

INTERNATIONAL JOURNAL ON INFORMATICS VISUALIZATION

INTERNATIONAL JOURNAL ON INFORMATICS VISUALIZATION

journal homepage: www.joiv.org/index.php/joiv

Factors Influencing Information Quality of Information Systems: A Systematic Literature Review

Azwan Abd Aziz ^a, Rozi Nor Haizan Nor ^{a,*}, Yusmadi Yah Jusoh ^a, Wan Nurhayati Wan Ab. Rahman ^a, Norhayati Mohd. Ali ^a

^a Department of Software Engineering and Information Systems, Faculty of Computer Science and Information Technology, Universiti Putra Malaysia, Selangor, Malaysia

Corresponding author: *rozinor@upm.edu.my

Abstract— In today's digital era, information quality in information systems is essential for organizational effectiveness and decision-making. This systematic literature review aims to assess and synthesize factors influencing information quality across various systems, focusing on key dimensions such as reliability, accessibility, usability, accuracy, completeness, and timeliness. The existing literature is fragmented, lacking an integrated theory that comprehensively addresses the significance of information quality. Thus, a systematic review was conducted following the PRISMA framework to address this gap and provide evidence-based recommendations for research and practice. Studies were identified, screened, and selected from Scopus and Web of Science. After an initial search using specific keywords, a total of 1,548 articles were found that contained specified terms or strings in various combinations. Of these, 31 studies were chosen for full review based on predefined inclusion and exclusion criteria. The analysis was organized into three primary themes:

i) Core Information Quality Factors, ii) Synergizing Information Quality with System and Service Quality, and iii) Impact of Information Quality on User Satisfaction and Organizational Outcomes. The results emphasize the significant role of high information quality in enhancing user satisfaction and operational efficiency. Different industries prioritize various quality dimensions according to their specific needs. Therefore, this review elucidates the imperative function of good quality information in reinforcing information systems' proper functioning, calling for empirical studies to develop holistic frameworks that incorporate multiple dimensions and impact analysis across different domains.

Keywords—Information quality; factors; dimensions; information systems effectiveness; decision making; user satisfaction

Manuscript received 4 Mar. 2024; revised 19 Jul. 2024; accepted 11 Sep. 2024. Date of publication 30 Nov. 2024. International Journal on Informatics Visualization is licensed under a Creative Commons Attribution-Share Alike 4.0 International License.



I. INTRODUCTION

The quality of information plays a significant role in overall system effectiveness and decision-making accuracy. It makes studying information systems an integral part of any modern organization. Hence, this systematic literature review seeks to synthesize knowledge about factors affecting information quality in different systems. This review aims to find and combine factors affecting information quality through different types of information systems. It will systematically map the field, clarify interconnections between dimensions and information quality, and identify implications for future empirical studies or theories.

Information quality, fundamental for user satisfaction and organizational performance, includes dimensions like accuracy, timeliness, relevance, and reliability [1]. The determinants of information quality are complex and vary

across different systems and environments [2]. The DeLone and McLean Information Systems (D&M IS) Success Model, as shown in Figure 1, integrates information quality as a critical component influencing user satisfaction, system quality, service quality, use, and net benefits [3].

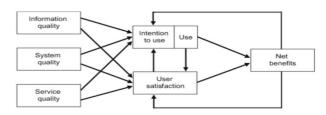


Fig. 1 The Updated DeLone and McLean Information Systems (D&M IS) Success Model [3]

In addition, high information quality is essential for achieving the net benefits, highlighting the importance of

accurate, complete, and timely information in enhancing system performance and user satisfaction [4]. Recent studies have continued to explore these themes. For instance, [5] examined the effect of information quality on business intelligence systems, while [6] explored its role in egovernment systems. Despite the significant importance of information quality, the existing literature remains fragmented and lacks a comprehensive integration of the influencing factors [7]. This review aims to bridge these gaps, offering valuable insights for academics and practitioners, which fosters an in-depth comprehension of the influencing factors of information quality and provides references for subsequent research. To address the purpose of this review, the study will be guided by six research questions, as shown in Table 1.

TABLE I RESEARCH QUESTIONS

No.	Question
R1	How do core information quality factors such as
	reliability, accessibility, usability, accuracy,
	completeness, and timeliness impact the effectiveness of
	information systems?
R2	What are the interrelationships among these factors
	contributing to high information quality across different
	industries?
R3	How does integrating information quality with system
	quality and service quality influence overall information
	system performance?
R4	What comprehensive frameworks can be developed to
	simultaneously evaluate these quality aspects in various
	sectors?
R5	How does high information quality impact user
	satisfaction and organizational outcomes?
R6	Which critical factors drive these impacts to enhance
	decision-making processes and operational efficiency in
	different information systems?

II. MATERIALS AND METHOD

The quality of information systems plays an essential part in deciding the satisfaction and system benefits for users. The D&M IS Success Model also emphasizes three fundamental quality factors: i) information quality, ii) system quality, and iii) service quality. These variables directly impact the determination of the user's intention to use, actual usage, and satisfaction, making it an exciting issue for an effective information system performance indicated in a variety of empirical investigations [8]. Research involving international students at educational institutions demonstrates that a blend of information, system, and service quality together boosts user satisfaction. This concept is echoed in broader studies identifying user characteristics and technical support as integral to achieving high service quality in information systems [9]. In the healthcare industry, especially in clinical decision-support systems, user satisfaction is substantially impacted by information reliability as well as the decisionsupport skills of the system [10]. The significance of information and system quality is also prominent in IT environments like data warehousing, where various factors delineate these attributes [11].

