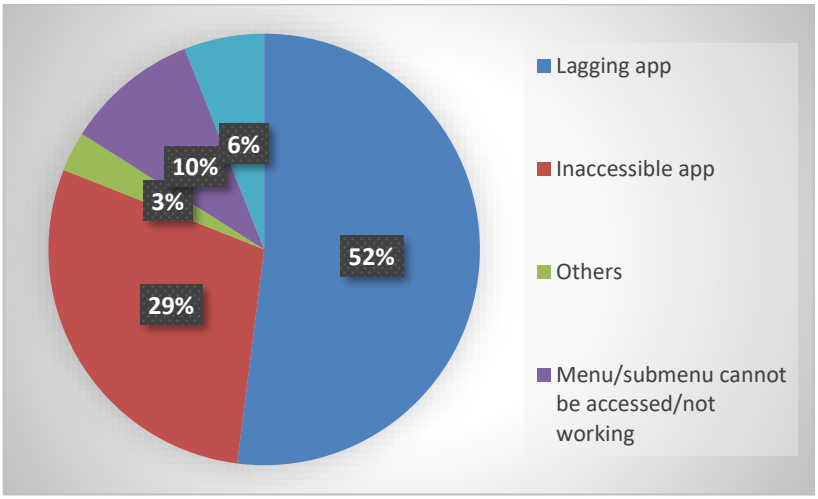


Figure 3 Constraints Experienced in Using SIMAUDI

Source: Directorate of Customs and Excise Audit, DGCE (2023)

The 2023 assessment of SIMAUDI revealed several key findings regarding the system's application quality and service delivery. Figure 1, titled Application Assessment and Service Assessment of SIMAUDI, indicates that user satisfaction with the service exceeds satisfaction with the application quality. This disparity suggests that while the support services meet user expectations, the application itself requires improvement. Figure 2, Intensity in Using SIMAUDI, shows that 87% of users access the application weekly, reflecting regular usage. However, Figure 3, Constraints Experienced in Using SIMAUDI, highlights critical challenges. The most common issue is frequent system lagging (52%), followed by difficulties in accessing the application (29%) and non-functional menus or sub-menus (13%). These findings underscore areas requiring immediate attention to enhance the overall user experience.

This research evaluates SIMAUDI implementation using the DeLone and McLean Information System Success Model (ISSM), which examines system quality, information quality, service quality, user satisfaction, system use, and its impact on individuals and organizations. A central challenge identified in this

study is the system's instability and its limited utilization, which highlights a gap between expectations of increased efficiency through technology and the reality of its practical application. Prior studies emphasize the importance of system quality and user satisfaction in the successful implementation of information systems across various sectors. However, limited research has specifically addressed the audit management information systems in the government sector, particularly in Indonesia.

This study addresses a notable research gap by evaluating SIMAUDI's reliability and its integration with existing systems within the government context, specifically at the Directorate General of Customs and Excise (DGCE). It highlights that while SIMAUDI delivers accurate and relevant data, issues with data timeliness and completeness hinder the efficiency of the audit process. Furthermore, this research contributes to the understanding of technical service quality and user training in system implementation. Many users reported inadequate training and insufficient service support, suggesting areas for enhancement.

In terms of system usage, the study uncovers practical challenges, such as the need to supplement SIMAUDI with external tools like Excel for data processing. These findings provide valuable insights into how such challenges affect user satisfaction, particularly concerning system efficiency and responsiveness. Finally, the study explores the system's impact on productivity, revealing that while SIMAUDI supports audit administration, its contribution to operational efficiency remains limited.

This research advances the understanding of how improvements in system quality, data management, service delivery, and training can enhance the effectiveness of SIMAUDI. By addressing these areas, the system can better meet its objectives of increasing accountability, transparency, and efficiency within DGCE's audit processes.

The primary objective of this study is to evaluate the effectiveness of the Audit Management Information System (SIMAUDI) at the Directorate General of Customs and Excise (DGCE). The evaluation utilizes the DeLone and McLean Information Systems Success Model (ISSM DM), a widely recognized framework for assessing information system success. This research seeks to determine the extent to which SIMAUDI enhances the efficiency of DGCE's audit processes by promoting more organized, effective, and automated audit management and by providing relevant analytical tools.

