Determinants of Information Systems (IS) Success within Civil Society Organizations (CSOs)

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Abstract
This study investigates the determinants of Information Systems (IS) success within Civil Society Organizations (CSOs), employing the Information System Success Model (ISSM) as a theoretical framework. Using Covariance-Based Structural Equation Modeling (CB-SEM) on data from 272 Tanzanian CSOs, the study identifies system quality, information quality, service quality, and IS use as critical factors influencing success. Results reveal that system quality directly impacts both IS use and net benefits, while IS use mediates the relationship between quality factors and organizational outcomes. Surprisingly, information and service quality do not directly affect net benefits, highlighting the need for CSOs to prioritize robust system design and user engagement. The findings offer actionable insights for enhancing IS effectiveness in resource-constrained environments.

Keywords: *Information Systems, Success, Civil Societies*

INTRODUCTION

The rapid evolution of technology has redefined operational strategies for various sectors, making IS technology a crucial element for organizational success. Despite its evident advantages, particularly in enhancing efficiency and decision-making, many CSOs struggle with effectively adopting and utilizing such technologies. This research seeks to uncover the factors governing both the adoption and practical use of IS technology, emphasizing its significance for achieving organizational objectives and maximizing social impact.

IS technology being indispensable in today's organizational landscape, facilitating better communication, strategic decision-making, and operational efficiency. As articulated by Varajão et al. (2022), organizations harness IS technology to manage information systems, streamline processes, and meet their objectives. For CSOs, the ability to collect, process, and disseminate relevant data efficiently can significantly enhance project effectiveness, improve stakeholder engagement, and facilitate performance measurement. However, while many CSOs recognize the value of IS technology, the road to successful implementation remains fraught with challenges, particularly due to resource constraints and external pressures.

The landscape of CSOs presents unique challenges that impact the adoption of IS technology. Many of these organizations operate under limited financial resources, prioritizing social change over technological investments. As noted by Ijab (2019), the complexity of stakeholder relationships and the pressure to meet the expectations of donors and communities complicate the technological adoption process. Understanding these challenges is crucial for ensuring that IS initiatives within CSOs are strategically aligned with their mission objectives and capable of effectively addressing their operational needs.

To study the nuances of IS technology adoption and use in CSOs, this research employs the Technology-Organization-Environment (TOE) framework, which encompasses technological, organizational, and environmental factors influencing decision-making. Organizational factors, such as culture, leadership support, and resource availability, play vital roles in shaping an organization's readiness for technology integration. Furthermore, environmental factors ranging from regulations to funding agencies' requirements heavily influence CSO decisions about adopting and utilizing IS technology. This multi-faceted approach enables a comprehensive exploration of how various dynamics converge to affect technology adoption in CSOs.

A critical facet of this study is its focus on the determinants for the successful implementation and use of IS technology. Merely adopting a technology does not guarantee success; instead, organizations must ensure its effective integration into their processes. Literature on IS technology success emphasizes the importance of system quality, information quality, and service quality, which significantly impact overall organizational efficiency. This research will also explore the mediating role of IS technology use in bridging the gap between adoption and successful outcomes, illuminating its relevance in contribution to heightened organizational performance.

The specific objectives of this study extend beyond merely assessing IS technology adoption levels; they aim to investigate the practical implementation of these technologies within CSOs and identify the key determinants that influence both adoption and success. This comprehensive examination allows for a nuanced understanding of how CSOs can better navigate the complexities of IS adoption, implement effective strategies, and ultimately enhance their operational performance. Additionally, by uncovering the specific factors that underpin successful IS technology use in CSOs, the research will have practical implications for the sector.

Civil Society Organizations (CSOs) face mounting pressure to adopt Information Systems (IS) to improve transparency, efficiency, and project outcomes. However, IS success remains elusive due to underutilization and contextual challenges. While prior research emphasizes adoption factors, the determinants of IS success measured as net benefits are underexplored in CSOs. This study addresses this gap by examining how system quality, information quality, service quality, and IS use collectively drive success. Focusing on Tanzanian CSOs, the study leverages the ISSM to provide actionable strategies for maximizing IS impact.

LITERATURE REVIEW

The IS Success Model (ISSM) posits that system quality (technical performance), information quality (accuracy/relevance), and service quality (user support) influence user satisfaction and net benefits. In CSOs, success is measured through improved decision-making, cost savings, and stakeholder trust.

