South African Journal of Information Management
ISSN: (Online) 1560-683X, (Print) 2078-1865

A framework for assessing student online registration in higher education institutions in South Africa

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Dates:
Received: 05 June 2025
Accepted: 24 Oct. 2025
Published: 03 Dec. 2025

How to cite this article:
Moshoeu, H.M. & Bruhns, E., 2025, 'A framework for assessing student online registration in higher education institutions in South Africa', *South African Journal of Information Management* 27(1), a2040. https://doi.org/10.4102/sajim.v27i1.2040

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Background: Online registration at higher education institutions (HEIs) enhances the enrolment process by leveraging an Enterprise Resource Planning (ERP) system to digitise all required documents. The effectiveness of online registration remains largely underexplored within the HEI landscape.

Objectives: This study addresses this gap by creating a framework to identify how system, information and service quality influence user satisfaction, behavioural intention and actual usage concerning students' online registration.

Method: A quantitative research approach was selected using a structured questionnaire. The study employed non-probability, convenience sampling. Descriptive and inferential statistics were used for the data analysis. The study utilised the DeLone and McLean Information Systems (D&M IS) Success Model to answer the study hypotheses.

Results: Both system quality and information quality have a positive impact on user satisfaction. Information quality positively influences the intention to use the system, while service quality also contributes to user satisfaction. The intention to use the system has a positive effect on the actual usage of the online registration system. However, system quality, service quality and user satisfaction do not impact the intention to use the system, and user satisfaction does not influence the actual use of the online registration.

Conclusion: Enterprise Resource Planning systems can enhance efficiency in HEIs by modifying operational workflows and simplifying online registration processes.

Contribution: This study addresses the existing literature gap by presenting the need for accurate data to inform strategies that improve and enhance student registration experiences.

Keywords: system quality; information quality; service quality; user satisfaction; behavioural intention; actual usage, online registration; enterprise resource planning (ERP) systems.

Introduction

The transformation within Higher Education Institutions (HEIs) in South Africa has led to challenges regarding the impact and success of the online registration process (Gaffoor & Van der Bijl 2019; Ngwato 2020). According to Salisu (2020), online registration in HEIs is an electronic format application that consists of specialised programmes that contain students' information details and procedures that administrative employees and students require from first-time entry until graduation. Online registration simplifies the registration process by digitising registration business processes and tools in an online portal using a user-friendly wizard. Because institutional systems require information and documentation, the online registration solution allows HEIs to reduce paperwork processing, protect registration procedures and control access to files (Salisu 2020). According to Amini Valashani and Abukari (2020), Enterprise Resource Planning (ERP) systems that are most widely used for online registration are the integrator technology system, management information system, College Technology, Student Online Portal system, Microsoft Dynamics family, Oracle and SAGE system solutions. Higher Education Institutions in South Africa recognise the powerful transformational potential of these application portals and have developed and implemented institutional systems for online registration (Salisu 2020).

However, students at Technical Vocational Education and Training (TVET) Colleges in South Africa have challenges associated with the radical transformation of these ERP systems and the transformation to online registration (Nundkumar & Subban 2018). The transformation necessitated that TVET Colleges change their registration systems from manual to online registration, allowing students to register, cancel or add courses within the registration period.

Access to online registration at TVET Colleges is accessible from anywhere and at any time, and is dependent on an Internet connection. Digitalising registration allows TVET Colleges to manage electronic records easily (Capuc & Atibuni 2018; Dhlamini 2018). Portz et al. (2019) claim that understanding users' opinions and user experiences about the online registration system may improve the accessibility, acceptability and acceptance of students' applications thereof.

This research aims to assess online student registration in HEIs in South Africa. The study intends to address the research gap by examining the impact of ERP systems on transforming online student registration at a TVET College using the DeLone and McLean Information Systems (D&M IS) success model. The D&M IS success model will interpret the perceptions of students regarding online registration and provide a basis for measuring the ERP systems implementation success.

Problem statement

Enterprise Resource Planning systems have become integral to modernising processes in HEIs, offering unified platforms for managing online registration (Amini Valashani & Abukari 2020). In the South Africa (SA) HEIs context, the implementation of ERP systems is seen as a strategic enabler of service delivery improvement in public institutions, particularly TVET Colleges. The transformation from manual registration to online registration emerged to overcome challenges experienced by students and administrators managing registration, and mitigated mismanagement of courses registered, long queues, and incorrect student records. Online registration through the ERP systems is widely adopted in HEIs, allowing students to access and navigate information anywhere and at any time (Safsouf, Mansouri & Poirier 2020). In addition, HEIs adopted online registration using the ERP systems to contribute towards achieving the institution's mission, production improvement and facilitating service delivery (Bamufleh et al. 2021). Furthermore, Maabreh (2019) explains that online registration systems provide an easier and more convenient process compared to manual registration. Online registration simplifies the registration process by using an ERP system for digitising all required documents, allowing HEIs to reduce paperwork processing. The success of online registration thus relies on the correct application of the ERP systems. This research will focus on the influence that ERP systems have on the online registration of students at a TVET College. Using the D&M IS success model, the research will highlight the students' perceptions of the online registration of the ERP system with regard to information quality, system quality, service quality, intention to use, user satisfaction and net benefits.