A further aim of the study is to identify specific aspects requiring improvement to optimize SIMAUDI's functionality. The ISSM DM framework evaluates key dimensions, including system quality, information quality, user satisfaction, usage intensity, and the system's impact on individuals and organizations. By analyzing these dimensions, the study provides a comprehensive understanding of SIMAUDI's strengths and weaknesses, offering actionable insights into areas needing attention for further development.

The study aspires to make both theoretical and practical contributions. From a theoretical perspective, the findings aim to expand the literature on public-sector information system implementation, particularly within the context of customs and excise audits. By employing ISSM DM, the study explores critical

factors influencing information system success, establishing a reference for future research. Practically, the study offers specific recommendations to DGCE for improving SIMAUDI's effectiveness and efficiency, such as adding features, enhancing service quality, and bolstering user training.

The broader impact of this research extends beyond DGCE, as it offers a model for other institutions with similar operational frameworks. Through a comprehensive evaluation, the findings can guide organizations in implementing or refining their own audit management information systems. Ultimately, the study supports the overarching goals of increased transparency, accountability, and efficiency in audit processes, aligning with DGCE's strategic objectives in customs and excise management.

The research adopts both qualitative and quantitative methods, leveraging the ISSM DM framework to measure SIMAUDI's implementation success. Although ISSM DM was introduced in 1992, it builds upon theoretical and empirical work from the 1970s and 1980s and has evolved alongside the role of information systems, as reflected in updates in the model (DeLone & McLean, 2003). The framework's enduring relevance is underscored by its application in recent studies, including those by Meilani et al (2020), Rana et al (2015), Wara et al (2021), Adrianto & Fajar (2023), Hendri et al (2022), Banafo Akrong (2022), Alyoussef (2023), Lutfi (2023), dan Zhong & Chen (2023).

The study hypothesizes that system quality, information quality, and service quality positively influence user satisfaction and system usage, which collectively contribute to SIMAUDI's overall success. By comparing the study's findings with prior research, the study aims to enrich the theoretical understanding of successful information system implementation in the public sector. These insights provide a robust foundation for DGCE and similar institutions to enhance the effectiveness and efficiency of their audit systems, driving improved organizational performance.

Audits of information systems involve evaluating and assessing digital tools and technologies used for collecting, analyzing, and reporting data on organizational operations and user feedback (Sorg, 2023). A Management Information System (MIS) is designed to provide managers with essential tools and information to support informed decision-making. MIS can be described as a computerized database of financial and operational information, systematically organized and programmed to generate regular reports for all management levels within an organization (Aswar, 2021).

The primary functions of an MIS audit include data collection, processing, storage, retrieval, and dissemination to support managerial decisions. MIS audits facilitate performance monitoring, operational control, and strategic planning. The implementation of MIS in organizations leads to better decision-making, increased efficiency, improved communication and collaboration, enhanced data accuracy, and overall competitiveness (Aswar, 2021).

SIMAUDI consists of several core modules, including the Audit Planning Module, Audit Execution Module, Audit Assignment Execution Module, and the Audit Monitoring, Evaluation, and Quality Assurance Module. Each module aligns with specific stages of the audit process performed at the Directorate

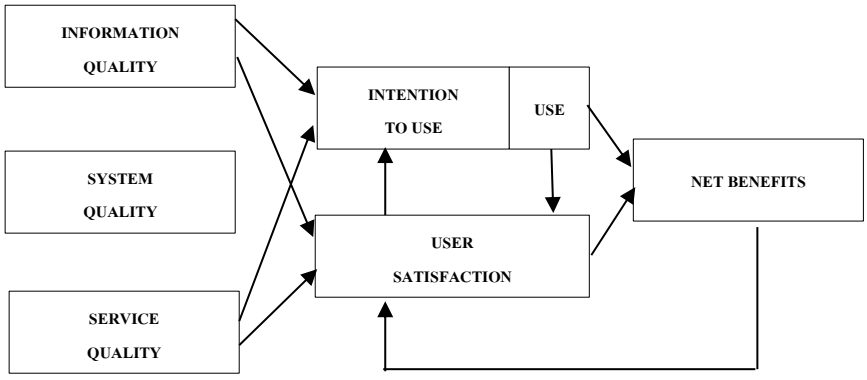
General of Customs and Excise (DGCE). These modules process audit data inputted by both structural staff (sub-directorate officers) and functional staff (auditors and functional officers), ensuring systematic and streamlined workflows (Direktorat Jenderal Bea dan Cukai, 2022).