Determinant of IS Success in CSOs

IS's success is derived from use experience and perceived benefits under quality aspects (DeLone & McLean, 1992, 2003; Mauerhoefer et al., 2017). IS success relies on the quality of project manager's decisions and consequent impacting the project performance improvements. DeLone & McLean (2003) indicated that, the net-benefit (including both individual and organizational impacts) is a function of interactions of other variables in the ISSM - system quality, information quality, information use, user satisfaction, and service quality. (Park et al., 2018) established that, less is known on how much and which parts of project performance are impacted. Similarly, this study observes IS success on the basis of the factors instigated by the ISSM. However, this study conceptualises and hypothesise the relationships between the success variables i.e. IS Quality, IS-Technology use, Information Quality, Service Quality variables and sets to examine their respective influence on success (net benefits) as demonstrated on the conceptual Model.

IS Quality

Often regarded as the foundation of a system's ability to deliver value to its users and organizations, System Quality plays a central role in determining the success and adoption of IS-Technologies. High system quality is typically defined by factors such as technical functionality, reliability, usability, and performance efficiency (DeLone & McLean, 2003). When a system demonstrates these qualities, it is more likely to be embraced by users, such as Civil Society Organizations (CSOs), who depend on its functionality for various operational and strategic activities (Al-Nassar, 2020).

System quality influences project performance through various attributes, including system availability, reliability, timely responsiveness, and functionality (Ojo, 2017). These characteristics ensure that the system can operate without frequent downtimes, errors, or lags, which would otherwise disrupt critical workflows. According to (Hasan Al-Mamary et al., 2014) features such as accessibility, ease of use, flexibility, integration, and fast response times are critical elements that improve the overall user experience and promote the continuous use of IS-Technologies. The sophistication of the system, in terms of navigability and functionality, further enhances the user's ability to extract value from the technology.

High system quality directly contributes to operational efficiency by improving decision-making and enhancing organizational performance. For instance, a system with high data accuracy ensures that users can rely on the information produced for making informed decisions. this technology is to say, a well-designed user interface contributes to usability, making it easier for users to navigate the system and execute tasks with minimal frustration (Miraz et al., 2021). These attributes collectively foster a conducive environment for achieving project goals and realizing organizational benefits.

In terms of its effect on IS-Technology adoption, system quality is a significant determinant. When systems exhibit reliability and effectiveness, users are more inclined to adopt and utilize them consistently. Furthermore, system quality influences the overall success of the IS by directly affecting user satisfaction and organizational outcomes. High-quality systems improve performance metrics, reduce operational risks, and allow organizations to respond quickly to emerging challenges (Abu Ezza et al., 2020; Umaroh & Barmawi, 2021).

System quality is therefore a fundamental factor in ensuring the effective utilization and success of IS-Technology within organizations. It impacts both individual users and organizational performance by enhancing efficiency, accuracy, and overall system reliability.

H1a: System quality has a significant influence on the use of IS-Technology.

H1b: System quality has a significant influence on the success of IS.

IS-Technology use

Information quality is yet another crucial factor in determining the success and utility of IS-Technologies. It encompasses the characteristics that define the accuracy, completeness, relevance, and timeliness of the information generated by the system. According to DeLone and McLean (2003), High-quality information ensures that organizations can make informed decisions, optimize project management processes, and ultimately achieve better outcomes. Information quality is not an end in itself, but rather a means to enhance decision-making and improve user satisfaction (Ngari & Ndiritu, 2017).

Information quality can be evaluated based on various dimensions such as accuracy, relevance, timeliness, and readability of the information output (DeLone & McLean, 2003; Ojo, 2017). In this case then, when the information produced by an IS-Technology is timely, it allows decision-makers to respond quickly to market changes or organizational needs. Similarly, accurate and complete data ensures that decisions are based on reliable information, reducing the likelihood of errors. The format in which information is presented also plays a critical role, as clear and readable data can facilitate easier interpretation and quicker decision-making.

For organizations, maintaining high information quality is essential for deriving meaningful insights from the system (Wolseley et al., 2024). Poor quality information can lead to incorrect conclusions, resulting in flawed strategies and suboptimal project outcomes. On the other hand, high information quality improves user satisfaction by ensuring that the data is not only reliable but also useful and easy to understand. This, in turn, enhances the perceived usefulness of the IS, leading to higher adoption rates and more consistent use (Park et al., 2018).

