P-ISSN: 2798-1088 | E-ISSN: 2776-4060 | DOI: 10.52562/jdle.2026.1536

Journal of Digital Learning and Education

http://journal.moripublishing.com/index.php/jdle

Evaluating the Design and Functionality of E-Learning Platform Interfaces in Zimbabwe: A Usability Study at a Public University

Daglous Masveta*
School of Creative Art and Design, Chinhoyi University of Technology, Zimbabwe
*Corresponding author: daglousmasveta@gmail.com

Received: 22 March 2025; Accepted: 12 June 2026 ; Published: 25 August 2026

Abstract: Low student engagement with e-learning platforms remains a concern in Zimbabwean higher education. This quantitative cross-sectional study evaluated students' perceptions of an e-learning application at a public university using the Unified Theory of Acceptance and Use of Technology (UTAUT). An online questionnaire was completed by 380 students across five academic levels in 2024, and the data were analysed in SPSS using descriptive statistics, Pearson correlation, multiple regression and one-way ANOVA. Students reported positive perceptions and a strong intention to use the platform, but rated facilitating conditions lowest. Performance expectancy, effort expectancy, social influence and facilitating conditions each correlated positively with behavioural intention, yet none was a significant predictor in a regression model that explained 11.8% of its variance. Behavioural intention significantly predicted use behaviour. The findings suggest that factors beyond the UTAUT constructs shape e-learning use. Improving navigation, interactivity, customisation and technical support is recommended.

Keywords: E-Learning, Usability, UTAUT, Technology Adoption, Zimbabwe

INTRODUCTION

The rapid digital transformation of higher education has led to widespread adoption of e-learning systems globally, enabling improved access to educational resources, enhanced collaboration, and more efficient learning delivery (Ospina et al., 2021; Teyise, 2022; Shard et al., 2024). In developing countries such as Zimbabwe, however, the implementation and sustained use of e-learning platforms remain challenging. Despite considerable investment in digital infrastructure, many institutions continue to experience low adoption rates and underutilisation of these systems (Ntorukiri et al., 2022; Mutisya & Makokha, 2016; Murire & Gavaza, 2025).

At a Public University, preliminary observations indicate low levels of student engagement with the existing e-learning application, limiting the potential benefits of digital learning. Previous studies conducted in Zimbabwe have largely focused on broader technology adoption or institutional readiness, with limited empirical attention given to students' usability perceptions and post-adoption behaviour of specific e-learning platforms (Muzira & Bondai, 2020; Murire & Gavaza, 2025; Nherera & Mukora, 2024). However, these studies did not examine interface usability from the student perspective; user experience design elements that influence sustained engagement; post-adoption behaviour linked to specific platform features and the Unified Theory of Acceptance and Use of Technology (UTAUT) integrated with usability assessment. Consequently, little is known about how interface usability influences continued adoption and use of e-learning systems in Zimbabwean higher education institutions. This gap is significant because user experience and perceived usability are critical determinants of successful e-learning implementation in resource-constrained environments.

© 2026 The Author(s). Published by MO.RI Publishing. This is an open access article under the CC BY-SA 4.0 license (https://creativecommons.org/licenses/by-sa/4.0/). The authors retain copyright and grant the journal the right of first publication.

This study therefore aimed to evaluate the design, functionality, and usability of the e-learning application at a Public University from the students' perspective. Guided by UTAUT (Venkatesh et al., 2003), the study specifically sought to:

1. Assess students' perceptions of performance expectancy, effort expectancy, social influence, and facilitating conditions regarding the e-learning platform.
2. Examine the influence of these factors on behavioural intention and actual use behaviour.
3. Investigate how perceived ease of use and perceived usefulness affect students' adoption intentions.
4. Identify specific usability improvements that could enhance adoption and sustained engagement.

By addressing these objectives, the study contributes empirical evidence to support the optimisation of e-learning systems in Zimbabwean higher education institutions.