SIMAUDI offers significant advantages for the audit process, particularly in terms of time and cost efficiency, while enhancing overall effectiveness. Automation of various audit tasks allows for quicker and more accurate execution, reducing the risk of human error. Additionally, SIMAUDI enables auditors to detect anomalies in real-time, facilitating prompt corrective actions to address potential issues. By improving the quality and reliability of audit outcomes and enabling continuous monitoring of activities and controls, SIMAUDI helps DGCE and associated organizations maintain compliance and operational integrity (Direktorat Jenderal Bea dan Cukai, 2022).

The Information System Success Model (ISSM) developed by DeLone and McLean (1992) provides a theoretical framework for understanding and measuring the success of information systems within organizational contexts. This model includes key dimensions of information system success and offers a structured approach to conceptualizing and operationalizing the concept (DeLone & McLean, 2003).

In 2003, the ISSM model was updated to incorporate service quality as a third dimension alongside system quality and information quality. The concept of net benefits was introduced to replace the previously distinct dimensions of individual and organizational impact, offering a more unified measure of system success. The updated model emphasizes the relationships between system use, user satisfaction, and the intention to use, as well as their collective impact on net benefits (DeLone & McLean, 2003).

The revised ISSM framework provides a more comprehensive and context-specific approach to evaluating information system success, capturing critical variables that influence organizational performance. This updated model, illustrated in Figure 4, serves as a robust framework for assessing SIMAUDI's implementation and its contributions to DGCE's operational efficiency and effectiveness.



Figures 4 The Updated ISSM DM Model

Source: DeLone & McLean (2003)

The DeLone and McLean Information Systems Success Model (ISSM DM), updated in 2003, is a framework that measures the success of information systems by assessing its main components: system quality, information quality, and service quality. Each of these components includes various variables and indicators relevant for evaluating individual and organizational impacts. The following is an explanation of some of the main components in this model.

System Quality refers to the technical characteristics of the information system used, including ease of use, functionality, reliability, flexibility, data quality, portability, integration, and importance. System quality is measured through variables such as ease of access, convenience, data accuracy, and integration with other systems (Gable et al., 2003, 2008). The system's ability to meet user needs reliably and efficiently is critical in assessing its impact on task performance.

Information Quality refers to the properties of the information produced by the system, such as accuracy, relevance, consistency, and timeliness. For example, accuracy assesses the extent to which the information corresponds to reality, while relevance measures the relevance of the information to the user's needs (Bailey et al., 1983; McKinney et al., 2002). Good information quality improves users' ability to make decisions and supports the achievement of organizational goals.

Service Quality includes aspects related to user support and interaction with system services, such as reliability, responsiveness, and quality assurance (Chang & King, 2005; Pitt et al., 1995). Information system training and flexibility in personalizing services to user needs are important indicators of the quality of services provided. Good service increases user satisfaction and encourages continuous use.

In addition to these components, the ISSM DM model also assesses other aspects such as the use of the system, user satisfaction, and individual and organizational impacts. The use of the system can be assessed based on intensity, navigation patterns, and frequency of user access. User satisfaction is measured through the level of satisfaction with the information and the system as a whole (Almutairi & Subramanian, 2005; Gable et al., 2008). Individual impacts include improving work productivity and effectiveness, while organizational impacts involve improving coordination, operational efficiency, and competitive advantage (Gable et al., 2003, 2008).

The ISSM DM model provides a comprehensive framework for assessing the success of information systems, allowing organizations to evaluate the implementation of information technology and make improvements based on the results of this evaluation (Dwivedi et al., 2012).