Literature review

Higher Education Institutions rely on fragmented ERP systems, which strengthens the ability to optimise processes such as online student registration (Ngonzi & Jisaba 2021; Shatat & Al Burtamani 2019). Research indicates that user perceptions, particularly in terms of ease of use, reliability and accessibility, are critical for the successful adoption and sustained use of ERP systems for online registration (Jegundo et al. 2020; Portz et al. 2019). Moreover, service quality and information accuracy significantly influence students' satisfaction and willingness to engage with ERP platforms when registering online (Safsouf et al. 2020).

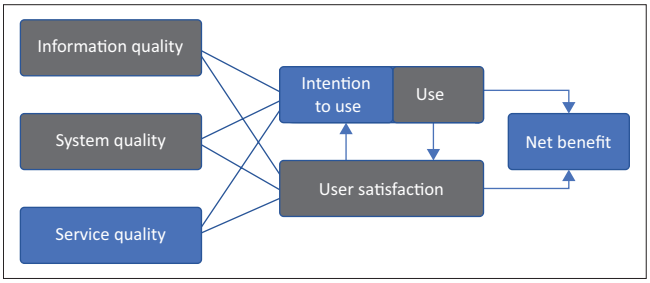
This study adopts and extends the D&M IS success model to evaluate ERP systems in online student registration within HEIs. The model integrates dimensions of information, system and service quality with user satisfaction, behavioural intention, and net benefits as key indicators of ERP success (Figure 1) (DeLone & McLean 1992, 2003). The D&M IS success model guided the investigation into the influence that ERP systems had on the online registration of students at HEIs.

Information quality

In the context of online environments, information quality assesses the relevance, accuracy and timeliness of student records, registration data, attitude, trust, satisfaction and usage intention (Becerra et al. 2021). In HEIs, the concept of information quality pertains to the value, assessment, usability and overall quality of the system outputs generated by users while utilising ERP systems (DeLone & McLean 1992; Gaol, Puryasana & Matsuo 2020; Lee, Sung & Jeon 2019; Zwain 2019). Investing in ERP systems can enhance information quality, which is a key component of information system success relating to online registration.

System quality

The success of ERP systems in HEIs relies heavily on system quality, which is defined by ease of use, reliability, flexibility and security (Ahmad & Roslan 2022; Al-Weshah, Al-Manasrah & Al-Qatawneh 2019). In the context of online student registration, these attributes directly influence user satisfaction and system usage (Ramírez-Correa, Rondán-Cataluña & Arenas-Gaitán 2018). Drawing on the D&M IS success model, this framework emphasises the role of the system and information quality in shaping positive user experiences. When ERP systems are user-friendly and provide accurate, timely data, they enhance institutional decision-making and service delivery (Sari et al. 2021).



Source: D&M IS success model DeLone, W.H. & McLean, E.R., 2003, 'The DeLone and McLean model of information systems success: A ten-year update', *Journal of Management Information Systems* 19(4), 9–30. https://doi.org/10.1080/07421222.2003.11045748

FIGURE 1: DeLone and McLean information systems success model.

Service quality

Service quality encompasses user support, technical assistance and system responsiveness. In the context of ERP implementation for online student registration, service quality plays a pivotal role in shaping user satisfaction and continued system use (Kaur & Amanpreet 2020). Defined by responsiveness, reliability and support effectiveness, service quality reflects the support users receive after implementation (Mekonnen, Lessa & Negash 2022). According to Alzoubi and Snider (2020), service quality has a direct influence on information service success, particularly in HEIs, where student expectations and academic service delivery are closely intertwined.

Behavioural intention to use

The intention to use ERP systems reflects users' willingness and readiness to adopt digital tools for administrative tasks, such as student online registration (Al-Shargabi, Sabri & Aljawarneh 2021). In HEIs, behavioural intention to use serves as a reliable predictor of actual system use (Soliman et al. 2019). Perceptions of ease of use and usefulness significantly influence these intentions (Jo & Park 2023). Where ERP systems offer consistent performance and relevant features, users are more likely to engage with them (Martins et al. 2019). Positive interactions, in turn, increase satisfaction and support continued system use (Çelik & Ayaz 2022).