Theoretical Framework

Several theoretical models have been developed to explain technology adoption, each offering distinct perspectives on the factors that influence users' acceptance and use of new systems (Sharma & Mishra, 2014). Among the most influential is the Technology Acceptance Model (TAM), proposed by Davis (1989), which holds that users are more likely to adopt a technology when they perceive it as useful and easy to use. These perceptions influence behavioural intention, which subsequently drives actual system use (Davis, 1989). While TAM has been extensively validated across diverse contexts, including education and workplace settings, critics argue that it largely overlooks social, organisational, and external factors that may shape technology adoption, particularly in collective or resource-constrained environments (Rahimi & Oh, 2025). To overcome these limitations, Venkatesh et al. (2003) integrated eight major technology adoption theories, including TAM, the theory of reasoned action (TRA) and innovation diffusion theory (IDT), into the Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT integrates earlier technology adoption theories into a single framework built around four key determinants of performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). By combining these factors, UTAUT provides a comprehensive explanation of technology adoption, making it particularly useful in higher education settings where user behaviour is influenced by personal, social, and institutional factors. Recent studies have applied UTAUT to e-learning contexts globally. In African higher education, findings have been mixed. Some studies report strong predictive power (Adegbite & Govender, 2022), while others find limited effects, suggesting contextual factors moderate UTAUT's utility (Hu et al., 2020). This study extends this literature by focusing specifically on usability and interface design.

METHOD

Research Design

This study adopted a quantitative cross-sectional survey design. This design enables the collection of data from a large sample at a single point in time and facilitates statistical analysis of patterns, relationships, and predictive factors (Saunders & Townsend, 2018). The study was guided by the UTAUT framework (Venkatesh et al., 2003).

Population and Sampling

The target population consisted of 5,200 undergraduate students enrolled across the two campuses of a Public University during the 2024 academic year. Students were stratified according to five academic levels: first year, second year, third year, honours and master's. Using Krejcie and Morgan's (1970) sample size determination table, a representative sample of 380 students was targeted. Stratified random sampling was employed to ensure proportional representation of each academic level. Within each stratum, simple random sampling was used to select individual participants. A total of 395 questionnaires were distributed to account for potential non-response, yielding 380 valid responses (96.2% valid response rate).

Data Collection

The online questionnaire was distributed through the university's official student email system, learning management system announcements and class WhatsApp groups between 15 March and 30 April 2024. Participation was voluntary, and informed consent was obtained on the first page of the questionnaire. Respondents were assured of confidentiality and anonymity.

Research Instruments

Data were collected using a self-administered online questionnaire on Google Forms. The instrument had four sections: (a) demographic information, (b) UTAUT constructs (performance expectancy, effort expectancy, social influence, facilitating conditions, behavioural intention, and use behaviour), (c) perceived ease of use and perceived usefulness items, and (d) usability improvement suggestions. All Likert-scale items used a five-point scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was developed based on validated scales from Venkatesh et al. (2003) and adapted to the student e-learning context. A pilot test was conducted with 30 students to assess clarity, relevance, and reliability. Minor modifications to wording were made based on feedback before full distribution.

Data Analysis

Data were analysed using Statistical Package for the Social Sciences (SPSS) Version 25. Before analysis, the data were checked for completeness, missing values and any unusual responses. The reliability of the questionnaire was assessed using Cronbach's alpha to ensure consistency of the measurement scales. Descriptive statistics, including means and standard deviations, were used to summarise participants' responses. Pearson correlation analysis was conducted to examine relationships among variables, while multiple linear regression was used to determine the influence of UTAUT factors on behavioural intention to use the e-learning platform. One-way ANOVA was performed to identify differences among demographic groups. All statistical analyses were conducted at a 5% level of significance.

RESULTS

Response Rate and Sample Characteristics

Of the 395 questionnaires distributed, 390 were returned (98.7% response rate), and 380 were deemed valid for analysis (96.2% of distributed). Following Morse (2015), a response rate above 80% is considered excellent for survey research. The demographic characteristics of the 380 valid respondents are presented in Figures 1–4.