In practice, information quality is closely tied to the success of IS-Technologies because it directly impacts the system's ability to support effective managerial decision-making (Nasution & Chairunnisa, 2023). In a project management context, high-quality information improves managers' ability to track progress, allocate resources efficiently, and identify potential risks or bottlenecks early on Crossette-Thambiah et al. (2024). This technology is achieved by ensuring that the information generated by the system is accurate, relevant, and timely, organizations can improve the overall performance of their projects and achieve better outcomes.

Information quality is therefore a critical determinant of both IS-Technology use and success. Organizations that prioritize high information quality are better equipped to make informed decisions, improve user satisfaction, and achieve successful project outcomes.

H2a: Information quality has a significant influence on the use of IS-Technology.
H2b: Information quality has a significant influence on the success of IS.

Service Quality

Service quality refers to the level of support provided by service providers and vendors to ensure that IS-Technologies operate smoothly and meet user needs. It encompasses various aspects, such as responsiveness, reliability, technical competence, and user support, all of which contribute to the overall performance and adoption of IS-Technologies (DeLone & McLean, 2003). High service quality is crucial for ensuring user satisfaction, as it provides users with the necessary tools and resources to maximize the utility of the system.

A key component of service quality is the after-sale support provided by vendors. It includes technical support, user training, user manuals, and other forms of assistance that help organizations navigate and fully utilize the IS. Timely and effective access to technical support ensures that users can resolve issues quickly, minimizing downtime and disruptions to operations. Similarly, Nyandongo et al. (2019) affirms by asserting that, by offering comprehensive training and documentation, users are capacitated to understand the full functionality of the system, increasing their confidence in using the technology effectively.

Service quality also involves aspects such as assurance, responsiveness, empathy, tangibles, supplier reputation, reliability, and faithfulness (Ahmad, 2020). Vendors with a strong track record of delivering high-quality support are more likely to build trust with their clients, leading to long-term relationships and increased user satisfaction. Noteworthy, technical competence and responsiveness are essential factors in ensuring that IS-Technologies remain functional and up-to-date, enabling organizations to meet evolving technological demands.

From an organizational perspective, high service quality enhances system performance by ensuring that any issues or challenges encountered by users are addressed promptly and effectively (Safitri et al., 2020). This in turn, reduces the risk of operational disruptions and contributes to overall organizational efficiency. Moreover, service quality plays a critical role in determining user satisfaction and adoption rates, as users are more likely to continue using the system if they receive adequate support and training. Service quality is therefore a vital factor in the successful implementation and use of IS-Technologies. Organizations that invest in high quality service support are more likely to experience higher user satisfaction, better system performance, and improved organizational outcomes.

H3a: Service quality has a significant influence on the use of IS
H3b: Service quality has a significant influence on the success of IS

In summary, the success of Information Systems (IS) technologies is deeply influenced by key factors such as system quality, information quality, and service quality. System quality, with its focus on technical functionality, usability, and reliability, directly impact both user adoption and organizational performance. Information quality, cantered on the accuracy, relevance, and timeliness of data, ensures that IS supports informed decision-making and enhances user satisfaction. Service quality, defined by the responsiveness and competence of the service provider, is crucial for maintaining system performance and user confidence through effective support and training. Together, these factors contribute to the overall effectiveness and success of IS-Technologies, driving improved project outcomes, operational efficiency, and organizational benefits. Understanding and optimizing these dimensions allows organizations to maximize the value derived from their IS investments.

METHODOLOGY

The study employed a cross-sectional survey design, targeting 272 Civil Society Organizations (CSOs) across five regions in Tanzania. Data were collected using structured questionnaires that evaluated various dimensions including system quality, information quality, service quality, information systems (IS) usage, and the net benefits derived from these systems. Respondents rated their experiences and perceptions on a 5-point Likert scale, allowing for a comprehensive assessment of the factors influencing the effectiveness of IS within these organizations.

For data analysis, Covariance-Based Structural Equation Modeling (CB-SEM) was utilized through IBM AMOS software to test the hypotheses formulated based on the Information Systems Success Model (ISSM). The measurement models were rigorously validated for reliability, ensuring that Composite Reliability exceeded 0.7, and for validity, with Average Variance Extracted (AVE) greater than 0.5. Additionally, structural models were analyzed to determine both direct and indirect effects among the variables under investigation.

RESULTS

The determinants of success of IS

This section presents the findings from the CB-SEM analysis, focusing on the determinants influencing the success of Information Systems (IS) technology in CSOs, specifically measured by the Net Benefit. The CB-SEM approach was employed over its rigorous testing of hypothesized relationships between various factors that contribute to IS success. It is known to provide a robust statistical foundation for understanding the complex interdependencies among variables, including both direct and indirect effects as hypothesised in this study.

