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Research Article

Factors Affecting User Satisfaction on Quipper Learning Management System in a Philippine University

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About Article

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ABSTRACT

There has been a shift in the way educational services are delivered in Higher Education Institutions (HEIs) due to the advances in ICT and the introduction of the Internet. The resulting growth has led to learning management systems (LMS) development. LMSs are pivotal in fostering and advancing student learning. These systems have shown the ability to provide electronic and instructional resources to improve and augment student learning in a collaborative environment. Despite the extensive adoption of Learning Management Systems (LMS) like Quipper in higher education, there remains a limited understanding of how specific system characteristics drive user satisfaction in context-specific deployments. Thus, this study addresses the following gap: (1) The lack of contextualized evidence assessing system, information quality, and service (IS Success factors) on student-user satisfaction with Quipper LMS in a Philippine university context, and (2) The limited application of empirical, regression-based methods to assess the predictive strength of these IS success factors towards student-user satisfaction, especially using localized datasets from actual LMS users. Using quantitative descriptive-correlational design utilizing multiple regression, results provide compelling evidence supporting the theoretical and empirical foundations linking IS Success factor to user satisfaction. Moreover, the result shows that IS Success factors are all positively significant toward student-user satisfaction congruent with well-established D&M IS Success model, which identifies these three quality dimensions as key drivers of user satisfaction. The results can be an additional reference for future research and can be extended to other sectors or industries using Information System tools.

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1. INTRODUCTION

Information and communication technologies (ICTs) have revolutionized several businesses in the digital age, including education, and are main impulse behind education reforms (Haleem *et al.*, 2022). The development of ICTs and Internet has changed how educational services are delivered in higher education institutions (HEIs). World Bank (2021) asserts that ICTs in education hold great promise to support teachers, students, and the learning process through new and innovative methods. The growing demand for Information Technology (IT) towards e-learning led to the development of Learning Management Systems (De Oliveira *et al.*, 2015)

Learning Management Systems (LMS) is defined as online learning platform that educators use for creating, managing, and delivering course material. It provides a collaborative environment for instructions and electronic resources to supplement student learning and make the experience more interactive and engaging (Turnbull *et al.*, 2020). As such, in the contemporary digital world, learning management systems (LMS) are imperative for the management and acquisition of knowledge (Nguyin, 2021).

In advent of HEIs adoption of LMS, researchers are drawn into analyzing the effect of LMS usage towards user satisfaction. This satisfaction is primarily determined by the beliefs on the quality of the system's services and the information carried and transmitted by the system to users (Wixom & Todd, 2005). LMS becomes an integral part of the learning experience for students, and assessing its success on its end-users is very important, which this research uncovers.

Despite the extensive adoption of LMS like Quipper in higher education, especially in the wake of accelerated digital transformation due to global disruptions such as the COVID-19 pandemic, there remains a limited understanding of how specific system characteristics drive student-user satisfaction in context-specific deployments. Numerous studies have validated the role of system quality, information quality, and service quality in general LMS performance but most existing literature focuses on generic systems or Western-centric platforms. No empirical evidence is focused on localized or commercial LMS platforms like Quipper within the Philippine educational setting.

Moreover, few studies utilize robust quantitative methods like regression modeling to determine each quality factor's relative weight or influence on student-user satisfaction, particularly using real end-user data over multiple academic semesters. Also, while many works reference the DeLone and McLean IS Success Model and the Technology Acceptance Model (TAM), empirical applications of these models remain underrepresented in evaluating Quipper LMS, especially from the student-user perspective in developing countries. Thus, this study addresses a twofold research gap: (1) The lack of contextualized evidence assessing system, service, and information quality on student-user satisfaction with Quipper LMS in a Philippine university context, and (2) The limited application of empirical, regression-based methods to assess the predictive strength of these IS success factors on student-user satisfaction, especially using localized datasets from actual LMS users.