The study included both male (45%) and female (55%) respondents (Figure 1), ensuring balanced gender representation and reducing the likelihood of gender bias in the findings. This diversity enhances the credibility of the results by capturing perspectives from both male and female users of the e-learning platform (Ashong & Commander, 2012).

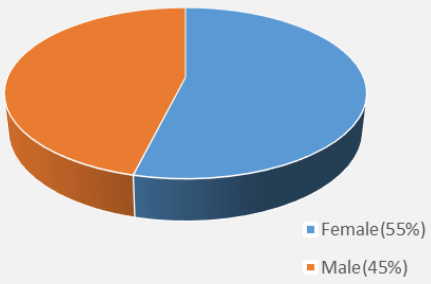


Figure 1. Gender of respondents.

Respondents were drawn from a wide range of age groups, with the majority aged between 20 and 40 years (Figure 2), indicating that the study captured views from individuals who are

generally active users of digital technologies. The age diversity improved the reliability of the findings by reflecting varying experiences and attitudes toward e-learning adoption (Fleming et al., 2017).

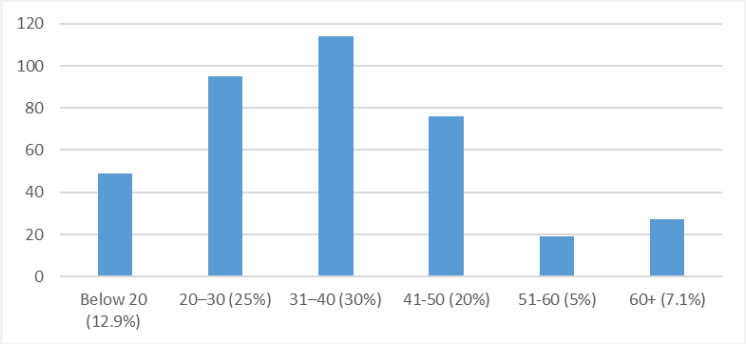


Figure 2. Percentage of respondents based on age group.

Participants were drawn from all academic levels (Figure 3), with third-year students forming the largest group, followed by honours and second-year students. This broad representation ensured that the findings reflected the experiences of students at different stages of their academic journey and levels of exposure to the e-learning platform.

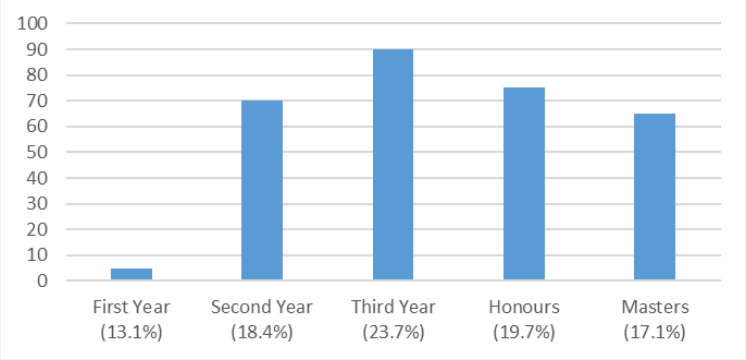


Figure 3. Percentage of respondents based on academic level.

The respondents came from different colleges within the university (Figure 4), with the highest representation from Humanities, followed by Health Sciences and Agriculture, Engineering and Sciences. This diversity strengthened the study by ensuring that perceptions of the e-learning platform were captured across various academic disciplines and learning contexts.

Reliability of the Instrument

Cronbach's alpha was computed for each UTAUT construct. As shown in Table 1, all constructs except Behavioural Intention (α = 0.696) exceeded the acceptable threshold of 0.70 (Hair et al., 2010), indicating acceptable internal consistency.

Table 1. Coefficient reliability of the instrument

Construct	Number of Items	Cronbach's α
Performance Expectancy	4	0.787
Effort Expectancy	4	0.782
Social Influence	4	0.723
Facilitating Conditions	4	0.741
Behavioural Intention	3	0.696
Use Behaviour	8	0.900
Overall	27	0.769

Note: Behavioural Intention (α = 0.696) is marginally below 0.70 but considered acceptable for exploratory research (Saunders et al., 2016).