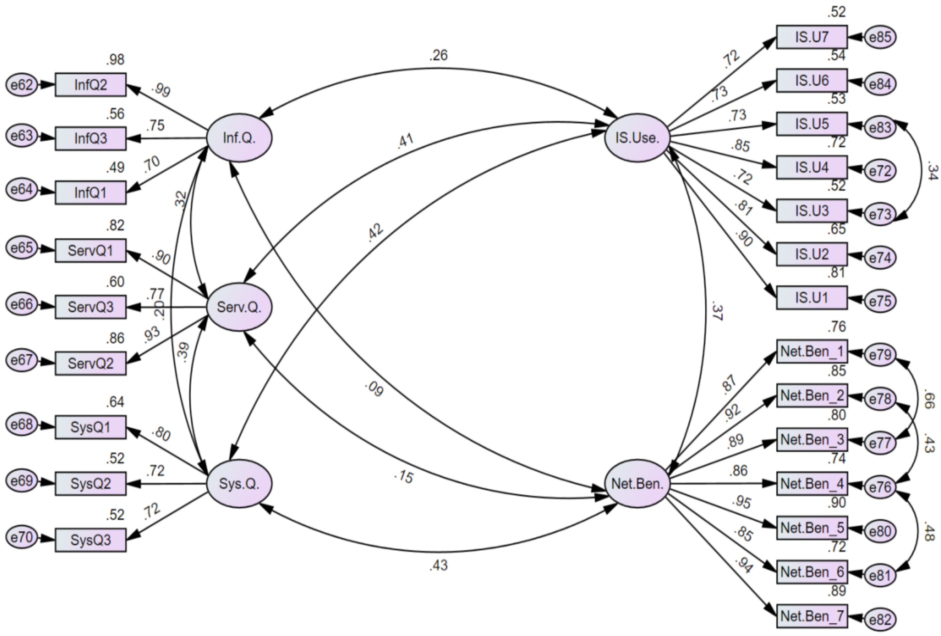
Drawing on the Information System Success Model (ISSM), this study benchmarked the key constructs such as system quality, information quality, service quality, user satisfaction, and net benefits. The SEM not only evaluated the impact of each determinant but also examined the intricate relationships between constructs in Figure 4-3, allowing for a holistic view of the factors driving IS success. The use of SEM allowed for the simultaneous evaluation of multiple pathways, enabling the identification of both direct influences on IS success and the indirect mechanisms by which certain factors exert their impact. By doing so, the analysis provides deeper insights into how organizational, technological, and environmental factors collectively contribute to the successful implementation and sustained use of IS-Technologies as were attributed on the previous section.

The measurement model for the determinants of success of IS

The measurement model for examining the determinants of IS Success included five key constructs: Information Quality (Inf.Q), Service Quality (Serv.Q), and System Quality (Sys.Q) as independent variables; Information System Use (IS. Use) as a mediating variable; and Net Benefits (Net.Ben) as the dependent variable.

The constructs (latent variables) in the model were each measured using their corresponding indicators (observed variables), with standardized factor loadings ranging as follows: 0.702 to 0.989 for Information Quality (Inf.Q), 0.774 to 0.929 for Service Quality (Serv.Q), 0.724 to 0.803 for System Quality (Sys.Q), 0.722 to 0.902 for IS-Technology use, and 0.861 to 0.950 for Net Benefits (Net.Ben). These loadings indicate strong relationships between the latent variables and their respective indicators, suggesting a reliable measurement model. Further details can be observed in Figure 1.

Figure1
Measurement model for the determinants of success of IS



The standardized factor loadings for the constructs (latent variables) shown in Figure 4-3 indicate strong and dependable relationships with their respective indicators (observed variables). With factor loadings consistently falling within acceptable limits for each construct, the measurement model demonstrates solid evidence of the reliability and validity of the observed variables in representing their underlying latent factors. This confirms that the model appropriateness for evaluating the determinants of IS Success in Civil Society Organizations (CSOs), establishing a reliable foundation for the subsequent structural analysis.

Reliability and Validity Measurements for the determinants of success of IS

To ensure the model's validity and reliability, several metrics were used. Both convergent and discriminant validity were assessed to verify that the indicators accurately reflected the intended constructs. Reliability was assessed through Composite Reliability (CR) and Cronbach's Alpha, both of which indicated strong internal consistency for each construct, with values typically exceeding the accepted threshold of 0.70.