To address the research gap identified, the study aims to (1) Assess the perceived levels of IS Success factors (system quality, information quality, service quality) and user satisfaction among students using the Quipper LMS; (2) Determine the influence of system quality on student-user satisfaction with the Quipper LMS; (3) Examine the impact of information quality on student-user satisfaction with the Quipper LMS; (4) Evaluate the role of service quality in shaping student-user satisfaction with the Quipper LMS; and (5) Develop a predictive model of student-user satisfaction using IS Success factors as independent variables.

2. LITERATURE REVIEW

2.1. Theoretical underpinnings

2.1.1. Technology acceptance model (TAM)

The Technology Acceptance Model (TAM) is a user-centered model that was developed to explain technology acceptance and predict a wide range of user behaviors. This theory postulates that the actual use of technology is directly influenced by an individual's intentions to use it. An individual's likelihood of using technology increases directly to their intention to do so (Burgess & Worthington, 2021).

Studies on the Theory Acceptance Model (TAM) framework found that when users recognize that LMS is easy to use and improves their learning experience, it will result in user satisfaction (Al-Azawei *et al.*, 2017). Accordingly, the ability of individuals to accept and use technology is based on their impression of the technology and its accessibility (Naser *et al.*, 2021).

2.1.2. IS success model

The updated IS Success Model developed by DeLone and McLean provides a holistic definition of the success of information systems that considers diverse perspectives for assessment (Urbach & Muller, 2011). The model can assess the intricate information system and the processes involved in using the said system that affects the users (Al-Okaily *et al.*, 2022).

IS Success Model posits that the ability of the individual to use a system is merely based on his belief in the quality of the system and his experiences of its usage? (Lutfi *et al.*, 2022). Moreover, it sets the relationship between IS success factors (information, system, and service quality) and user satisfaction (Delone & McLean, 2003). Generally, the success model is established based on the following framework: Service Quality, Information Quality, and System Quality partially affect Use and User Satisfaction, then fully affect Net Benefits.

The use of this model in this paper is based only on the partial effect of system quality, information quality, and service quality on user satisfaction. The IS Success Model defines the variables above as follows: System quality is defined as the desirable characteristics of the system as the system itself. Information quality refers to the quality of the system outputs (i.e., the quality of the system's information). Service Quality refers to the quality of support that users receive from the system's responsible service provider. User satisfaction is defined as the user's level of satisfaction when utilizing the system (Delone & McLean, 2003).

2.2. Hypotheses development and conceptual framework

2.2.1. System quality

System quality is defined as hardware and software's stability,

reliability, and suitability that provides the required information (Almarashdeh *et al.*, 2010). Quality systems in LMS measure the intrinsic features of technology, including system performance and user interface (Ohliati & Abbas, 2019). System quality plays a significant role in satisfaction using e-learning (Almahamid & Abu-Rub, 2011). With the above premises, the current study hypothesized that:

H1: System Quality is positively related to User Satisfaction with Quipper LMS

2.2.2. Information quality

Information quality in LMS is a dimension that summarizes course management and content quality (Dorobat *et al.*, 2019). Efiloglu (2019) showed that the information quality variable positively influenced user satisfaction. Information quality was reported to affect user satisfaction significantly (DeLone & McLean, 2003). The following hypothesis is set below:

H2: Information Quality is positively related to User Satisfaction with Quipper LMS

2.2.3. Service quality

Almarashdeh *et al.* (2010) asserted that service quality concerns overall support provided by distance learning service providers or technology. In essence, service quality reflects the quality of support services offered to end users. Haddad (2018) posits that student satisfaction will increase if LMS offers services of good quality (e.g., 24/7 service), ready-to-use services, and a high level of training. With this, the following hypothesis is set:

H3: Service Quality is positively related to User Satisfaction with Quipper LMS

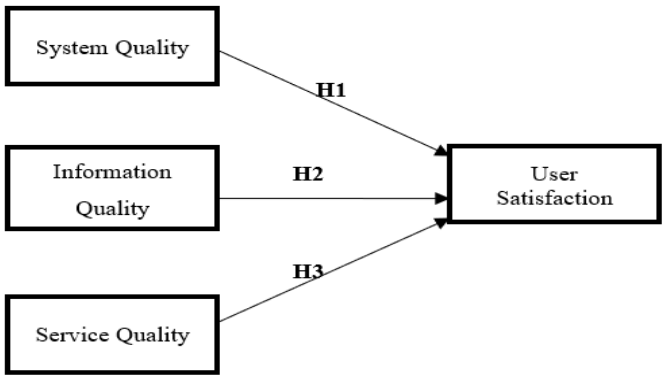

Figure 1. Depicts the schematic diagram of the study, adapting the delone and McLean IS success model.