User satisfaction

User satisfaction is crucial for the success of ERP systems in HEIs, as it significantly influences system engagement. It reflects how effective and valuable users find the system (Al-Shargabi et al. 2021). Factors such as system benefits, decision-making support and productivity affect acceptance and user satisfaction (Kulathunga & Fernando 2019). In student registration systems, satisfaction is influenced by the ease of access, clarity of communication and relevance of information (Ismail, Çelebi & Nadiri 2019). Although system quality may not directly impact perceived benefits, sustained user satisfaction improves system use and individual outcomes (Purnomo, Hidayatullah & Prasetya 2022).

Net benefits

Net benefits from ERP systems in HEIs include improved decision-making, efficiency and productivity (Wagiman, Aspasya & Prawati 2023). Enterprise Resource Planning systems streamline online student registration and support core functions, such as finance and administration (Mccue 2023). Success is measured through cost reduction, service improvement and alignment with institutional goals (Khand & Kalhoro 2020). User satisfaction and information quality are key factors linking system quality to net benefits, highlighting the importance of usability (Mahmud et al. 2023). Implementing ERP systems helps HEIs to address challenges and gain a competitive edge. As HEIs continue to digitise the core function of online registration, the D&M IS success model provides a valuable framework for systematically evaluating the outcomes of ERP implementations. This digitalisation is particularly relevant for streamlining and transforming online student registration processes.

This study, therefore, leverages the D&M IS success model to investigate the influence of the ERP systems on the online registration of students at a TVET College.

Conceptual framework

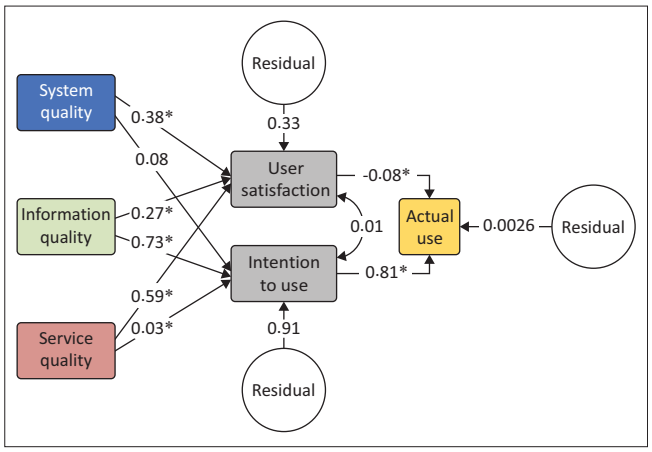
The study's conceptual framework, as shown in Figure 2, was developed to address the influence of the ERP systems on the students' online registration process at the TVET College. The study evaluated the main statistical results by analysing the relationships between endogenous variables of behavioural intention to use, user satisfaction and actual usage, along with exogenous variables of system quality, information quality and service quality. A conceptual framework comprising nine hypotheses was developed based on the dimensions of the D&M IS success model. The study proposed the following nine hypotheses to examine the relationship between the variables for the framework:

- **H1:** System quality positively affects users' satisfaction with using the online registration ERP system.
- **H2:** System quality positively affects the behavioural intention to use the online registration ERP system.
- **H3:** Information quality positively affects users' satisfaction with using the online registration ERP system.
- **H4:** Information quality positively affects the behavioural intention to use the online registration ERP system.
- **H5:** Service quality positively affects users' satisfaction with using the online registration ERP system.
- **H6:** Service quality positively affects the behavioural intention to use the online registration ERP system.
- **H7:** User satisfaction positively affects the behavioural intention to use the online registration ERP system.
- **H8:** User satisfaction positively affects the actual use of the online registration ERP system.
- **H9:** The behavioural intention to use positively affects the actual use of the online registration ERP system.

Figure 2 illustrates the derived hypotheses from the study based on the variables of the conceptual framework.

Research methods and design

The study adopted an objectivist ontology, suggesting that social phenomena are external factors that exist beyond influence or control. The positivist epistemological approach was adopted, where data were collected to establish a foundation for universal propositions through induction, aiming to uncover the truth through empirical means and testing hypotheses. A quantitative research approach was employed, and a survey was used to gather data. A cross-sectional research design was used to assess a selected population across all significant variables.



Source: Moshoeu, H.M., 2025, *Influence of enterprise resource planning systems on the students' online registration at a Technical Vocational Education and Training College*, Master of Management Sciences in Administrative Information Management (MMAIM) dissertation, Tshwane University of Technology

FIGURE 2: Proposed framework for assessing online student registration.