Validity was evaluated using multiple metrics. Convergent Validity was confirmed via the Average Variance Extracted (AVE), with all constructs achieving AVE values above 0.50, indicating that the constructs explained a sufficient portion of the variance in their respective indicators. Discriminant Validity, several tests were performed. First, the Maximum Shared Variance (MSV) was compared to the AVE for each construct, ensuring that AVE exceeded the MSV, a key criterion for discriminant validity. Additionally, MaxR(H) values were calculated, which confirmed that the reliability of each construct was robust across different model specifications. The Heterotrait-Monotrait Ratio (HTMT) was also used, with HTMT values below the threshold of 0.85, further validating that each construct was distinct from others in the model.

Reliability: According to Hair et al., (2010), a value of 0.7 or above for the overall reliability of a latent construct is typically considered acceptable for CR. The Composite Reliability (CR) results presented on table 4-6 indicate high reliability by reflecting measures the internal consistency for the respective model constructs with all values being above the 0.7 threshold. This confirms that, the items within each construct are reliably measuring the same underlying concept.

Table 1
Validity Analysis for the determinants of success of IS

	CR	AVE	MSV	MaxR(H)
IS.Use	0.917	0.614	0.173	0.930
Net.Ben	0.967	0.809	0.186	0.973
Inf.Q	0.860	0.677	0.103	0.979
Serv.Q	0.904	0.760	0.171	0.924
Sys.Q	0.795	0.564	0.186	0.801

Reinforcing the reliability of the constructs, the robustness of the latent constructs in the model is further indicated by the MaxR(H) values which are all above 0.801.

Validity: The Average Variance Extracted (AVE) values range from 0.564 to 0.809 suggesting all constructs to explain over 50% of the variance of their indicators. Most constructs in the model are well-defined by their indicators, contributing to their validity. The estimates of the Maximum Shared Variance - MSV (highest squared correlation between a construct and other construct in the model) are below their corresponding AVE values (see table 4-6), hence discriminant validity. Each construct is more strongly associated with its own indicators than with any other constructs, supporting the idea that the constructs are distinct from one another.

Table 2
Validity Analysis for the determinants of success of IS

	IS. Use	Net.Ben	Inf.Q	Serv.Q	Sys.Q
IS. Use	0.784				
Net.Ben	0.374***	0.899			
Inf.Q	0.264***	0.090	0.823		
Serv.Q	0.413***	0.149*	0.320***	0.872	
Sys.Q	0.416	0.431	0.200	0.393	0.751

The square roots of the Average Variance Extracted (AVE) for each construct (Diagonal Bolded Values on table 4-7) represent the amount of variance captured by the construct itself. The (Off-Diagonal Values) represents the correlations between the constructs. The significance levels are indicated by asterisks, with *** indicating $p < 0.001$, ** indicating $p < 0.01$, and * indicating $p < 0.05$.

Discriminant validity ensures that constructs that are supposed to be distinct are indeed different from each other. In this case the analysis results on table 4-7 indicate that the constructs IS.Use, Net.Ben, Inf.Q, and Serv.Q exhibit strong discriminant validity. Meanwhile, the respective Average Variance Extracted (AVE) square roots are greater than their correlations with other constructs, confirming they measure distinct concepts. For instance, IS.Use (0.784) has higher AVE than its correlations with Net.Ben (0.374), Inf.Q (0.264), and Serv.Q (0.413). Similarly, Net.Ben (0.899) exceeds its correlations with other constructs.

Discriminant validity between constructs in a model was further established using the HTMT results which show that all values are below their common threshold of 0.85, indicating strong discriminant validity.

Table 3
HTMT Analysis for the determinants of success of IS

	IS. Use	Net.Ben	Inf.Q	Serv.Q	Sys.Q
IS. Use					
Net.Ben	0.368				
Inf.Q	0.316	0.127			
Serv.Q	0.420	0.175	0.418		
Sys.Q	0.420	0.424	0.257	0.395	

This suggests that each construct (IS. Use, Net.Ben, Inf.Q, Serv.Q, Sys.Q) is distinct from the others, with no significant issues of overlap. Overall, the analysis supports the distinctiveness of the constructs. These metrics collectively confirmed the reliability and validity of the measurement model, ensuring a solid foundation for further structural analysis.