The D&M IS Success Model highlights the significance of these quality dimensions across diverse platforms, such as virtual learning and enterprise resource planning systems, where they critically influence user satisfaction and perceived utility [12]. Whether an information system is successful overall, concerning individual and organizational outcomes, will largely depend on this complex interplay of system quality, usage, information quality, and user satisfaction. The success of various systems, including business intelligence systems, further illustrates the vital role of quality factors in shaping user behavioral intentions and satisfaction [13]. In public hospitals, the performance of healthcare informatics systems, as gauged through these quality factors, directly impacts user satisfaction, emphasizing the overarching importance of these elements in system success [14].

Rouibah et al. [15] highlighted information quality as a critical success factor in public sector organizations, underscoring its impact on information system satisfaction. Cho et al. applied the D&M IS Success Model to assess public hospital information systems, and they established a substantial impact on both system quality as well as information quality of user satisfaction [14]. Moreover, Popovič et al. [12] discovered that information quality is vital in impacting information system usage, along with system quality and information-sharing values. Trang emphasized the various dimensions of information system quality, for instance, reliability, ease of use, flexibility, as well as data quality, which collectively contribute to system success [11]. Information quality remains a critical factor that significantly influences the success, satisfaction, and utilization of information systems across various domains, underscoring the need for organizations to prioritize and maintain high information quality standards to enhance overall system effectiveness.

Our research employs the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) Statements [16], supported by synthesis techniques and quality evaluation. Four main stages for PRISMA have been used in this study: Identification, screening, eligibility, and inclusion, as depicted in Figure 3. PRISMA was developed as an international effort to improve the transparency and reproducibility of review procedures in scholarly literature [17]. The framework is a frequently used tool for Systematic Literature Review (SLR) [18], [19], [20]. Next, the analysis continues to converge the data related to the SLR objectives, categorizing variables concerning general characteristics among all analyzed studies [21]. In addition, quality assessment is essential so that a proper evaluation scale, which can reflect the design types of studies being reviewed, will be used [22]. Creating a detailed protocol is crucial in the systematic review process to ensure the review planning is structured and transparent. The protocol is a record of planned procedures in advance. which accountability, transparency, and consistency, facilitates integrity and reliability of the review's result [16].

A. Identification

This systematic review's methodology was divided into three key phases to acquire appropriate academic publications efficiently. In Phase I, keywords were identified, and terms related to those keywords were derived using thesauri, dictionaries, encyclopedias, and previous studies to ensure holistic coverage. A structured search string for Scopus and Web of Science, including all potential keywords, was set up as shown in Table 2. The systematic pursuit of publications in these databases yielded 1,548 works recovered, mainly making a current study project feasible.

TABLE II
THE SEARCH STRINGS

	THE SEARCH STRINGS			
Keywords	Factors, Dimensions, Information Quality, Information Systems			
Scopus	TITLE-ABS-KEY ((factors OR dimensions)			
	AND "Information Quality" AND "Information Systems") AND PUBYEAR > 2022 AND			
	PUBYEAR < 2025 AND (LIMIT-TO			
	(DOCTYPE, "ar")) AND (LIMIT-TO			
	(LANGUAGE, "English")) AND (LIMIT-TO			
	(SRCTYPE, "j")) AND (LIMIT-TO			
	(PUBSTAGE, "final"))			
WoS	(factors OR dimensions) AND "Information			
	Quality" AND "Information Systems" (Topic)			
	and Review Article or Early Access (Exclude -			
	Document Types) and 2024 or 2023 (Publication			
	Years) and Article (Document Types) and			
	English (Languages)			

B. Screening

The initial phase of this research methodology involves scrutinizing a collection of research materials to determine their relevance to the predefined research questions. This selection process uses content-specific criteria, such as keywords associated with information quality factors and dimensions, to filter the research items. At this point, any repetitive articles are discarded. Initially, 21 publications were eliminated, followed by a more thorough review of 1,512 papers using various exclusion and inclusion criteria as detailed in Table 3. The key element to choosing any literature highlights, including journal articles in their final publication stage. Exclusions were applied to conference papers, books, reviews, and items still in press or available as early access. This approach ensures a focus on fully vetted, peer-reviewed journal articles that provide concrete insights. The review restricted its scope to works published in English between 2023 and 2024. Ultimately, 1,419 publications were excluded for not meeting the specified criteria.

TABLE III
THE SELECTION CRITERIA

Criterion	Inclusion	Exclusion
Language	English	Non-English
Timeline	2023 - 2024	< 2023
Literature type	Journal	Conference, Book,
	(Article)	Review
Publication	Final	In Press, Early Access
Stage		-

C. Eligibility

In the eligibility assessment phase, the third step of the process, 108 articles were gathered. This involved thoroughly examining the articles' titles and primary content to ensure they align with the inclusion criteria and are relevant to the research's goal. Due to non-compliance with the quality criteria of the assessment, as outlined in Table 4, 77 articles were discarded. Consequently, only 31 articles that achieved the entire score six have been selected for inclusion in the upcoming review. The assessment outcomes are illustrated in Figure 2.