Data collection

Data were collected through a structured, self-administered online questionnaire distributed to respondents using Google Forms. Existing questionnaires were revised, adapted and used to measure the variables of this study. The questionnaire was adapted and adopted from Alzahrani et al. (2019), Chipeperekwa (2017), and Yakubu and Dasuki (2018). The 32-item tool was divided into sections addressing system quality, information quality, service quality, user satisfaction, behavioural intention to use and actual use. A 4-point Likert scale (1 = Strongly Disagree to 4 = Strongly Agree) was employed. Reliability was confirmed via Cronbach's alpha. The population comprised N = 4890 TVET College registered students. The researcher utilised a non-probability sample because its nature relies on the researcher's subjective judgement rather than random selection when selecting the sample (Iliyasu & Etikan 2021). The respondents of this study were selected using the convenience sampling method for data collection. In this study, the sample size consisted of 357 respondents, which represents approximately 7.3% of the total population of 4890.

Ethical consideration

Ethical clearance to conduct this study was obtained from the Tshwane University of Technology Research Ethics Committee (No. FCRE2022/09/005-MS [2]), fully adhering to both institutional and national ethical guidelines. Permission from the gatekeeper of the TVET College was also secured. A consent letter detailing the nature of the research, the study's objectives, the measures in place to maintain confidentiality, and the protection of anonymity was provided to all respondents. Participants were informed that their information would remain anonymous and that their identities would be safeguarded. Participation in this study was entirely voluntary and individuals were assured that they could withdraw at any time without facing any consequences.

Results

Demographic data revealed that the majority of respondents were young, with 72.55% aged between 18 years and 29 years. The largest group consisted of 1st-year students, making up 35.85% of the participants. Most students, 95.24%, were aware of the online registration system, and 87.96% had used it. Although 83.19% identified themselves as intermediate or advanced technology users, opinions on the system's performance were mixed, with 45.65% rating it poorly. Nonetheless, 85.15% reported being familiar with the institutional registration support services.

The study assessed nine hypotheses to explore the relationships among system quality, information quality, service quality, user satisfaction, behavioural intention and actual usage in the context of ERP systems for online student registration. The study tested the research hypothesis with confirmatory factor analysis (CFA) and through the Kruskal–Wallis equality-of-populations rank test to determine whether there are statistically significant differences between the medians of three or more independent groups and the Two-sample Wilcoxon rank-sum (Mann–Whitney) test to compare two independent groups. Confirmatory factor analysis was employed to test the hypothesis among a set of observed variables on a specific number of factors that explain the relationship patterns. The utilisation of CFA confirms whether the data fit the hypothesised measurement model, which assesses the scales' construct validity and determines the extent to which the observed variables represent the underlying theoretical constructs. Table 1 reflects the hypothesis testing.

In this study, all variables with Cronbach's alpha values were included in the analysis. The results reveal that the Cronbach's alpha coefficient consistently produced an average scale of 0.8262 and 0.9440, surpassing the minimum acceptable level of 0.7.

The goodness-of-fit analysis evaluates how well the proposed framework fits the actual data and provides insight into how closely the model aligns with the observed data (Idkhan & Idris 2023; Pavlov & Ferraz 2023). Table 2 reflects the goodness of fit for the model.

The goodness-of-fit statistics indicate that the model demonstrates a strong fit for system quality. The likelihood ratio tests show that the model significantly outperforms the baseline model, with the Chi^2-bs test of 663.324 yielding a p-value of 0.000 compared to the Chi^2-ms of 4.244 with a p-value of 0.120. Furthermore, population error statistics, such as root mean squared error of approximation (RMSEA) value of 0.056, 90% confidence interval (CI), lower bound 0.000 and 90% CI, upper bound 0.132 and p-close at 0.344. While the baseline comparison and size of residuals, such as Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values of 0.997 and 0.990, respectively, also support a good fit. The fit statistics suggest that the model effectively represents system quality. In addition, the Standardised

TABLE 1: Hypothesis testing using Structural Equation Modeling regression.

Hypothesis	Relationship path	Coefficient	*p*-value	95% Confidence interval	Results
H1	System -> Satisfaction	0.37	0.000	0.23, 0.51	Accept
H2	System -> Behavioural intention	0.08	0.446	-0.27, 0.12	Reject
H3	Information -> Satisfaction	0.27	0.000	0.13, 0.39	Accept
H4	Information -> Behavioural intention	0.73	0.000	0.55, 0.92	Accept
H5	Service -> Satisfaction	0.59	0.000	0.48, 0.69	Accept
H6	Service -> Behavioural intention	0.03	0.670	-0.17, 0.11	Reject
H7	Satisfaction -> Behavioural intention	0.01	0.754	-0.06	Reject
H8	Satisfaction -> Actual usage	0.08	0.006	-0.14, -0.02	Reject
H9	Behavioural intention -> Actual usage	0.81	0.000	0.69, 0.92	Accept

Source: Moshoeu, H.M., 2025, *Influence of enterprise resource planning systems on the students' online registration at a Technical Vocational Education and Training College*, Master of Management Sciences in Administrative Information Management (MMAIM) dissertation, Tshwane University of Technology

TABLE 2: Goodness of fit for framework.