3. METHODOLOGY

The study was conducted using a quantitative method utilizing a descriptive-correlational design. The study's respondents are second-year up to fourth-year students of UM Tagum College who are currently enrolled for the second semester, SY 2023-23 and using Quipper LMS for three or more semesters. Using stratified random sampling, 416 sample respondents were distributed proportionately and were determined systematically. All respondents were given a questionnaire to be filled out. The questionnaire is adapted, and items within are answerable on a five-point Likert scale. Before the study was conducted, the questionnaire undergoes expert validation and pilot testing to check the items internal consistency. Table 1 shows the Cronbach alpha values of every item, and the result shows high reliability. After the questionnaire was verified, proper conduct proceeded. The researcher asked permission from the head of the school while adhering to the university's proper research conduct and guidelines. After the approval, the researchers proceeded to data gathering following the sampling distribution and technique. The data gathered is analyzed using mean and multiple linear regressions as statistical tools.

Table 1. Item Reliability

Variable	Items	CA Result
User Satisfaction	3	0.916
System Quality	5	0.875
Information Quality	3	0.895
Service Quality	3	0.890

4. RESULTS AND DISCUSSION

4.1. Level of is success factors and user satisfaction

Table 2 below presents the mean scores of the variables used in the study. The dependent variable, User Satisfaction, obtained a mean score of 4.14 with a standard deviation of 0.65. Among the independent variables, Information Quality got the highest mean with a score of 4.17 and a standard deviation of 0.63. It was followed by System Quality and Service Quality with a mean value of 4.09 and a standard deviation of 0.62 and 0.66, respectively.

This suggests that students generally perceive the system and related services positively. Information Quality had the highest mean (4.17), indicating that students value accurate, timely, and relevant information most when engaging with the system. While the means are closely clustered (between 4.09 and 4.17), the slight edge in Information Quality hints at a more nuanced student preference for content over interface or service interactions. However, the slight variation also suggests a possible ceiling effect—students may generally score high across variables, potentially masking more granular dissatisfaction or differentiation among components.

Table 2. Level of variables in the study

Variables	Mean	SD	Descriptive Equivalent
User Satisfaction	4.14	0.65	High
System Quality	4.09	0.62	High
Information Quality	4.17	0.63	High
Service Quality	4.09	0.66	High

4.2. Regression analysis

Table 3 shows the summary result of the regression analysis. Multiple linear regression was used to test whether system, information, and service quality significantly affect user satisfaction. The overall regression was statistically significant

(R^2 = 0.71, Adjusted-R^2 = 0.70, F(3, 415) = 329.91, p = < .000). The model is robust, with R^2 = 0.71, which means that the three predictors explain 71% of the variance in User Satisfaction. Also, the Adjusted R^2 = 0.70 indicates minimal overfitting, affirming the model's generalizability. Moreover, F(3, 415) = 329.91, p < .000, indicating high significance, showing that the model as a whole is meaningful.