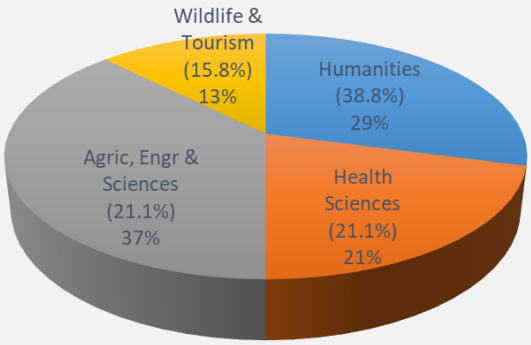


Figure 4. Percentage of respondents based on colleges within the university.

Students' Perceptions of the UTAUT Dimensions

Table 2 summarises students' perceptions of the e-learning application across the UTAUT dimensions.

Table 2. Descriptive statistics

Construct	Mean	SD	Interpretation
Performance Expectancy	4.12	0.97	Agree
Effort Expectancy	3.99	0.93	Agree
Social Influence	3.87	0.98	Neutral/Agree
Facilitating Conditions	3.63	1.10	Neutral
Behavioural Intention	4.33	0.83	Agree
Use Behaviour	3.91	0.95	Agree

Students rated Behavioural Intention highest (M = 4.33, SD = 0.83), indicating a strong willingness to use the e-learning platform in the future. Performance Expectancy (M = 4.12) and Effort Expectancy (M = 3.99) were also positive. However, Facilitating Conditions received the lowest mean (M = 3.63), suggesting that students perceive insufficient institutional support, resources, or technical assistance.

Demographic Differences

One-way ANOVA tested whether age, education level, or computer literacy influenced behavioural intention. Only education level showed a significant effect (F = 6.62, p = 0.011), with tertiary-educated students reporting higher intention than those with only secondary education. Age (p = 0.934) and computer literacy (p = 0.126) were not significant.

Correlation Matrix

Before conducting regression analysis, Pearson correlations were computed among the UTAUT constructs and behavioural intention. Table 3 presents the correlation matrix.

Table 3. Pearson correlation matrix of the UTAUT constructs and behavioural intention

Variable	PE	EE	SI	FC	BI
Performance Expectancy (PE)	1				
Effort Expectancy (EE)	0.42	1			
Social Influence (SI)	0.31	0.38	1		
Facilitating Conditions (FC)	0.29	0.35	0.41	1	
Behavioural Intention (BI)	0.28	0.21	0.19	0.18	1

All UTAUT constructs showed significant positive correlations with behavioural intention (p < 0.05), though the strength of these correlations was modest (r ranging from 0.18 to 0.28). Performance expectancy had the strongest correlation with behavioural intention (r = 0.28, p < 0.01).

Hypothesis Testing: The Influence of These Factors on Behavioural Intention, and Actual Use Behaviour

Multiple linear regression was conducted to test the effects of performance expectancy (H1), effort expectancy (H2), social influence (H3), and facilitating conditions (H4) on behavioural intention. Table 4 presents the results.

Table 4. Regression coefficients (dependent variable: behavioural intention)

Predictor	β (Std. Beta)	t	p	Decision
(Constant)	8.13	6.55	<0.001	
Performance Expectancy	0.190	1.93	0.056	Not supported
Effort Expectancy	0.077	0.84	0.402	Not supported
Social Influence	0.112	1.13	0.259	Not supported
Facilitating Conditions	0.099	1.15	0.254	Not supported

Model summary: $R^2 = 0.118$, Adjusted $R^2 = 0.091$, $F(4, 375) = 4.29$, $p = 0.003$

The model was statistically significant ($F = 4.29$, $p = 0.003$), but only 11.8% of the variance in behavioural intention was explained by the four UTAUT predictors. Contrary to predictions, none of the individual predictors reached statistical significance at $p < 0.05$. Performance expectancy showed a positive trend ($p = 0.056$) but did not meet the conventional threshold.