Constructs	Likelihood ratio				Population error				Information criteria		Baseline comparison		Size of residuals	
	Chi² ms Model vs. saturated	*p* > Chi²	Chi² bs baseline vs. saturated	*p* > Chi²	RMSEA	90% CI, lower bound	90% CI, upper bound	*p*-close	AIC	BIC	CFI	TLI	SRMR	CD
System quality	4.24	0.12	663.32	0.000	0.06	0.00	0.13	0.344	4290.64	4337.17	1.00	0.99	0.01	0.88
Information quality	143.84	0.00	1050.81	0.000	0.20	0.18	0.23	0.000	6701.56	6771.36	0.87	0.78	0.07	0.88
Service quality	3.83	0.15	1093.79	0.000	0.05	0.00	0.13	0.386	4071.48	4118.02	1.00	1.00	0.01	0.93
User satisfaction	1.96	0.37	1341.73	0.000	0.00	0.00	0.10	0.636	3894.02	3940.55	1.00	1.00	0.00	0.95
Behavioural intention to use	20.78	0.00	585.76	0.000	0.16	0.10	0.23	0.001	4255.96	4302.49	1.00	0.90	0.04	0.89
Actual usage	0.00	0.00	182.81	0.000	0.00	0.00	0.00	1.000	2199.94	2223.21	1.00	1.00	0.00	1.00

Source: Moshoeu, H.M., 2025, *Influence of enterprise resource planning systems on the students' online registration at a Technical Vocational Education and Training College*, Master of Management Sciences in Administrative Information Management (MMAIM) dissertation, Tshwane University of Technology

CFI, comparative fit index; TLI, Tucker-Lewis index; RMSEA, root mean standardised error of approximation; SRMR, standardised root mean squared residual; AIC, Akaike Information Criterion; BIC, Bayesian Information Criterion; CD, Construct Reliability value; CI, confidence interval.

Root Mean Squared Residual (SRMR) value of 0.014 and CD value of 0.878 further confirm the model's strong fit for system quality.

Upon reviewing the fit statistics of information quality, the proposed model significantly differs from the Chi²-ms and Chi²-bs models. The likelihood ratio Chi²-ms test of 143.842 resulted in a *p*-value of 0.000. Similarly, the Chi²-bs value of 1050.807 with a *p*-value of 0.000 suggests a noteworthy distinction between the baseline and saturated models. Although the proposed model shows some explanatory power beyond chance, it is important to consider other fit indices, such as population error, RMSEA 0.205, 90% CI, lower bound of 0.176 and 0.235 of 90% CI upper bound and 0.000 *p*-close. These indices suggest that the model's fit to the data, particularly regarding information quality, may be suboptimal. For instance, the RMSEA value of 0.205, with a 90% confidence interval between 0.176 and 0.235, and the probability value of 0.000, suggest a substantial difference between the models, indicating a mediocre fit. The CFI and TLI values of 0.870 and 0.783, the SRMR value of 0.073 and the CD of 0.876 also indicate a less-than-ideal fit to the data. These results suggest that the model may not adequately represent the relationships between the observed variables and the information quality construct.

The likelihood ratio test on service quality indicates that the model fits the data well. The Chi²-ms value of 3.830 with a *p*-value of 0.147 did not reach statistical significance compared to the Chi²-bs value. Similarly, the Chi²-bs value is 1093.788 with a *p*-value less than 0.05, showing that the baseline model significantly differs from the saturated model. Regarding population error, the RMSEA value of 0.051 provides strong evidence of a high-quality fit. The RMSEA, comfortably below the threshold of 0.08, signifies a close fit between the model and the observed data with 90% CI lower bound at 0.000, 90% CI upper bound at 0.127 and *p*-close at 0.386. The baseline comparison results, with CFI and TLI values of 0.998 and 0.995, respectively, confirm a near-perfect fit. Lastly, the size of residuals, as indicated by the SRMR value of 0.009 and the CD value of 0.934, both point to an excellent fit. These results collectively demonstrate the model's good fit for the data across likelihood ratio, population error, information criteria, baseline comparison and residual size, leaving no room for doubt about its performance.

Upon analysing the user satisfaction results, it is evident that the model demonstrates a strong fit across various statistical measures. The likelihood ratio Chi²-ms test 1.962 indicates a non-significant *p*-value of 0.375, suggesting that the model effectively captures the data compared to the saturated model, while Chi²-bs resulted in 1341.727 with the *p*-value 0.000. The RMSEA value of 0.000, with a 90% CI lower bound and upper bound between 0.000 and 0.104, support the conclusion of a well-fitting model. Moreover, the associated *p*-close (0.636) further confirms the model's good fit. The baseline comparison shows perfect scores of 1.000 for both the CFI and TLI, indicating an excellent fit. This excellent fit should instil confidence in the model's performance. Additionally, the SRMR value of 0.005 and the CD value of 0.946 underpin the argument for a well-fitting model. The results across likelihood ratio, population error, information criteria, baseline comparison and size of

residuals collectively support the notion that the model accurately represents user satisfaction.