TABLE IV QUALITY ASSESSMENT CRITERIA

No.	Criteria	Assessment
C1	Title is significant	
C2	Abstract related to objective	
C3	Adequate details on methodology	Yes/No
C4	Stated the information quality factors	I es/INO
C5	Explained the findings	
C6	Discussed the results	

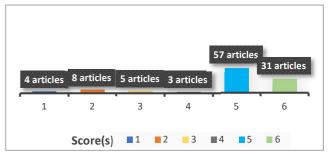


Fig. 2 Quality Assessment Results

D. Data Abstraction and Analysis

In this research, a comprehensive integrative analysis acted as the principal evaluation technique, focusing on synthesizing diverse research approaches, particularly quantitative methods. The primary aim was to identify essential themes and subthemes, beginning with the data collection phase depicted in Figure 3, which presents an indepth analysis of 31 publications related to the study's focal topics.

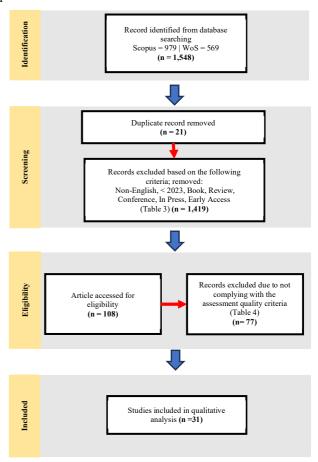


Fig. 3 PRISMA framework (adapted from [16])

Subsequent evaluations centered on critical modern studies concerning information quality, with a thorough review of the methodologies and outcomes from all included studies. The formulation of themes was a collaborative effort between the lead author and co-authors, grounded in the collected evidence. During the analysis phase, a meticulous log was kept tracking various interpretations, challenges, and thoughts crucial for understanding the data. Any discrepancies or conceptual disagreements encountered in the theme development were collaboratively resolved to refine and ensure the consistency of the final themes. The expert review stage played a vital role in confirming each subtheme's relevance, clarity, and suitability, establishing domain validity. Adjustments were made based on expert opinions and feedback to solidify the thematic structure.

III. RESULTS AND DISCUSSION

The analysis of the factors influencing information quality in information systems is structured around three main themes: 1) Core Information Quality Factors (13 selected articles), 2) Synergizing Information Quality with System and Service Quality (11 chosen articles), as well as 3) Impact of Information Quality on User Satisfaction and Organizational

Outcomes (7 selected articles). Each theme addresses critical aspects of information quality, providing a comprehensive overview of the field and elucidating the complex relationships that underpin effective information systems. The selected articles and corresponding research questions for each theme are summarized in Table 5.

A. Core Information Quality Factors

Table 6 depicts the frequency of information quality factors mentioned in the selected articles. Examining the essential dimensions concerning information quality, like reliability, usability, availability, accuracy, and completeness, highlights how each is critical in affecting the information systems' efficacy. Gao et al. [23] discovered the effects of these factors, emphasizing accessibility and usability as the keys to fulfilling user satisfaction and operational efficiency. Likewise, Guo et al. [24] highlight the importance of reliability and usability in mHealth apps, especially among older adults, in which perceived quality directly influences usage. Salim [25] has also indicated that completeness, accuracy, and timeliness are essential e-HRM practices in ensuring the reliability of data quality while creating employee trust to utilize these systems.

TABLE V
THE OVERVIEW OF THEMES, RESEARCH QUESTIONS, AND SELECTED ARTICLES OF INFORMATION QUALITY

Theme	Research Question	Author (Year)	Title	IS Type
T1: Core Information Quality Factors	RQ1: How do core information quality factors such as reliability, accessibility, usability, accuracy, completeness, and timeliness impact the effectiveness of	Gao <i>et al</i> . [23]	A fuzzy-set qualitative comparative analysis exploration of multiple paths to users' continuous use behavior of diabetes self-management apps	Health Information Systems (HIS)
	information systems?	Anthony Jnr <i>et al</i> .	A model to evaluate the	Enterprise Resource
	RQ2: What are the interrelationships among these	[26]	acceptance and usefulness of enterprise architecture for the digitalization of cities	Planning (ERP) systems
	factors that contribute to high information quality across different industries?	Guo <i>et al</i> . [24]	A scale to measure the perceived quality of mHealth by elderly patients with hypertension in China	Mobile Health applications
		Salim [25]	A study of benevolent leadership, e-HRM practices, and organizational performance in India's small and medium-sized enterprises.	e-HRM systems
		Mahmud <i>et al.</i> [27]	Analyzing the Effects of System Quality on the Net Benefits of the Village Financial System (Siskeudes): Information Quality and User Satisfaction as Mediating Variables	Financial information systems
		Abbas [28]	Behavioral Intention of Women to Use E-Learning	E-Learning Systems
		Nie <i>et al</i> . [29]	Continuous usage intention of mobile health services: model construction and validation	Mobile Health Services
		Saputra et al. [30]	Do system quality and information quality affect job performance? The mediation role of users' perceptions	General Information Systems
		Al-Okaily <i>et al.</i> [31]	Evaluating ERP systems success: evidence from Jordanian firms in the age of the digital business	ERP Systems