Success factors' test and impact on IS-Technology use

Findings on table 4-10 shows the impact of System Quality on IS-Technology use to be positive and significant (ß =.300, t = 3.945, p <.001), hence supporting H1a; similarly, Information Quality (ß =.103, t = 2.006, p <.045), hence supporting H2a; and Service Quality (ß =.258, t = 3.807, p <.001), hence supporting H3a.

Specifically, System Quality (Sys.Q) has the strongest positive effect on IS-Technology use (H1a), indicating that a reliable and user-friendly system encourages users to engage with it. Similarly, information quality (H2a) has a positive, though smaller, influence on IS-Technology use, meaning that accurate and relevant information provided by the system enhances its usage. Service quality (H3a) is another significant determinant, suggesting that the availability of good technical support and user assistance positively impacts how much the system IS-Technology used. Together, these three factors underscore the importance of both technical performance and user support in driving IS usage.

The estimated squared multiple correlations for the Information System Use is.261 implying a 26.1% variance in Use of Information System when change is applied on the respective factors (Inf.Q, Ser.Q, and Sys.Q). These results suggest that improvements in these quality dimensions can significantly enhance user engagement with the system.

Success Factors' Impact on Net Benefit (IS Success)

The findings on the Net Benefit presented on table 4-10 shows the effects of the determinants of IS-Technology success to be positive and significant for System Quality (ß =.338, t = 4.694, p <.001), hence supporting H1b; negative and insignificant for Information Quality (ß = -.017, t = -.373, p <.709), and Service Quality (ß =.087, t = -1.385, p <.166), hence not supporting H2b and H3b respectively. The direct impact of IS-Technology use on Net Benefit is reported to be positive and significant (ß =.243, t = 3.829, p <.001), hence supporting H4.

These findings reveal that the positive and significant effect of system quality (H1b) suggest that, high-quality system not only encourages usage but also leads to greater organizational benefits, such as increased productivity or cost savings. However, information quality (H2b) and service quality (H3b) do not have a significant direct effect on net benefits, meaning that while these factors influence system usage, they do not directly translate into measurable organizational benefits.
On the other hand, the significant positive effect of IS-Technology use (H4) on net benefits suggests, the more the system IS-Technology used, the greater the benefits realized by the organization. This highlights the importance of actual system utilization in achieving success with IS-Technology.

The Indirect Effect on Net Benefit
Analysis of the pathways through which one variable influenced another (i.e. Inf.Q/Serv.Q/Sys.Q → IS.Use → Net.Ben) was key to understanding how Information Quality (Inf.Q), Service Quality (Serv.Q), and System Quality (Sys.Q) indirectly influence Net Benefits (Net.Ben) via Information System Use (IS.Use). Table 4-11 presents the findings on the total, direct, and indirect effects of the IS Success determinants of IS Success (Net benefits).

Exploring both direct and indirect effects helps to provide a more pronounced view of how various factors contribute to IS Success, particularly through the mediation of IS-Technology use.

Table 0
Standardized Estimates for the IS-Technology use and Success (Net Benefits)

Standardized Estimates	Variables	Serv.Q	Inf.Q	Sys.Q	IS.Use	Net.Ben
Total Effects	IS.Use	0.260	0.123	0.290	0.000	0.000
	Net.Ben	-0.027	0.011	0.439	0.269	0.000
Direct Effects	IS.Use	0.260	0.123	0.290	0.000	0.000
	Net.Ben	-0.097	-0.022	0.361	0.269	0.000
Indirect Effects	IS.Use	0.000	0.000	0.000	0.000	0.000
	Net.Ben	0.070	0.033	0.078	0.000	0.000

Direct effects on Use of IS-Technology: The direct effects reflect the total effects, with system quality (0.290), service quality (0.260), and information quality (0.123). This means that these factors affect IS-Technology use without the need for any mediating variables.

Direct effects on Net Benefits: Results shows that, system quality (0.361) and IS-Technology use (0.269) have positive direct effects, contrary to the service quality (-0.097) and information quality (-0.022) which have revealed small, and non-significant negative direct effects on Net Benefits. This suggests that system quality and IS-Technology use are critical drivers of net benefits, while service quality and information quality do not directly contribute to organizational benefits in a meaningful way.

Indirect effects on Net Benefits: The indirect effects reveal the influence of factors on net benefits through IS-Technology use, highlighting mediation in the model. Findings on table 4-11 show that System quality (0.078) has a small but notable positive indirect effect on Net Benefits. This shows that part of the impact of system quality on net benefits occurs indirectly via its effect on IS-Technology use. In other words, a high-quality system not only directly contributes to organizational benefits but also indirectly boosts benefits by increasing system usage.