On the behavioural intention to use, the likelihood ratio results on the Chi-square test statistic show significant differences between the Chi^2-ms 20.776, with $p < 0.000$ and between the Chi^2-bs 585.758 and $p < 0.000$. The RMSEA is 0.162, with a 90% CI ranging from 0.104 to 0.229. The *p*-value for the RMSEA is 0.001, close to the information criteria, indicating its statistical significance.

The CFI is 0.968 and the TLI is 0.903. The SRMR is 0.043 and the CD is 0.892. The analysis reveals significant differences in likelihood ratio tests and suggests a reasonable model fit based on the population error and size of residual statistics. Equally important, the information criteria and baseline comparison play a significant role in assessing the model's goodness of fit, providing a comprehensive understanding of the model's performance.

The model demonstrates a good fit across various goodness-of-fit measures on construct actual usage. The likelihood ratio test suggests a good fit, with the Chi^2-ms statistic indicating a value of 0.000 and 182.807 for the Chi^2-bs comparison. The population error statistics, such as RMSEA with a value of 0.000, its 90% CI lower bound and upper bound resulted in both 0.000 and the *p*-close to 1.000, indicating a minimal error and a good fit of the model to the data. The CFI and TLI have high values of 1.000, indicating an excellent fit of the model to the data. The size of residuals, including SRMR with a value of 0.000 and CD with a value of 1.000, suggests minimal residual error and a good fit for the model. In conclusion, based on these measures, it may be inferred that the model exhibits a good fit based on the criteria of actual usage.

Results for the framework, as per Figure 2, indicate that while system quality positively correlates with user satisfaction, it paradoxically shows a negative relationship with users' intentions to utilise the online registration system. Conversely, the quality of information emerges as a fundamental driver of user satisfaction and engagement with the online ERP systems. Users who find the information provided by the ERP system to be clear, relevant, and accurate demonstrate a significantly higher propensity to continue using the system. This observation is consistent with established theories, such as the theory of DeLone and McLean (1992:88) and DeLone and McLean (2003:23), which underscore the pivotal role of information quality in shaping user perceptions.

Hypotheses summary

This study's conceptual framework is based on nine hypotheses, as shown in Figure 2, relating to the D&M IS success model.

H1: System quality positively affects users' satisfaction

The findings from the framework indicated that system quality positively impacts user satisfaction, corroborating the research by Jo and Park (2023), which highlights the importance of stable and efficient ERP systems in enhancing user contentment. Similarly, Hidayat and Setiawan (2024) found that system quality has a significant influence on user satisfaction, primarily because of its ease of use and reliability. In addition, it is user-friendly, quick to access features and information, and the system's response speed provides adequate security. Furthermore, research by Achmadi and Siregar (2021) supports the notion that higher system quality generally leads to greater user satisfaction.

H2: System quality positively affects the behavioural intention to use

The results of this study contribute uniquely to the existing literature by showing a negative relationship between the system quality and users' intention to utilise the online registration system at the TVET College. This finding aligns with the literature emphasising the importance of accurate and high-quality information in enhancing perceived utility. Martins et al. (2019) argue that the richness of system features and content directly impacts user satisfaction and engagement. While users may have appreciated system quality, it did not necessarily lead to an increased intention to use the ERP system more frequently. The findings suggest that high satisfaction levels with the system's performance do not automatically result in greater user engagement. Therefore, exploring the factors that drive user engagement beyond technical quality is a significant concern. Consistent with the research of Napitupulu, Pangastuti and Hoediono (2019), which emphasises the importance of user experiences in determining satisfaction and perceived benefits, this study reinforces the notion that enhancing system features alone may not be sufficient. Results advocate for a multifaceted approach, considering other factors that could impact user engagement and satisfaction. Thus, while the results align with existing theories, this study recommends a more nuanced exploration of user intention dynamics within the context of online registration systems at the TVET College.

H3: Information quality positively affects users' satisfaction

The results demonstrate a significant positive correlation between information quality from the ERP systems and user satisfaction at the TVET College. High-quality information, defined by its ease of understanding, relevance, security and accuracy, enhances user satisfaction and decreases perceived risks. These findings are consistent with DeLone and McLean (2003), which emphasises the importance of availability, completeness, and consistency in shaping user perceptions. Enhancing information quality can significantly boost user adoption and engagement with ERP systems, creating a more effective educational environment. Achmadi and Siregar (2021) found a strong relationship between information quality and user satisfaction. The study indicated a coefficient effect of 0.135, a standard error of 0.038, and critical ratio values with *p*-values of 3.52 and 0.001. These data suggest that higher information quality is associated with increased user satisfaction.