Theme	Research Question	Author (Year)	Title	IS Type
		Ningsih et al. [32]	Evaluating Successful Implementation of Fleet Management System	Fleet Management Systems
		Zheng <i>et al.</i> [33]	Factors Influencing Clinicians' Use of Hospital Information Systems for Infection Prevention and Control: Cross-Sectional	Hospital Information Systems
		Ke <i>et al.</i> [34]	Study Based on the Extended DeLone and McLean Model Improve the satisfaction of medical staff on the use of home nursing mobile apps by using a hybrid multi-standard decision	Medical Information Systems
		Kuusisto et al. [35]	model Quality of information transferred to palliative care	Healthcare Information Systems
T2: Synergizing Information Quality with System and Service Quality	RQ3: How does integrating information quality with system quality and service quality influence overall information	Nookhao et al. [36]	Achieving successful e- government: Determinants of behavioral intention from Thai citizens' perspective	e-Government systems
	system performance? RQ4: What comprehensive frameworks can be developed to	Sayaf [37]	Adoption of E-learning systems: An integration of ISSM and constructivism theories in higher education	E-learning systems
	evaluate these quality aspects in various sectors simultaneously?	Meng <i>et al</i> . [38]	An analysis of users' continuous use intention of academic library social media using the WeChat	Library Information Systems
		Al-Hattami et al. [39]	public platform as an example An empirical examination of AIS success at the organizational level in the era of the COVID-19	Accounting Information Systems (AIS)
		Pitafi and Ali [40]	pandemic An empirical investigation on actual usage of the educational app: Based on quality dimensions and mobile self-	Mobile Learning System
		Ali <i>et al.</i> [41]	efficacy COVID-19 Pandemic Impact on E-Learning Adoption and Its Utilization at Higher Education: A Comparative Analysis of Institutions and Students'	E-Learning Systems
		Nguyen <i>et</i> al. [42]	Perspectives Determinants of accounting information system effectiveness and the moderating role of external consultants: Empirical research in the Ben Tre Province	Accounting Information Systems
		Al-Okaily <i>et al.</i> [43]	of Vietnam Evaluation of data analytics- oriented business intelligence technology effectiveness: an	Business Intelligence Systems
		Lutfi [44]	enterprise-level analysis Factors affecting the success of accounting information systems from the lens of DeLone and McLean IS model	Accounting Information Systems
		Mujalli [45]	The influence of E-auditing adoption on internal audit department performance amid COVID-19 in Saudi Arabia	E-Auditing Systems
		Johannsen et al. [46]	What impacts the learning effectiveness of a mobile	Mobile Learning Applications

Theme	Research Question	Author (Year)	Title	IS Type
			learning app focused on first- year students?	
T3: Impact of Information Quality on User Satisfaction	RQ5: What is the impact of high information quality on user satisfaction and organizational	Banu <i>et al</i> . [47]	An empirical study of students' perspective on e-learning systems success	E-learning systems
and Organizational	outcomes?	Zhong et	Antecedents of mobile payment	Mobile Payment
Outcomes	RQ6: Which critical factors drive these impacts to enhance decision-making processes and	al. [48]	loyalty: An extended perspective of perceived value and information system success model	Systems
	operational efficiency in different	Amanda <i>et</i>	Assessing the Success of Village	Asset
	information systems?	al. [49]	Asset Management Systems: An	Management
			Employee Perspective	Systems
		Imlawi	Clinical Decision Support	Clinical
		[50]	Systems' Usage Continuance Intentions by Health Care Providers in Jordan: Toward an Integrated Model	Decision Support Systems
		Abbasi <i>et al.</i> [51]	Determinants of continuous intention to use retail apps: A hybrid PLS-ANN approach	Retail Applications
		Arsyad et	Evaluation of Automated	Financial
		al. [52]	Reconciliation Application at Bank XYZ Using Hot Fit Model	Reconciliation Applications
		Al-Hattami [53]	What determines digital accounting systems' continuance intention? An empirical investigation in SMEs	Digital Accounting Systems

TABLE VI
THE IQ FACTORS FREQUENCY BASED ON SELECTED ARTICLES

IQ Factor	Frequency	References
User satisfaction	8	[27], [29], [30], [34], [36],
Oser saustaction	o	[38], [39], [43]
System quality	7	[26], [27], [36], [37], [38],
System quanty	/	[46], [47]
Reliability	7	[23], [24], [27], [33], [34],
· · · · · · · · · · · · · · · · · · ·		[52], [54]
Accessibility	5	[23], [28], [29], [37], [47]
Accuracy	4	[25], [35], [50], [54]
Completeness	4	[25], [35], [52], [54]
Usability	3	[23], [28], [51]
Service quality	3	[26], [38], [48]
System	3	[39], [50], [54]
effectiveness		
Timeliness	3	[25], [35], [51]
Perceived	2	[28], [40]
usefulness	-	[=0], [.0]
System	2	[30], [34]
functionality		
System efficiency	2	[32], [44]
Data reliability	2	[32], [34]
Ease of use	2 2 2	[40], [50]
Trust	2	[40], [48]
System	2	[29], [41]
accessibility		
Data completeness	2	[45], [54]
User efficiency	2 2	[52], [54]
System usability	2	[51], [53]
Responsiveness	1	[24]
Security	1	[24]
System usefulness	1	[29]
Data precision	1	[30]

IQ Factor	Frequency	References
System	1	[43]
adaptability	1	[45]
Operational	1	[31]
efficiency	1	[31]
User acceptance	1	[32]
User support	1	[33]
Content quality	1	[37]
Information	1	[55]
relevance	1	[33]
User engagement	1	[55]
System	1	[42]
compatibility	_	[72]
Cost-effectiveness	1	[42]
Analytical	1	[31]
capabilities	1	
User trust	1	[44]
System integration	1	[45]
Audit trail	1	[45]
Learning	1	[46]
effectiveness	1	[40]
Information	1	[51]
timeliness	1	
Customer service	1	[51]
Data integrity	1	[53]

Nie et al. [54] further demonstrate this example when assessing mobile health services, describing the interplay of accuracy, completeness, and timeliness to achieve high-quality information. The research suggested that if there are inaccuracies or missing data, patient care can be severely thwarted, hence the importance of timely information. Ke *et al.* [34] outline identical challenges regarding satisfaction

gaps from delays and data inaccuracies discussed for mobile apps.