The weak explanatory power of the model ($R^2 = 0.118$) suggests that factors beyond traditional UTAUT constructs may influence students' use of e-learning platforms in resource-constrained environments. These may include internet affordability, electricity reliability, device ownership, platform quality, and lecturer engagement. This finding, rather than being a limitation, highlights an important contextual difference between Zimbabwean higher education and the Western organisational settings where UTAUT was originally validated.

Hypothesis 6 tested whether behavioural intention predicts actual use behaviour. Simple linear regression (Table 5) confirmed a significant positive effect.

Table 5. Regression of behavioural intention on use behavior

Predictor	β (Std. Beta)	t	p	Decision
Behavioural Intention	0.401	4.82	<0.001	Supported

Model: $R^2 = 0.161$, $F(1, 378) = 23.21$, $p < 0.001$

Behavioural intention explained 16.1% of the variance in actual use behaviour, supporting H6 and aligning with UTAUT's core proposition (Venkatesh et al., 2003).

Perceived Ease of Use and Perceived Usefulness Affect Students' Adoption Intentions

Beyond UTAUT, the study examined students' perceptions of ease of use and usefulness. Table 6 summarises key findings.

Table 6. Students' perceptions of ease of use and usefulness

Statement	% Agree/Strongly Agree	Mean
A simple interface increases my willingness to use the application	74.9%	4.63
I prefer applications that require less training	80.2%	4.78
The application is a valuable resource for my studies	79.2%	4.96
The application helps me achieve my learning goals	76.4%	4.81
The application improves my academic performance	31.6%	3.73

While students strongly value usability (simple interface, minimal training) and perceive the application as valuable for learning goals, they are ambivalent about its direct impact on academic performance. This disconnect suggests that usability alone may not translate into measurable academic outcomes without complementary pedagogical support.

DISCUSSION

This study evaluated the usability and adoption of an e-learning application at a Public University. Several key findings merit discussion.

Limited Predictive Power of UTAUT

Unlike previous studies by Venkatesh et al. (2003) and King and He (2006), this study found that performance expectancy, effort expectancy, social influence, and facilitating conditions did not significantly influence students' intentions to use the e-learning platform. Together, these factors explained only 11.8% of the variation in behavioural intention.

This divergence may be explained by contextual differences. Most UTAUT validation studies have been conducted in organisational or Western educational settings where technology infrastructure, digital literacy, and support systems are relatively mature. In a Zimbabwean context, students may face more fundamental barriers (e.g., unreliable internet, device access, data costs) that overshadow the UTAUT predictors. Alternatively, the weak effects may indicate that usability-specific factors (e.g., interface design, navigation, and content organisation) are more salient than general technology acceptance constructs.

This weak explanatory power is consistent with findings from other developing-country contexts. In South Africa, Naicker (2023) reported that social influence had only a limited effect on e-learning adoption among university students. Similarly, Mbiuki et al. (2026) found that facilitating conditions explained less than 15% of the variation in e-learning adoption among Kenyan students. In NigeriaFacilitating conditions play an important role in technology adoption, as access to the necessary resources and technical support can influence users' actual engagement with digital learning systems; moreover, the effects of UTAUT constructs vary across higher education contexts (Abbad, 2021; Xue et al., 2024). Likewise, Rahayu and Day (2015) observed in Indonesia that the effect of performance expectancy on technology adoption was weaker in low-resource environments. Collectively, these findings suggest that in developing-country settings, factors such as social influence and facilitating conditions may play a less significant role in technology adoption than perceived usefulness. This is particularly evident in voluntary learning environments, where students are primarily motivated by the extent to which a technology helps them achieve academic goals rather than by social pressure or compliance with the expectations of others.