H4: Information quality positively affects the behavioural intention to use

The results demonstrate a positive correlation between information quality and the behavioural intention to use the online registration system. The results show that users' willingness to engage with the system increases as the quality of information is enhanced. This relationship is statistically significant and consistent with prior research suggesting that high-quality, accurate information improves users' perceptions of a system's utility, encouraging more significant usage. Conversely, unclear or incomplete information can diminish the behavioural intention to use (DeLone & McLean 2003). These results underscore the vital role of information quality in facilitating effective engagement with the registration systems at the TVET College, reinforcing the idea that improved information leads to better user experiences and outcomes.

H5: Service quality positively affects users' satisfaction

Findings revealed that enhancements in service quality, specifically prompt, knowledgeable and empathetic support, positively influence user satisfaction more significantly than system or information quality improvements. Consequently, the TVET College should prioritise enhancing the service quality of its online registration system to build trust and improve user experience. Previous research by Bezuidenhout and De Jager (2014); Haverila, Haverila and McLaughlin (2020) highlights the significance of effective communication and support in improving user retention rates. These findings suggest that the TVET College could benefit from implementing strategies to enhance user engagement. Furthermore, the likelihood ratio test results indicate a need for specific system usability improvements and features to better meet user expectations.

H6: Service quality positively affects the behavioural intention to use

The results showed a lack of statistical significance, indicating that service quality does not substantially impact user behaviour. The results indicate that while users value timely and empathetic support, such qualities do not necessarily motivate them to utilise the online registration system more frequently. Students are less likely to engage with the system if they perceive its service quality as poor. Results underscore the critical need to enhance user experience and improve system design. The findings are consistent with previous research conducted by Prabowo, Yuniarty and Ikhsan (2022), which indicates that inadequate service quality can lead to reduced student engagement and increased dissatisfaction. Ultimately, while service quality remains integral in fostering user satisfaction, the framework encourages the TVET College to explore additional influential factors that can effectively enhance the behavioural intention to use the online registration system and features to foster positive user interaction.

H7: User satisfaction positively affects the behavioural intention to use

The study revealed a weak correlation between user satisfaction and the behavioural intention to utilise the online registration system at the TVET College. While user experiences influenced perceptions of usability and reliability, the analysis of the data indicated that this relationship was not statistically significant, suggesting that other contextual factors affected user intentions. Contrary to existing literature emphasising the role of user satisfaction in influencing behavioural intentions towards the ERP systems, particularly as noted by Abdurrahaman, Owusu and Bakare (2020), this study highlighted a unique scenario at the TVET College. Notably, the likelihood ratio test demonstrated a significant distinction between the examined models, pointing to areas for improvement within the ERP systems, such as enhancing information quality, service delivery and overall system performance.

H8: User satisfaction positively affects the actual use

The study established a significant negative correlation between user satisfaction and actual system usage, suggesting that less satisfied users engage with the system less frequently. Respondents indicated that satisfaction with system quality significantly impacts both engagement and usage frequency, highlighting a disconnect between satisfaction levels and actual usage patterns. Specifically, decreased satisfaction regarding functionality, usability, response time and user interface design correlates with reduced regular usage. The findings imply that improvements in these areas could enhance user satisfaction and engagement levels. This finding aligns with previous studies by Kulathunga and Fernando (2019), reinforcing the critical role of user satisfaction in technology adoption and its implications for organisational success. The TVET College should emphasise that user satisfaction is essential for effectively utilising technology and the overall success of ERP systems. Moreover, integrating user satisfaction metrics into the assessment of the ERP systems can promote positive behavioural intentions and enhance actual usage, as Djuitaningsih and Arifiyantoro (2020) emphasised.

H9: The behavioural intention to use positively affects the actual use

A significant positive correlation exists between the behavioural intention to use the system and its actual usage. Respondents demonstrated a strong intention to utilise the ERP system, which was positively associated with their actual usage, irrespective of satisfaction levels. This finding aligns with the work of Al-Shargabi et al. (2021), highlighting the critical roles of perceived ease of use and perceived usefulness in shaping user intentions and actual usage. Kulathunga and Fernando (2019) corroborate the fact that user acceptance hinges primarily on these perceptions, indicating the necessity for improved system usability. In addition, research by Asanprakit and Limna (2023) underscores the influence of social factors, such as peer recommendations and institutional support, on user intentions and usage patterns. These insights reveal the importance of fostering positive behavioural intentions through strategies that enhance perceptions and leverage digital influences. This positive behavioural intention will

promote more significant system usage at the TVET College and enhance educational outcomes.