All of the independent variables were found to be statistically significant. Although significant, system quality (β = 0.27, p = < .000) had the lowest predictive strength. This may reflect the idea that once a system reaches a minimum threshold of technical competence and usability, further improvements in features or performance yield diminishing returns on student's satisfaction. However, this does not undermine its importance—it remains a foundational requirement for system success. On the other hand, information quality (β = 0.30, p = < .000) follows closely, reinforcing the importance of the content's relevance and accuracy. This finding aligns with research by Wixom and Todd (2005), who emphasized that system outputs' perceived usefulness and reliability directly influence student satisfaction and intention to continue using the system. In contexts where students rely on systems for decision-making, the accuracy and clarity of information become vital. Lastly, while slightly weaker, service quality (β = 0.35, p = < .000) still exerts a meaningful influence—highlighting that ease of use, reliability, and technical performance remain essential. This aligns with studies like those of Petter *et al.* (2008) and Urbach & Müller (2012), which found that service support plays a critical role, especially in systems where student interact frequently with support teams or help desks. High service quality can enhance trust, reduce frustration, and foster a more positive student experience. Despite service quality having the highest standardized coefficient, its mean score is not markedly higher than the others. This may indicate greater variability or sensitivity to poor service experiences. The relatively even distribution of β values implies that student satisfaction is multifactorial, and improvements in any domain may yield meaningful gains.

The resulting value of Durbin-Watson, which is 2.049, confirms the absence of autocorrelation in residuals, indicating a sound model. Also, the Variance Inflation Factors for System, Information, and Service Quality are 3.570, 4.227, and 2.924, respectively. These values fall within the acceptable range (VIF < 5), indicating moderate multicollinearity but not to the extent that would bias the regression estimates. While not yet problematic, the relatively high VIF for Information Quality (4.227) signals some overlap or shared variance with other predictors, possibly due to conceptual or measurement similarities between system and information quality.

Table 3. Multiple Regression Analysis

Independent Variables	Slope	Std. Error	T	p-value
(Constant)	.323	.123	2.619	.009
System Quality	.273	.053	5.123	.000
Information Quality	.304	.057	5.311	.000
Service Quality	.350	.045	7.761	.000

R^2 = 0.71 Adjusted R^2 = 0.70
F(ratio) = 329.91 p = < .000
SSE = .35 N = 416

4.3. Discussion

The study's results provide compelling evidence supporting the theoretical and empirical foundations linking system quality, information quality, and service quality to student-user satisfaction. The findings are consistent with well-established model the DeLone and McLean Information Systems Success, which identifies these three quality dimensions as key drivers of student-user satisfaction.

Descriptive results suggest a positive perception of the system's performance and support environment. The closeness of these mean values reinforces the idea that students evaluate their experience holistically—assessing the system's technical functionality, the usefulness of the information it provides, and the quality of user support. As such, regression results reinforce the idea that student derive satisfaction not only from how well the system performs (system quality) but also from the accuracy, relevance, and timeliness of information (information quality) and the responsiveness, support, and interaction with personnel or help services (service quality).

5. CONCLUSION

This study provides statistically strong and practically meaningful evidence that Information Quality, System Quality, and Service Quality significantly influence User Satisfaction, with Service Quality emerging as the most potent predictor. The model's robustness (Adjusted R^2 = 0.70) underscores the importance of a holistic approach in system design and delivery, where technical functionality, content relevance, and user support interact to shape student experience.

Although the findings outlined above have provided a better understanding of the relationship between the indicated factors and user satisfaction, specific limitations bind the study, like the type of users (students only) and the kind of statistical technique. It is recommended to consider using Structural Equation Modeling (SEM) to explore mediating or moderating relationships (like does Information Quality mediate the effect of System Quality on Satisfaction) and employing longitudinal data to determine how satisfaction evolves and what variables have sustained versus temporary impacts. To address the slight

multicollinearity, refined scales or conducting factor analysis can be considered to confirm construct validity. Moreover, it is suggested that user satisfaction be disaggregated to identify satisfaction with specific features or tasks within the system. The results can be an additional reference for future research and can be extended to other sectors or industries using Information System tools.

REFERENCES

Al-Azawei, A., Parslow, P., & Lundqvist, K. (2017). Investigating the effect of learning styles in a blended e-learning system: An extension of the technology acceptance model (TAM). *Australasian Journal of Educational Technology, 33*(2). https://doi.org/10.14742/ajet.2741.