Early research has explored various contexts of implementation of the Information System Success Model of DeLone-McLean (ISSM DM) in the public sector. Deng *et al.* (2024) examined the work-family welfare of female employees in China through the use of Enterprise Information Systems (EIS). Involving 823 female respondents, this research used a survey to examine the relationship between information system quality (information, system, and service quality) and

welfare. The results showed a positive relationship, as well as the mediating effects of perceived ease of use and usefulness. Amponsah *et al.* (2022) examined the application of cloud-based blockchain to improve the financial security of the National Health Insurance Scheme in Ghana. Using the ISSM DM model, the findings show that information quality and user satisfaction have a significant impact on system use. Sharma *et al.* (2021) focused on the Pokémon Go community and found that intrinsic motivation and system quality influence user participation in crowdsourcing. Ameen *et al.* (2021) explored smart government in the UAE, revealing that overall quality (system, information, service) has a significant effect on use, with innovation as a moderator. Sharma & Sharma (2019) examined mobile banking in Oman, emphasizing the importance of satisfaction and intent to use on actual use, while Aldholay *et al.* (2018) examined online learning in Yemen, suggesting that technological and social factors may affect user satisfaction and performance. The research demonstrates the relevance of the ISSM DM model for evaluating information systems in various public aspects with appropriate contextual customization.

Early research in the private sector demonstrates diverse applications and evaluations of information system success using the ISSM DM model. Falah dan Napitupulu (2023) examined the IT Helpdesk application at XYZ University, involving 352 employees, and identified system, information, and service quality, along with trust, as significant factors influencing user satisfaction and loyalty. Similarly, Banafo Akrong *et al*. (2022) proposed an enhanced ISSM DM framework to evaluate ERP systems in tax administration, finding that system, information, and service quality, as well as organizational climate, significantly impacted system use and user satisfaction. Hendri *et al.* (2022) analyzed the Financial Accounting Management Information System (SIMAKU) implementation at Universitas Muhammadiyah Metro during the COVID-19 pandemic using a qualitative approach, concluding that the system's sustainability persisted despite challenges. Sun dan Teng (2017) developed a measurement scale for the benefits of information systems and demonstrated that job interaction and enrichment significantly affect user satisfaction. Collectively, these studies underscore the critical role of system, information, and service quality in determining information system success, while emphasizing the importance of thorough evaluations to enhance user satisfaction and system utilization.

Research in supervision and auditing has also applied the ISSM DM model to assess information system success. Anggreni *et al.* (2020) evaluated the SISKEUDES system in Bali, concluding that system quality influences usage, while information and service quality were not significant predictors. Sulthony *et al.* (2019) analyzed the Halo Polisi application, identifying system quality, service, use, and user satisfaction as contributors to the system's success. Alameri *et al*. (2019) examined internet use in the UAE government sector, finding that system, information, and service quality significantly influence user satisfaction. Similarly, Othman *et al*. (2015) studied the Virtual Community of Practice (VCoP) in Malaysia and found that service quality, information, and technology elements were key to the platform's acceptance for knowledge sharing. Ningsih dan Kurniawan (2023) evaluated the Fleet Management System in CAP, noting that while the system supported decision-making and business performance, system quality and

information had no significant effect on user satisfaction or net benefits.

RESEARCH METHOD

This study evaluates the effectiveness of the Audit Management Information System (SIMAUDI) implementation at the Directorate General of Customs and Excise (DGCE) using a mixed-methods case study approach, incorporating both quantitative and qualitative methods. This approach ensures a comprehensive analysis of the system's impact and effectiveness.

A purposive sampling technique was employed to select respondents, ensuring that participants possessed relevant knowledge, experience, or direct involvement with SIMAUDI in the DGCE context. This method was chosen to gather detailed and contextually relevant data. The primary respondents included auditors, structural officials, and staff directly involved in the audit process using SIMAUDI. Selection criteria focused on their level of involvement with the system, ability to provide informed insights, and their roles within the audit process. This approach ensured that the data collected accurately reflected the perceptions and experiences of key SIMAUDI users.

To enhance data validity and reliability, the purposive sampling method was integrated with a data triangulation strategy. Various data sources were utilized, including surveys, in-depth interviews, and document analysis. This triangulated approach allowed the study to incorporate multiple perspectives and validated the findings through cross-verification of diverse data.

Respondents in this study included staff members, auditors, functional officers (such as chief auditors and Audit Technical Controllers), and structural officers (including section heads from DGCE headquarters and regional offices). This diverse respondent pool provided a comprehensive range of data, from operational insights to strategic evaluations of SIMAUDI. Interviews were conducted using tailored durations and media to ensure participant convenience and alignment with the study's objectives.

The purposive sampling strategy was particularly relevant given the study's focus on evaluating specific aspects of SIMAUDI's implementation. Input from individuals most familiar with and directly engaged in using the system was critical for obtaining meaningful and actionable insights.