Different industries prioritize various factors of information quality based on their specific needs. Zheng *et al.* [33] focus on healthcare systems, emphasizing the importance of data accuracy and completeness for patient safety and effective treatment plans. Al-Okaily *et al.* [31] explore government financial management systems, where reliability and accessibility are vital for ensuring transparency and accountability.

Abbas [28] discusses the role of information quality in elearning environments, where usability and accuracy are critical for enhancing the learning experience and student satisfaction. Anthony Jnr et al. [26] conclude that in enterprise architecture, integrating system quality with information quality is essential for the effectiveness of organizational processes. Adding to this understanding, Saputra et al. [30] investigate the mediating role of users' perception concerning how the system and information quality affect job performance, emphasizing behavioral elements information quality. Meanwhile, Kuusisto et al. [35] assessed the quality of information transferred to palliative care settings, highlighting the critical need for accurate and timely data in sensitive healthcare environments. Similarly, Ningsih et al. [32] assess the success factors in adopting fleet management systems, highlighting the crucial role of reliable and accessible information in operational success.

B. Synergizing Information Quality with System and Service Quality

This theme critically examines the relationship between system, information, and service quality, including how these variables enhance total system performance. A study by Nookhao *et al.* [36] confirmed the need for a robust system and service quality framework in e-government systems. This demonstrates that elevated information quality cannot attain optimal outcomes without strong basis support. Likewise, Johannsen *et al.* [46] pointed out that system quality and user satisfaction are the two most influential contributors to learning effectiveness in mobile learning systems, suggesting a very complex interactive process between these elements.

Additional sector-specific studies underscore that many integrations are critical to improving system performance. Service quality in the mobile learning system is also essential since it affects information accuracy and user trust, as per Pitafi and Ali [40]. Al-Hattami *et al.* [39] highlight how features, for instance, support and training, can boost the system's usability and information reliability at university-level accounting systems. Moreover, Mujalli [45] conducted a study regarding the availability of e-auditing tools that might help increase internal auditor's department performance, especially in the Saudi Arabia context over the Covid-19 pandemic. The area of his study underscores the critical importance of advanced digital auditing tools in supporting quality audits with utmost operational effectiveness during challenging times.

More insights from Meng *et al.* [38] and Sayaf [37] in library and e-learning systems reveal how continuous user engagement and satisfaction critically depend on the system's integrated quality and services. Nguyen *et al.* [42] corroborate these findings within accounting information systems,

illustrating that superior systems and service quality boost information quality and user satisfaction. Regarding enterprise-level analyses, Al-Okaily *et al.* [43] assess the efficacy of data analytics-oriented business intelligence technologies, focusing on how service quality integration can significantly enhance information quality. Lutfi [44] utilizes the DeLone and McLean IS model to discuss the essential role of service quality in achieving effective accounting information systems. Ali *et al.* [41] studied the impacts of the COVID-19 pandemic on e-learning systems, demonstrating how strategic adaptations in system and service quality can substantially boost information quality and fulfill user expectations in diverse educational settings.

C. Impact of Information Quality on User Satisfaction and Organizational Outcomes

High information quality significantly impacts user satisfaction across diverse information systems. Abbasi *et al.* [51] illustrate this in retail applications, where quality information directly correlates with consumer behavior and satisfaction. Likewise, Al-Hattami *et al.* [39] showed that in digital accounting systems, accurate and reliable information increases the users' confidence and ultimately makes them continue to use the platform. Moreover, Arsyad *et al.* [52] outline the ways high-quality information in reconciliation apps results in an increase in user satisfaction as well as retention. This high information quality, in turn, is necessary for good decision-making and operation excellence, leading to positive organizational outcomes.

Nguyen *et al.* [42] demonstrated the success of accounting information systems in which quality information results in enhanced transparency and management efficacy. Abbasi et al. [51] further illustrated that in retail applications, high information quality provides optimum system acceptance and usefulness, boosting overall organizational outcomes.

Information quality, from user satisfaction to an overall system level to success, is complex due to critical factors. Abbasi et al. [51] propose a model emphasizing the importance of user satisfaction derived from high-quality information. Arsyad et al. [52] explore the impact of reconciliation apps, finding that high information quality is essential for user satisfaction and effective system implementation. Al-Hattami et al. [39] conclude that data integrity and system usability are pivotal for achieving high user satisfaction in digital accounting systems. Expanding on these findings, Banu et al. [47] provide insights from an empirical study on e-learning systems, revealing how system success from students' perspectives hinges on information quality. Zhong et al. [48] explore the antecedents of mobile payment loyalty, demonstrating how perceived value influenced by information quality can drive system success and user loyalty. Amanda et al. [49] assess the success of village asset management systems from an employee point of view, indicating that high-quality information is crucial for operational success and employee satisfaction. Meanwhile, Imlawi [50] studies the continuance intentions of healthcare providers using clinical decision support systems in Jordan, emphasizing an integrated model that connects high information quality with long-term system usage and provider satisfaction.