Similarly, Service quality (0.070) has a positive indirect effect on net benefits through IS-Technology use. Although service quality does not have a strong direct impact on net benefits, its influence on IS-Technology use leads to some indirect contribution to the overall benefits. This highlights the importance of good service quality in ensuring system usage, which in turn drives the net benefits. And Information quality (0.033) has a smaller but yet positive indirect effect on net benefits via IS-Technology use. It does contribute indirectly by improving IS-Technology use, though its impact on both IS-Technology use and net benefits is weaker compared to System Quality and Service Quality.

It should still be noted that, Enhancing System Quality on IS.Use and Net.Ben as well as encouraging Information System Use are key strategies for maximizing the perceived Net Benefits (Information System Success). Similarly, the role of Service Quality and Information Quality is less direct but still important in improving user engagement. The positive direct effect of Information System Use on Net Benefits suggests, increased use of the information system leads to higher perceived benefits, therefore calling on the importance of promoting effective use of IS systems.

System quality, information quality, and service quality are portrayed as important drivers of IS-Technology use, with system quality having the most substantial impact. Information Quality and Service Quality factors may influence IS-Technology use, but do not directly contribute to the perceived Net Benefits. The critical role of System Quality is highlighted in both encouraging the use of the information system and enhancing the net benefits derived from it, underscoring the importance of high-quality systems and actual usage in realizing organizational benefits from IS-Technology. However, improvements in Information Quality and Service Quality may be more influential in promoting system use rather than directly increasing net benefits. It should further be noted that, by focusing on improving system quality and encouraging active IS-Technology Use, organizations can potentially maximize the benefits they obtain from their information systems.

The model's explanatory power, see table 4-10 is further complemented by the estimated squared multiple correlations for the Net Benefit (0.240) while the R-squared values suggest that other factors may influence IS success. The model captures a substantial portion of the variance, especially for IS-Technology use. This implies that a 24% variance in Net Benefits is explained by these factors along with IS-Technology use when change is applied to the respective factors (Inf.Q, Ser.Q, Sys.Q, and IS-Technology use). IS-Technology Use is therefore a significant predictor of Net.Ben playing a key role in generating benefits, reinforcing the idea that more frequent use of the information system leads to greater benefits.

DISCUSSION

Influence on IS-Technology use

The findings of this study have demonstrated that System Quality, Information Quality, and Service Quality all play a significant role in influencing the use of Information Systems (IS) technology. Among these factors, System Quality emerges as a key determinant, stressing the importance of technical functionality, reliability, usability, and overall system performance efficiency as suggested in the study by (DeLone & McLean, 2003). These findings align with previous research (Al-Nassar, 2020; Hasan Al-Mamary et al., 2014) emphasizing that organizations investing in well-structured, highly functional systems experience higher user engagement and utilization rates. A system that is consistently available, responsive, and designed with user-friendly interfaces significantly enhances its adoption and use Similarly, Information

Quality also revealed positive and notable impact on IS-Technology use, supporting the assertions of previous studies (Ngari & Ndiritu, 2017; Wolseley et al., 2024) affirming the pivotal role of accurate, complete, relevant, and timely information in enhancing decision-making and promoting continued system utilization. IS-Technology users were observed to more likely rely on IS-Technology when they trust that the information provided is comprehensive and directly applicable to their needs. The importance of maintaining high-quality data standards was particularly emphasised for the CSOs as a measure of countering poor data quality which can lead to inefficiencies, errors, and reduced system adoption.

On the other hand, Service Quality was also observed to significantly influence CSOs use of IS-Technology. IS-Technology adoption was proven to increase when user experience indicators such as system responsiveness, technical competence, and the availability of user support services were improved. This aligned with the studies by (DeLone & McLean, 2003; Nyandongo et al., 2019). When CSOs offer effective training programs, comprehensive documentation, and efficient problem resolution mechanisms, users were affirmed to more likely engage with the IS and maximize its capabilities (A. bin Ahmad, 2020; Safitri et al., 2020). These findings highlight that while technological robustness is critical, human-centred support mechanisms are equally essential in ensuring successful IS utilization.

In general, the results on the factors indicated that a well-designed IS that is functionally robust, delivers high-quality information, and is supported by responsive services fosters greater chances for adoption and sustained use. CSOs seeking to enhance IS utilization should prioritize continuous improvements in these factors to maximize IS-User engagement and effectiveness.