The Primacy of Perceived Usefulness

Despite the non-significant UTAUT results, perceived usefulness strongly correlated with behavioural intention and actual use ($\beta = 0.401$, $p < 0.001$). Students who viewed the application as valuable for achieving learning goals were more likely to adopt and continue using it. This aligns with Davis's (1989) original TAM, where perceived usefulness is the strongest predictor of adoption.

However, the finding that only 31.6% of students agreed that the application improves academic performance (Table 6) is concerning. It suggests a gap between perceived value and measurable outcomes. As Mastan et al. (2022) note, individual learning styles, study habits, and how students integrate the application into their broader learning ecosystem may mediate this relationship.

The Importance of Usability Features

Students expressed strong preferences for:

a. Customisable features (74.9%). Allowing personalisation of dashboards, notifications, and content presentation.

b. Interactive elements (80.2%). Including quizzes, discussion forums, and multimedia.

c. Improved technical support (76.4%). Responsive help desks, live chat, and clear FAQs.

These findings resonate with Goosen (2023) and Naicker (2023), who emphasise that usability is not merely about interface simplicity but about creating an adaptive, supportive environment. The demand for less training (80.2%) indicates that students want intuitive, self-explanatory designs rather than complex systems requiring formal onboarding.

Why Facilitating Conditions Did Not Matter

Facilitating conditions (resources, support, knowledge) had no significant effect on intention ($\beta = 0.099$, $p = 0.254$). This may reflect that students already possess basic digital literacy and access devices; the barrier is not the presence of resources but the quality and responsiveness of support when problems arise. As one student's low rating of "enough resources" ($M = 3.48$, $SD = 1.18$) suggests, perceived inadequacy may be so uniform that it does not differentiate between intenders and non-intenders.

Proposed Public University E-Learning Usability Enhancement Framework

Based on the findings, the conceptual framework in Table 7 is proposed to guide usability improvements at a Public University and similar institutions.

Table 7. Proposed e-learning usability enhancement framework

Component	Key Elements	Implementation Priority
Interface Design	Intuitive navigation, simple interface, minimal training required	High
Student Support	Live chat, 24-hour ticket response, video tutorials	High
Content Organisation	Clear structure, search functionality, progress tracking	Medium
Personalisation Features	Customisable dashboards, notifications, content preferences	Medium
Continuous Feedback	Quarterly surveys, usability testing, feature voting	Ongoing

CONCLUSION

This study evaluated the usability of an e-learning application at a Public University in Zimbabwe. The key conclusions are:

1. UTAUT constructs have limited explanatory power in this Zimbabwean student context. Performance expectancy, effort expectancy, social influence, and facilitating conditions did not significantly predict behavioural intention. Researchers and practitioners should be cautious about directly importing Western technology acceptance models without contextual adaptation.
2. Perceived usefulness is the strongest driver of adoption and continued use. Students adopt e-learning applications when they believe the platform helps them achieve learning goals, access resources efficiently, and collaborate effectively.
3. Usability improvements should prioritise customisation, interactivity and technical support. Students do not want more training; they want intuitive, self-explanatory designs with responsive help systems.
4. The disconnect between perceived value and academic performance (only 31.6% agreed the application improves performance) requires attention. Usability alone is insufficient; pedagogical integration, assessment alignment, and instructor engagement are also necessary.

Recommendations

Based on the findings, the following recommendations are made:

1. For Zimbabwean Institutions:
   a. Redesign the e-learning interface with student-centred navigation, customisable dashboards and clear content organisation.
   b. Integrate interactive elements (quizzes with immediate feedback, discussion forums, peer assessment tools) to increase engagement.
   c. Establish a dedicated technical support system (live chat during peak hours, 24-hour ticket response, video tutorials for common tasks).
   d. Collect and act on student feedback quarterly through surveys and usability testing sessions.
   e. Shift training from general onboarding to targeted, role-based tutorials (e.g., "How to submit assignments," "How to access grades").
2. Future studies should address the following directions:

a. Longitudinal designs. Track changes in user perceptions and adoption behaviour over multiple semesters to establish causal relationships.
b. Multiple university comparisons. Replicate the study across several Zimbabwean universities (public and private) to assess generalisability.
c. Mixed methods approach. Integrate qualitative interviews, focus groups, or think-aloud usability testing to understand why facilitating conditions were not predictive.