Information quality, system quality, and service quality are interrelated constructs that significantly influence system performance and effectiveness. High information quality notably impacts user satisfaction across various information systems, contributing to successful organizational outcomes by enhancing decision-making processes and operational efficiency. Ultimately, quality information improves transparency and effectiveness in management, optimizing system acceptance and usefulness while enhancing overall organizational outcomes.

IV. CONCLUSION

The analysis of factors influencing information quality in information systems, structured around three main themes, provides a comprehensive understanding of the field and elucidates the complex relationships that underpin effective information systems. This section outlines the repercussions of this research and provides conclusions.

A structured examination of the information quality factors in information systems of diversified industries is presented in this study. This research established a list of relevant factors and explained the relationship between each factor related to information quality, providing an in-depth understanding for future studies. These outcomes underscore the importance of the information quality foundation, the interplay between information and system/service quality, and the beneficial effects of high information quality on user satisfaction and organizational impact. The themes raised may be examined further in future research using more inclusive frameworks that draw several quality dimensions together, investigating their effect across sectors. Moreover, additional empirical studies are required to confirm these relationships and discover new information quality dimensions that might emerge in complex evolving systems.

ACKNOWLEDGMENT

The Faculty of Computer Science and Information Technology, Universiti Putra Malaysia, Selangor, Malaysia funded this research.

REFERENCES

- M. J. Eppler, Managing information quality: Increasing the value of information in knowledge-intensive products and processes. 2006. doi:10.1007/3-540-32225-6.
- [2] C. Batini, C. Cappiello, C. Francalanci, and A. Maurino, "Methodologies for data quality assessment and improvement," ACM Comput Surv, 2009, doi: 10.1145/1541880.1541883.
- [3] W. H. DeLone and E. R. McLean, "The DeLone and McLean model of information systems success: A ten-year update," in *Journal of Management Information Systems*, Apr. 2003, pp. 9–30. doi:10.1080/07421222.2003.11045748.
- [4] S. Petter, W. DeLone, and E. McLean, "Measuring information systems success: Models, dimensions, measures, and interrelationships," *European Journal of Information Systems*, 2008, doi: 10.1057/ejis.2008.15.
- [5] J. gshayish and Z. Faik, "The impact of artificial intelligence systems and technology on the sustainability of the quality of financial reports," Al Kut Journal of Economics and Administrative Sciences, 2023, doi:10.29124/kjeas.1549.21.
- [6] I. Hidayat Ur Rehman, J. Ali Turi, J. Rosak-Szyrocka, M. N. Alam, and L. Pilař, "The role of awareness in appraising the success of E-government systems," *Cogent Business and Management*, 2023, doi:10.1080/23311975.2023.2186739.
- [7] D. Loshin, The Practitioner's Guide to Data Quality Improvement. 2010. doi: 10.1016/C2009-0-17212-4.