Data collection involved a 6-point Likert scale questionnaire administered to 99 respondents, along with interviews conducted with 17 SIMAUDI users from various DGCE work units. Triangulation techniques further strengthened the validity and reliability of the findings. The research focused on examining system quality, user satisfaction, and the individual and organizational impacts of SIMAUDI.

Data analysis was conducted using two main techniques: questionnaire analysis and interview analysis. Questionnaire data were analyzed using a descriptive statistical approach, categorizing results based on mean value intervals derived from the Likert scale. Validity and reliability of the measurement tools were ensured through calculated r-values and Cronbach's Alpha tests, confirming the accuracy and consistency of the instruments.

Interview data were analyzed using descriptive qualitative and thematic analysis techniques, which offered flexibility and depth in exploring complex

phenomena. The descriptive qualitative approach enabled an in-depth exploration of user experiences, perspectives, and challenges associated with SIMAUDI use at DGCE. This method provided rich contextual details that could not be captured through quantitative analysis alone.

Thematic analysis was applied to identify patterns and key themes within the interview data, organizing them into meaningful categories aligned with the study's objectives. This approach facilitated a structured understanding of respondents' evaluations of system quality, information quality, and service quality. By identifying critical themes, such as technical challenges, feature enhancement requirements, and levels of user satisfaction, the study was able to generate focused, actionable, and insightful findings that contribute to understanding SIMAUDI's effectiveness and areas for improvement.

The use of semi-structured interviews offers significant flexibility in data collection. This format allows researchers to adapt questions based on the respondent and the context while adhering to a pre-designed interview framework. Such adaptability enables respondents to provide detailed and authentic answers, capturing their unique experiences. Consequently, semi-structured interviews often produce rich, diverse data, making them particularly suitable for thematic analysis.

Through thematic analysis, key themes emerging from the interview data can be identified and examined in-depth. Insights into critical issues, such as the need for additional training, technical limitations, or insufficient service support, can be systematically explored and analyzed. These findings not only contribute to the academic understanding of SIMAUDI's effectiveness but also offer practical recommendations for the Directorate General of Customs and Excise (DGCE) to enhance and optimize the system.

The combination of a descriptive qualitative approach with thematic analysis provides a robust framework for analyzing qualitative data comprehensively. This method enables the generation of evidence-based insights and actionable solutions. To ensure a holistic understanding of the research phenomena, the interview findings were verified and integrated with the questionnaire data, as illustrated in Figure 5. This triangulation of data sources enhances the validity of the results and provides a more nuanced and comprehensive perspective on the research objectives.

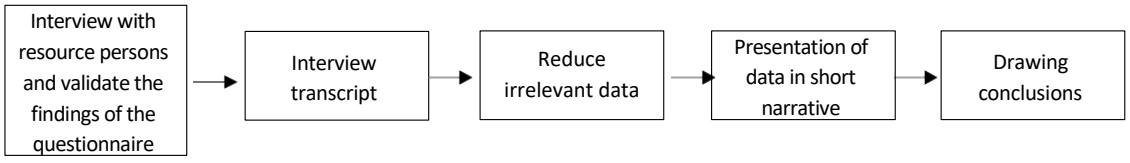


Figure 5 Interview Data Analysis Stages

Source: Prepared by the author (2024)

RESULTS AND DISCUSSION

This research involved conducting questionnaires to SIMAUDI users in the Directorate of Customs and Excise Audit and Regional Office of DGCE through Googleform from August 28 to September 2, 2024. Out of 97 respondents surveyed,

89 respondents completed the questionnaire validly, while 8 respondents had never used SIMAUDI, and 8 questionnaires were not completed. The response rate of the questionnaires reached 91.8%, with 100% of them considered valid, in accordance with the criteria set by Sekaran & Bougie (2019).