Recommendations

The recommendations are categorised into system quality, information quality, service quality, user satisfaction, behavioural intention to use, and actual usage to evaluate the influence of the framework on online registration.

System quality

The online registration system at the TVET College requires improvement, particularly in addressing user concerns about availability, reliability and response times. The data indicate that nearly half of the respondents are dissatisfied with these aspects, highlighting a significant need for enhancement. Results recommend implementing a comprehensive performance enhancement plan to tackle these issues head-on. This plan, which includes upgrading server capabilities and reducing downtime, is an important step that will significantly improve system reliability and availability. Moreover, gathering and incorporating user feedback will allow the system to be tailored to better meet students' needs. Finally, a redesigned user interface with a more intuitive and user-friendly approach will ensure a smoother registration experience, aligning the system with the expectations of all users. These changes will have the potential to significantly enhance the online registration process, promoting a more positive and efficient experience for students.

Information quality

The TVET College should prioritise enhancing the accuracy and reliability of the ERP system. This could be achieved by implementing regular data reviews and stringent validation processes. In addition, gathering detailed user feedback and conducting regular user experience testing will improve system satisfaction and empower users, making them feel more involved and influential in the ERP system's development.

Service quality

Enhancing student satisfaction and service quality at the TVET College requires an investment in attaining additional resources and comprehensive training for support staff. This training should specifically focus on improving service promptness, staff knowledge and empathetic engagement. Furthermore, increasing staff presence at service points and ensuring accessible support services through clear communication will better align offerings with student needs. Future evaluations must regularly assess the impact of these initiatives on overall student satisfaction.

User satisfaction

Improving user satisfaction with the ERP system's online registration at the TVET College necessitates a thorough usability assessment to identify specific obstacles users face. However, it is equally important to implement comprehensive training programmes and enhance support services. These measures will not only help users to navigate the system more effectively but also build their confidence. Establishing an ongoing feedback mechanism will enable users to share their insights and suggestions while prioritising system enhancements based on this feedback. Streamlining navigation and interface design will create a more user-friendly experience. Engaging users in the design process of future upgrades will foster a sense of ownership and further elevate satisfaction.

Behavioural intention to use

Enhance user engagement with the online registration system at the TVET College by implementing targeted education and training programmes to address knowledge gaps and improve satisfaction. In addition, user feedback on system features should be gathered.

Actual usage

Enhancing the online registration system at the TVET College necessitates the establishment of a comprehensive feedback mechanism. This will identify and address specific challenges for dissatisfied students, leading to a more efficient and effective system. Emphasis should be placed on usability improvements, including simplifying the registration process and creating a user-friendly interface, making the system more accessible and user-friendly. Developing engaging training resources and robust support services will help students adapt to the online system more effectively, fostering a sense of confidence and competence. Regular evaluations and research initiatives are essential to ensure that the system meets diverse user needs and fosters overall satisfaction.

Conclusion

This study applied the D&M IS success model to evaluate the factors influencing the success of ERP systems in supporting online student registration in HEIs at a TVET College. The analysis focused on key constructs including system quality, information quality, service quality, user satisfaction, behavioural intention to use and actual system usage. The findings reveal that information quality significantly and positively influenced both behavioural intentions to use and user satisfaction, highlighting the critical role of accurate and relevant information in promoting ERP systems adoption. System quality and service quality significantly influenced user satisfaction but showed no significant effect on behavioural intention to use, suggesting that technical performance and support services contribute more to user contentment than to usage intentions. Notably, behavioural intention to use emerged as the strongest predictor of actual use. At the same time, user satisfaction demonstrated a significant but negative relationship with actual use, suggesting that higher satisfaction does not necessarily equate to increased system engagement. These results offer

empirical support for the theoretical propositions of the D&M IS success model in a higher education context and provide a foundation for improving online registration relating to ERP systems. Enhancing information accuracy, system usability, and support services can contribute to more effective and sustainable online registration use in HEIs.

Acknowledgements

This article is partially based on Hellen M. Moshoeu's dissertation entitled, 'Influence of Enterprise Resource Planning Systems on Students' Online Registration at a Technical Vocational Education and Training College', towards the degree of Master of Management Sciences in Administrative Information Management in the Department of Business and Information Management Services at the Tshwane University of Technology, South Africa, under the supervision of Estelle Bruhns, received May 2025.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

CRediT authorship contribution

Hellen M. Moshoeu: Investigation, Writing – original draft. Estelle Bruhns: Conceptualisation, Supervision, Writing – review & editing.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability

The data that support the findings of this study are available from the corresponding author, Hellen M. Moshoeu, upon reasonable request.

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