- [8] S.-Y. Kim, Y. You, and S.-K. Lee, "A Study on the Effect of Information Service Level and System Quality on BSC: Focusing on the Mediating Effect of Work Efficiency," *Restaurant Business*, vol. 118, no. 2, pp. 1–6, 2019, doi: 10.26643/rb.v118i2.7258.
- [9] S. Zaineldeen, L. Hongbo, M. Ibrahim, and K. A. Lucien, "Assessment of International Students' Satisfaction with Regard to the Information Systems at the Overseas Educational College (OEC) of Jiangsu University, China," *Information and Knowledge Management*, Nov. 2019, doi: 10.7176/IKM/9-10-05.
- [10] J.-H. Kim, Y. M. Chae, S. Kim, S.-W. Ho, H. H. Kim, and C. B. Park, "A Study on User Satisfaction Regarding the Clinical Decision Support System (CDSS) for Medication," *Healthc Inform Res*, vol. 18, no. 1, p. 35, 2012, doi: 10.4258/hir.2012.18.1.35.
- [11] N. T. N. Trang, "The Influence of Human Factors on the Quality of Accounting Information System," Ho Chi Minh City Open University Journal of Science Economics and Business Administration, vol. 14, no. 1, pp. 65–75, 2023, doi:10.46223/hcmcoujs.econ.en.14.1.2334.2023.
- [12] A. Popovič, R. Hackney, P. S. Coelho, and J. Jaklič, "How Information-Sharing Values Influence the Use of Information Systems: An Investigation in the Business Intelligence Systems Context," *The Journal of Strategic Information Systems*, vol. 23, no. 4, pp. 270–283, 2014, doi: 10.1016/j.jsis.2014.08.003.
 [13] J. N. Montero and M. R. Lind, "Determining Business Intelligence
- [13] J. N. Montero and M. R. Lind, "Determining Business Intelligence Usage Success," *International Journal of Computer Science and Information Technology*, vol. 12, no. 6, pp. 45–67, 2020, doi:10.5121/ijcsit.2020.12604.
- [14] K. W. Cho, S.-K. Bae, J. Ryu, K. N. Kim, C. H. An, and Y. M. Chae, "Performance Evaluation of Public Hospital Information Systems by the Information System Success Model," *Healthc Inform Res*, vol. 21, no. 1, p. 43, 2015, doi: 10.4258/hir.2015.21.1.43.
- [15] K. Rouibah, A. Dihani, and N. Al-Qirim, "Critical Success Factors Affecting Information System Satisfaction in Public Sector Organizations," *Journal of Global Information Management*, vol. 28, no. 3, pp. 77–98, 2020, doi: 10.4018/jgim.2020070105.
- [16] D. Moher, A. Liberati, J. Tetzlaff, and D. G. Altman, "Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement," *International Journal of Surgery*, vol. 8, no. 5, pp. 336–341, 2010, doi: 10.1016/j.ijsu.2010.02.007.
- [17] M. L. Rethlefsen et al., "PRISMA-S: an extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews," Syst Rev. 2021. doi: 10.1186/s13643-020-01542-z.
- [18] M. M. Koehorst, A. J. A. M. van Deursen, J. A. G. M. van Dijk, and J. de Haan, "A Systematic Literature Review of Organizational Factors Influencing 21st-Century Skills," Sage Open, 2021, doi:10.1177/21582440211067251.
- [19] V. P. Niskanen, M. Rask, and H. Raisio, "Wicked Problems in Africa: A Systematic Literature Review," Sage Open, 2021, doi: 10.1177/21582440211032163.
- [20] H. Shen and I. K. W. Lai, "Souvenirs: A Systematic Literature Review (1981–2020) and Research Agenda," Sage Open, 2022, doi:10.1177/21582440221106734.
- [21] W. Mengist, T. Soromessa, and G. Legese, "Method for conducting systematic literature review and meta-analysis for environmental science research," *MethodsX*, 2020, doi: 10.1016/j.mex.2019.100777.
- [22] R. W. Schlosser, O. Wendt, and J. Sigafoos, "Not all systematic reviews are created equal: Considerations for appraisal," *Evid Based Commun Assess Interv*, 2007, doi: 10.1080/17489530701560831.
- [23] C. C. Gao et al., "A fuzzy-set qualitative comparative analysis exploration of multiple paths to users? continuous use behavior of diabetes self-management apps," Int J Med Inform, vol. 172, 2023, doi:10.1016/j.ijmedinf.2023.105000.
- [24] M. J. Guo and L. Lyu, "A scale to measure the perceived quality of mHealth by elderly patients with hypertension in China," BMC Health Serv Res, vol. 23, no. 1, 2023, doi: 10.1186/s12913-023-09357-z.
- [25] A. S. Salim, "A study of benevolent leadership, e-HRM practices, and organizational performance in India's small and medium-sized enterprises.," *Przestrzen Spoleczna*, 2023.
- [26] B. Anthony Jnr, S. A. Petersen, and J. Krogstie, "A model to evaluate the acceptance and usefulness of enterprise architecture for digitalization of cities," *Kybernetes*, 2023, doi: 10.1108/K-07-2021-0565.
- [27] A. Mahmud, D. Prayogo, N. Susilowati, B. D. Handayani, and M. Mardi, "Analyzing the Effects of System Quality on the Net Benefits of the Village Financial System (Siskeudes): Information Quality and User Satisfaction as Mediating Variables," *Management and Accounting Review*, 2023, doi: 10.24191/mar.v22i01-05.

- [28] H. A. Abbas, "Behavioral Intention of Women to Use E-Learning," International Journal of Technology and Human Interaction, vol. 20, no. 1, 2024, doi: 10.4018/IJTHI.343520.
- [29] L. Nie, B. Oldenburg, Y. Cao, and W. Ren, "Continuous usage intention of mobile health services: model construction and validation," *BMC Health Serv Res*, 2023, doi: 10.1186/s12913-023-09393-9
- [30] D. E. E. Saputra et al., "Do system quality and information quality affect job performance? The mediation role of users' perceptions," PLoS One, vol. 18, no. 6, 2023, doi: 10.1371/journal.pone.0285293.
- [31] A. Al-Okaily, M. Al-Okaily, and A. P. Teoh, "Evaluating ERP systems success: evidence from Jordanian firms in the age of the digital business," *VINE Journal of Information and Knowledge Management Systems*, 2023, doi: 10.1108/VJIKMS-04-2021-0061.
- [32] A. K. Ningsih and Y. Kurniawan, "Evaluating Successful Implementation of Fleet Management System," *Journal of System and Management Sciences*, 2023, doi: 10.33168/JSMS.2023.0619.
- [33] F. Y. Zheng et al., "Factors Influencing Clinicians' Use of Hospital Information Systems for Infection Prevention and Control: Cross-Sectional Study Based on the Extended DeLone and McLean Model," J Med Internet Res, vol. 25, 2023, doi: 10.2196/44900.
- [34] Z. W. Ke, W. Y. Qian, N. Wang, Y. C. Chuang, B. Y. Wei, and J. Feng, "Improve the satisfaction of medical staff on the use of home nursing mobile APP by using a hybrid multi-standard decision model," *BMC Nurs*, vol. 23, no. 1, 2024, doi: 10.1186/s12912-024-01918-9.
- [35] A. Kuusisto, K. Saranto, P. Korhonen, and E. Haavisto, "Quality of information transferred to palliative care," *J Clin Nurs*, 2023, doi:10.1111/jocn.16453.
- [36] S. Nookhao and S. Kiattisin, "Achieving a successful e-government: Determinants of behavioral intention from Thai citizens' perspective," *Heliyon*, 2023, doi: 10.1016/j.heliyon.2023.e18944.
- [37] A. M. Sayaf, "Adoption of E-learning systems: An integration of ISSM and constructivism theories in higher education," *Heliyon*, vol. 9, no. 2, 2023, doi: 10.1016/j.heliyon.2023.e13014.
- [38] Y. Meng, H. W. Lin, W. J. Gong, R. Guan, and L. Dong, "An analysis of users' continuous use intention of academic library social media using the WeChat public platform as an example," *Electronic Library*, vol. 42, no. 1, pp. 136–157, 2024, doi: 10.1108/EL-05-2023-0115.
- [39] H. M. Al-Hattami, N. A. M. Senan, M. A. Al-Hakimi, and S. Azharuddin, "An empirical examination of AIS success at the organizational level in the era of COVID-19 pandemic," *Global Knowledge, Memory and Communication*, 2024, doi:10.1108/GKMC-04-2022-0094.
- [40] A. H. Pitafi and A. Ali, "An empirical investigation on actual usage of educational app: Based on quality dimensions and mobile self-efficacy," *Heliyon*, vol. 9, no. 9, 2023, doi10.1016/j.heliyon.2023.e19284.
- [41] A. F. Ali, R. H. Abdullah, A. A. Hassan, H. O. Abdullahi, and M. M. Mohamed, "COVID-19 Pandemic Impact on E-Learning Adoption and Its Utilization at Higher Education: A Comparative Analysis of Institutions and Students' Perspectives," *Ingenierie des Systemes d'Information*, vol. 29, no. 2, pp. 447–457, 2024, doi:10.18280/isi.290206.
- [42] H. T. Nguyen, R. T, Q. L. Kweh, P. T. K. Tran, and H. Tran Duong Minh, "Determinants of accounting information system effectiveness