Table 1. Demographics of Questionnaire Respondents

Indicator		Number of	Percentage
User of SIMAUDI			
1	Yes	89	91,8 %
2	No	8	8,2 %
Gender Type			
1	Male	78	87,6 %
2	Female	11	12,4 %
Age of Respondent			
1	25 – 30 years old	7	7,9 %
2	31 – 35 years old	52	58,4 %
3	36 – 40 years old	18	20,2%
4	41 – 45 years old	11	12,4 %
5	> 45 years old	1	1,1 %
Level of Education			
1	D1	2	2,2%
2	D3	15	16,9%
3	D4/S1	55	61,8%
4	S2	17	19,1%
Work Experience			
1	< 3 years	12	13,5%
2	4 – 5 years	8	9,0%
3	6 – 10 years	26	29,2%
4	11 – 15 years	39	43,8%
5	> 15 years	4	4,5%
Last Work Assignment Location			
1	Directorate of Customs and Excise Audit, DGCE Head Office	31	34,8 %
2	Regional Office of DGCE that performs audit function	58	65,2 %

Source: Prepared by the author (2024)

Demographic analysis as shown in Table 1 above shows that 91.8% of respondents are SIMAUDI users, with a predominance of male respondents (87.6%). The age range of 31-35 years is the most common (58.4%), followed by 36-40 years (20.2%). In terms of level of education, most respondents have a D4/S1 degree (61.8%), and most work experience is in the 11–15-year range (43.8%). Most of the respondents came from the Directorate of Customs and Excise Audit, DGCE Head Office (34.8%).

Table 2. Results of Questionnaire's Validity Test and Reliability Test

Criteria	Validity (Pearson Correlation)		Jumlah Item		Reliability (*Croncbach's Alpha*)
	r calculated	r table	Valid	Not Valid	
System Quality	0,683 – 0,886	0,2084	18	0	0,969
Information Quality	0,756 – 0,906	0,2084	16	0	0,973
Service Quality	0,791 – 0,927	0,2084	9	0	0,963
Use	0,777 – 0,875	0,2084	4	0	0,847
User Satisfaction	0,891 - 0,964	0,2084	7	0	0,975

Criteria	Validity (Pearson Correlation)		Jumlah Item		Reliability (*Croncbach's Alpha*)
	r calculated	r table	Valid	Not Valid	
Individual Impact & Organizational Impact	0,630 – 0,962	0,2084	11	0	0,977

Source: Prepared by the author (2024)

The validity and reliability of the research instruments as listed in Table 2 show that all items in the questionnaire are valid, with calculated r values ranging from 0.630 to 0.964. For reliability, all categories in the questionnaire had Cronbach's Alpha values above 0.7, indicating good consistency in measurement. Interviews were conducted with 17 SIMAUDI user informants, including executive examiner employees, chief auditors, and section heads at the Directorate of Customs and Excise Audit and the Regional Office of DGCE. The interview results are expected to enrich and strengthen the results of the questionnaire.

Table 3. Questionnaire Results on Evaluation of SIMAUDI with ISSM DM

No	Evaluation Criteria of SIMAUDI	Average Score	Results
1	*System Quality*	3.94	Slightly Agree
2	*Information Quality*	4.30	Slightly Agree
3	*Service Quality*	3.94	Slightly Agree
4	*Use*	4.01	Slightly Agree
5	*User Satisfaction*	3.87	Slightly Agree
6	*Individual and Organizational Impact*	3.87	Slightly Agree
	Average Score	3.99	Slightly Agree

Source: Prepared by the author (2024)

The evaluation utilized an average quantitative assessment of the 6-point Likert scale questionnaire, as summarized in Table 3, alongside thematic analysis of interview data to provide comprehensive insights into SIMAUDI's performance based on the studied criteria. The System Quality dimension received an average score of 3.94 ("Slightly Agree"), reflecting user acknowledgment of the system's ease of access and convenience. However, respondents noted shortcomings in flexibility and responsiveness. The Information Quality dimension earned the highest average score of 4.30 ("Slightly Agree"), indicating user satisfaction with the quality of the information provided by the system. For Service Quality, SIMAUDI achieved an average score of 3.94 ("Slightly Agree"), demonstrating positive user feedback, though areas such as empathy and responsiveness require further improvement. The Use criterion scored 4.01 ("Somewhat Agree"), signifying moderate satisfaction with the system's features.

In terms of User Satisfaction, SIMAUDI earned an average score of 3.87 ("Slightly Agree"), indicating moderate satisfaction while highlighting the need for improvements in effectiveness and efficiency. Finally, the Individual and Organizational Impact dimension also scored 3.87 ("Slightly Agree"), reflecting positive contributions to comprehension and informed decision-making, despite ongoing challenges in managing task complexity.