Influence on Net Benefits (IS-Success)

While System Quality maintaining a crucial role in determination of the overall IS success in CSOs as per the findings of this study, neither Information Quality nor Service Quality could prove a significant contribution to IS success in the long term. The findings challenge some previous assumptions and warrant further exploration in the settings of CSOs. Findings of this study have reinforced the conclusions of previous studies by (Abu Ezza et al., 2020; DeLone & McLean, 2003) attributing

System Quality to IS’s performance efficiency, reliability, and usability. Emphasis is put on the direct impacts of System Quality in the long-term performance and effectiveness of IS-Technology. The study further ruled for High System Quality to be supportive to project managers and end-users when making well-informed decisions and thereby improving project outcomes and overall system effectiveness. Furthermore, CSOs that focus on building reliable and efficient systems are more likely to achieve long-term success compared to those that solely focus on initial adoption factors.

On the other hand, lack of significant influence from Information Quality and Service Quality on the IS-Success of suggests; while these factors are essential for encouraging IS-Technology use, they may not necessarily translate into sustained IS success. Implicitly, the accurate and timely information alone does not guarantee prolonged IS effectiveness unless it is strategically integrated with broader organizational goals and user adaptability as was earlier asserted by (Nasution & Chairunnisa, 2023). Corresponding to the findings, the assertion by (Safitri et al., 2020)had earlier suggested that strong service support mechanisms, while fostering early adoption and satisfaction, do not inherently lead to sustained IS performance. This is by fact true in the context of CSOs who are relatively new adopters of the IS-Technologies. Instead, long-term success may depend on additional factors such as system scalability, integration with evolving business needs, and continuous user adaptation to technological advancements.

The study's findings suggest that organizations should consider and prioritize investments in IS Quality to ensure their longevity. Managers should further recognize that, although vital for initial use, Information and Service Quality may not be sufficient determinants of long-term IS success in the CSOs Setting. Future research could explore how these quality factors interact with other organizational and environmental influences to shape IS effectiveness over time. Organizations should focus on optimizing System Quality while leveraging strategies to sustain IS-Technology use for long-term benefits. Future research could explore external factors that enhance the relationship between Information and Service Quality and IS success.

IS-Technology Use Influence on Success (Net-Benefit)

The findings highlight the critical influence of IS-Technology use on organizational success, further validating the IS Success Model (DeLone & McLean, 1992, 2003, 2016), which posits that frequent and effective system use is a key determinant of IS effectiveness. The statistics confirm that IS-Technology use significantly contributes to project outcomes and overall organizational performance. This supports the assertion that continuous engagement with IS-Technology plays an essential role in driving business value and success. The results align with prior studies, such as those by (Park et al., 2018), which emphasize the importance of sustained system use in extracting the full benefits of IS-Technologies. As organizations increase their use of IS-Technology, they experience improvements in areas such as resource allocation, risk management, and operational efficiency, ultimately enhancing the success of the system and the outcomes it supports. Continued use fosters a deeper understanding and greater effectiveness in utilizing the tools for decision-making and project management, which are crucial to achieving organizational goals.

Additionally, the findings suggested increased familiarity with IS-Technology fosters user satisfaction, leading to continued adoption, as highlighted by (DeLone & McLean, 2003). This cyclical process of use, satisfaction, and further adoption creates a positive feedback loop, where effective system use encourages greater user engagement, which in turn contributes to more successful outcomes. The research underscores that the influence of IS-Technology use on success is not only direct but also cumulative, with the consistent application of these technologies enhancing overall organizational performance over time. Thus, organizations that prioritize frequent and effective use of their IS-Technology are likely to see significant improvements in their ability to meet objectives, manage projects, and adapt to changing business environments.

IMPLICATIONS FOR PRACTICE

Invest in Robust Systems: CSOs should prioritize scalable, intuitive IS platforms to enhance adoption and outcomes. Also, training programs and incentives can amplify IS use, translating quality features into tangible benefits. Balanced Quality Investments: While system quality is paramount, periodic audits of information accuracy and support responsiveness remain essential.

CONCLUSION

This study identifies system quality and IS use as pivotal to IS success in CSOs, offering a roadmap for optimizing technology investments. Limitations include geographic specificity and cross-sectional data. Future research should explore longitudinal dynamics and sector-specific IS strategies. By aligning IS design with organizational needs, CSOs can harness technology to amplify their social impact.

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