Almahamid, S., & Rub, F. A. (2011). Factors that determine continuance intention to use e-learning system: an empirical investigation. In *International conference on telecommunication technology and applications Proc. of CSIT* (Vol. 5, No. 1, pp. 242-246).

Almarashdeh, I. (2016). Sharing instructors experience of learning management system: A technology perspective of user satisfaction in a distance learning course. *Computers in Human Behavior, 63*, 249–255.

Burgess, G., & Worthington, A. (2021). *Technology acceptance model.* University of Alaska Anchorage. Retrieved from: https://ua.pressbooks.pub/persuasiontheoryinaction/chapter/technology-acceptance-model

Oliveira, P. C. D., Cunha, C. J. C. D. A., & Nakayama, M. K. (2016). Learning Management Systems (LMS) and e-learning management: an integrative review and research agenda. *JISTEM-Journal of Information Systems and Technology Management, 13*(2), 157-180.

Delone, W., & McLean, E. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems, 19*(4), 9–30.

Dorobat, I., Corbea, A. M. I., & Muntean, M. (2019). Integrating student trust in a conceptual model for assessing learning management system success in higher education: An empirical analysis. *IEEE Access, 7*, 69202–69214. https://doi.org/10.1109/ACCESS.2019.2919100

Efiloglu, K. (2019). Examining an e-learning system through the information systems success model lens: Empirical evidence from Italy. *Education and Information Technologies, 24*(2), 1173–1184. https://doi.org/10.1007/s10639-018-9821-4

Elmunsyah H., Nafalski A., Wibawa A.P., & Dwiyanto F.A. (2023). Understanding the impact of a learning management system using a novel modified Delone and Mclean model. *Education Sciences, 13*(3), 235. https://doi.org/10.3390/educsci13030235

Haddad, F. S. (2018). Examining the effect of learning management system quality and perceived usefulness on student's satisfaction. *Journal of Theoretical and Applied Information Technology, 96*, 8034-8044.

Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers, 3*, 276. https://doi.org/10.1016/j.susoc.2022.05.004

Lutfi, A., Al-Okaily, M., Alsyouf, A., & Alrawad, M. (2022). Evaluating the D&M IS Success Model in the Context of Accounting Information System and Sustainable Decision Making. *Sustainability, 14*(13), 8120. https://doi.org/10.3390/su14138120

Miller, J. (2023). *The internet's impact on education: Transforming learning in the digital age.* Elearning Industry. Retrieved from: https://elearningindustry.com/the-internets-impact-on-education-transforming-learning-in-the-digital-age

Mohd Nasir, F. D., Hussain, M. A. M., Mohamed, H., Mohd Mokhtar, M. A., & Abdul Karim, N. (2021). Student Satisfaction in Using a Learning Management System (LMS) for Blended Learning Courses for Tertiary Education. *Asian Journal of University Education, 17*(4), 442-454. https://doi.org/10.24191/ajue.v17i4.16225

Nguyin, N. (2021). A study on satisfaction of users towards learning management system at International University – Vietnam National University HCMC. *Asia Pacific Management Review, 26*(1). http://dx.doi.org/10.1016/j.apmrv.2021.02.001

Ohliati, J., & Abbas, B. S. (2019). Measuring students satisfaction in using learning management system. *International Journal of Emerging Technologies in Learning (iJET), 14*, 180. https://doi.org/10.3991/ijet.v14i04.9427.

Turnbull, D., Chugh, R., & Luck, J. (2021). Learning management systems: a review of the research methodology literature in Australia and China. *International Journal of Research & Method in Education, 44*(2), 164-178. https://doi.org/10.1007/978-3-030-10576-1_248

Urbach, N., & Müller, B. (2011). The updated DeLone and McLean model of information systems success. In *Information Systems Theory: Explaining and Predicting Our Digital Society* (Vol. 1, pp. 1-18). New York, NY: Springer New York.

Wixom, B. H., & Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information systems research, 16*(1), 85-102. https://doi.org/10.1287/isre.1050.0042

World Bank. (2023). *Digital technologies in education.* The World Bank. Retrieved from: https://www.worldbank.org/en/topic/edutech