The results indicate that while SIMAUDI users are generally satisfied, several areas require targeted attention. The high response rate underscores strong user engagement, and the validity and reliability of the questionnaire ensure robust data quality. A demographic analysis revealed that most respondents were

male, aged 31–35, and possessed significant work experience, underscoring their familiarity with the system.

The System Quality dimension was well-rated, particularly for system reliability, which users deemed sufficient for supporting audit activities. However, complaints about lag times when processing large datasets and limited flexibility in addressing specific needs across business units were evident. These findings align with Alameri *et al.* (2019), who emphasized the critical role of system quality in fostering user satisfaction within public-sector management systems in the UAE. In contrast, Ningsih dan Kurniawan (2023) observed that system responsiveness had a more direct effect on operational efficiency than user satisfaction, emphasizing the importance of context in system evaluations.

The Information Quality criterion emerged as the most influential dimension affecting user satisfaction, with high ratings for accuracy, completeness, and relevance. Users appreciated the system's ability to support effective decision-making in audits. However, concerns about the timeliness of information delivery for operational needs were noted. These findings are consistent with Anggreni *et al.* (2020), who identified information quality as a dominant factor in enhancing user satisfaction with the SISKEUDES system in Indonesia. Similarly, Rana *et al.* (2015) highlighted the importance of information relevance in driving sustained use of public-sector information systems in India.

The Service Quality dimension was rated as adequate, with particular appreciation for the support team's responsiveness in resolving technical issues. However, empathy was noted as a shortcoming, with some respondents expressing that their specific needs were not fully understood. This contrasts with findings by Ningsih dan Kurniawan (2023), where service quality was the most significant factor influencing satisfaction with a fleet management system. These differences suggest that the audit sector may prioritize different service aspects compared to the logistics sector, where immediate technical support is often critical.

The Use dimension revealed regular and intensive usage of SIMAUDI for audit-related tasks, with users motivated by the system's integration and ease of access to information. Nonetheless, some users encountered challenges with the interface, particularly new users, who found it less intuitive. These findings corroborate Alameri *et al.* (2019), who demonstrated a positive correlation between information system use and accessibility and functionality in public-sector contexts.

User Satisfaction was significantly influenced by the high ratings for information quality, though it was somewhat dampened by recurring technical issues and the lack of advanced user training. This finding aligns with Meilani *et al.* (2020), who identified user training and user-friendly interfaces as critical factors influencing satisfaction with the SISKEUDES system, underscoring the need to address these areas in the SIMAUDI context.

Finally, the Individual and Organizational Impact dimension demonstrated positive contributions to productivity and decision-making but highlighted challenges in reducing task complexity. These results align with Rana *et al.* (2015), who found that public-sector information systems improve individual

productivity and organizational efficiency. However, Adrianto dan Fajar (2023) emphasized that organizational impacts depend heavily on technology readiness and internal policy support, highlighting the importance of contextual and organizational factors in achieving system success.

CONCLUSION

This study evaluates the effectiveness of the Audit Management Information System (SIMAUDI) implementation at the Directorate General of Customs and Excise (DGCE) using the DeLone and McLean Information Systems Success Model (ISSM DM). It focuses on assessing the system's success in supporting audit management processes and identifying factors that influence its effectiveness. The findings reveal that the success of SIMAUDI is strongly influenced by the quality of the system, information, and services. Meeting these three foundational criteria significantly enhances system usage, user satisfaction, and the system's impact on both organizational and individual performance.

To improve SIMAUDI's effectiveness, DGCE should prioritize enhancements to the user interface and ensure faster and more accurate access to audit information. Additionally, comprehensive user training is essential to enable users to maximize the system's features and ensure ease of use across all levels of personnel. Effective system implementation will lead to greater efficiency and accuracy in audit processes, strengthen data-driven decision-making, and improve internal controls.

The research contributes to the theoretical development of the ISSM DM model within a government context, offering insights into its application in public-sector information systems. However, several limitations should be acknowledged. These include the relatively small sample size and the study's focus on a single institution, data collection at only one point in time, and limited quantitative analysis of relationships among ISSM DM variables.

Future research should address these limitations by involving a broader range of users at different levels within DGCE or across other institutions, conducting longitudinal studies to track changes in SIMAUDI's effectiveness over time, and examining challenges related to system integration. Additionally, future studies could explore the impact of external factors, such as policy changes, on the system's performance to provide a more comprehensive understanding of its effectiveness in dynamic environments.

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