- and moderating role of external consultants: Empirical research in the Ben Tre Province of Vietnam," *Heliyon*, vol. 10, no. 7, 2024, doi:10.1016/j.heliyon.2024.e28847.
- [43] A. Al-Okaily, A. Teoh, and M. Al-Okaily, "Evaluation of data analytics-oriented business intelligence technology effectiveness: an enterprise-level analysis," *Business Process Management Journal*, vol. 29, no. 3, pp. 777–800, 2023, doi: 10.1108/BPMJ-10-2022-0546.
- [44] A. Lutfi, "Factors affecting the success of accounting information system from the lens of DeLone and McLean IS model," *International Journal of Information Management Data Insights*, vol. 3, no. 2, Nov. 2023, doi: 10.1016/j.jjimei.2023.100202.
- [45] A. Mujalli, "The influence of E-auditing adoption on internal audit department performance amid COVID-19 in Saudi Arabia," COGENT Business & Management, vol. 11, no. 1, 2024, doi:10.1080/23311975.2023.2295608.
- [46] F. Johannsen et al., "What impacts learning effectiveness of a mobile learning app focused on first-year students?," Information Systems and E-Business Management, vol. 21, no. 3, pp. 629–673, 2023, doi10.1007/s10257-023-00644-0.
- [47] R. Banu, P. Shrivastava, and M. Salman, "An empirical study of students' perceptive on e-learning systems success," *International Journal of Information and Learning Technology*, vol. 41, no. 2, pp. 130–143, 2024, doi: 10.1108/IJILT-03-2023-0040.
- [48] J. Zhong and T. Chen, "Antecedents of mobile payment loyalty: An extended perspective of perceived value and information system success model," *Journal of Retailing and Consumer Services*, 2023, doi: 10.1016/j.jretconser.2023.103267.
- [49] J. N. Amanda, W. A. Winarno, and A. T. Agustini, "Assessing the Success of Village Asset Management Systems: An Employee Perspective," *Electronic Journal of Knowledge Management*, vol. 21, no. 3, pp. P174-190, Nov. 2023, doi: 10.34190/ejkm.21.3.3101.
- [50] J. Imlawi, "Clinical Decision Support Systems' Usage Continuance Intentions by Health Care Providers in Jordan: Toward an Integrated Model," *International Journal of Online and Biomedical Engineering*, vol. 19, no. 2, pp. 111–133, 2023, doi: 10.3991/ijoe.v19i02.37239.
- [51] G. A. Abbasi, Y. N. Goh, M. Iranmanesh, and F. Liebana-Cabanillas, "Determinants of continuous intention to use retail apps: A hybrid PLS-ANN approach," *Journal of Marketing Theory and Practice*, 2023, doi: 10.1080/10696679.2023.2218098.
- [52] M. D. Arsyad and Sfenrianto, "Evaluation of Automated Reconciliation Application at Bank XYZ Using Hot Fit Model," *Journal of System and Management Sciences*, 2023, doi:10.33168/JSMS.2023.0107.
- [53] H. M. Al-Hattami and F. A. Almaqtari, "What determines digital accounting systems' continuance intention? An empirical investigation in SMEs," *Humanit Soc Sci Commun*, vol. 10, no. 1, 2023, doi: 10.1057/s41599-023-02332-3.
- [54] Sayaf, Amer Mutrik. "Adoption of E-learning systems: An integration of ISSM and constructivism theories in higher education." *Heliyon 9*, no. 2 (2023): 1-17. https://doi.org/10.1016/j.heliyon.2023.e13014
- [55] B. J. A. Ali, "Information Quality and Data Quality in Accounting Information System: Implications on the Organization Performance," *International Journal of Psychosocial Rehabilitation*, vol. 24, no. 5, pp. 3258–3269, Apr. 2020, doi: 10.37200/ijpr/v24i5/pr202034.