Limitations

The study was limited to one university, which may reduce the generalisability of the findings. In addition, data were collected at a single point in time, making it difficult to assess changes in adoption over time. Nevertheless, the findings suggest that perceived usefulness and platform usability play a greater role in e-learning adoption than general support conditions among Zimbabwean university students.

DECLARATIONS

Author Contributions. Conceptualization, D.M.; Methodology, D.M.; Formal analysis, D.M.; Writing – original draft, D.M.; Writing – review and editing, D.M.

Funding. This research received no external funding.

Ethical Clearance and Informed Consent. Ethical approval was obtained from the Public University Research Ethics Committee. Informed consent was obtained from all participants on the first page of the online questionnaire.

Conflict of Interest. The authors declare no conflict of interest.

Data Availability Statement. Data available on request from the authors.

Declaration of AI Use. The authors did not use generative AI or AI-assisted tools in the preparation of this manuscript.

REFERENCES

Abbad, M. M. M. (2021). Using the UTAUT model to understand students' usage of e-learning systems in developing countries. *Education and Information Technologies, 26*(6), 7205–7224. https://doi.org/10.1007/s10639-021-10573-5

Adegbite, W., & Govender, C. (2022). How fourth industrial revolution skillsets mediate the relationship between work integrated learning, graduate employability, and future job. *EUREKA: Social and Humanities*, (4), 3–17. https://doi.org/10.21303/2504-5571.2022.002425

Ashong, C. Y., & Commander, N. E. (2012). Ethnicity, gender, and perceptions of online learning in higher education. *MERLOT Journal of Online Learning and Teaching*, *8*(2). https://jolt.merlot.org/vol8no2/ashong_0612.html

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

Fleming, J., Becker, K., & Newton, C. (2017). Factors for successful e-learning: Does age matter? *Education + Training*, *59*(1), 76–89. https://doi.org/10.1108/ET-07-2015-0057

Goosen, W. (2023). Curated eLearning in South Africa: A user burgeoning perspective. *American Journal of Online and Distance Learning*, *5*(1), 1–24. https://doi.org/10.47672/ajodl.1477

Goto, O. (2026). Zimbabwe's quest for a twenty-first-century education: Unhu/Ubuntu/Vumuntu and the heritage. In *Skills development for employability and life for the 21st century* (pp. 69–107). Springer Nature Singapore. https://doi.org/10.1007/978-981-95-5993-0_4

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson.

Hu, S., Laxman, K., & Lee, K. (2020). Exploring factors affecting academics' adoption of emerging mobile technologies: An extended UTAUT perspective. *Education and Information Technologies*, *25*(5), 4615–4635. https://doi.org/10.1007/s10639-020-10171-x

King, W. R., & He, J. (2006). A meta-analysis of the technology acceptance model. *Information & Management*, *43*(6), 740–755. https://doi.org/10.1016/j.im.2006.05.003

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, *30*(3), 607–610. https://doi.org/10.1177/001316447003000308

Mastan, I. A., Sensuse, D. I., Suryono, R. R., & Kautsarina, K. (2022). Evaluation of distance learning system (e-learning): A systematic literature review. *Jurnal Teknoinfo*, *16*(1), 132–137. https://doi.org/10.33365/jti.v16i1.1736

Mbiuki, A., Mutegi, R., & Kalai, J. (2026). E-Learning Information Quality and Student Satisfaction in Kenyan Public Universities: A Mixed-Methods Investigation. *International Journal of Learning, Teaching and Educational Research*, *25*(4), 454-474. https://doi.org/10.26803/ijlter.25.4.21

Morse, J. M. (2015). Analytic strategies and sample size. *Qualitative Health Research*, *25*(10), 1317–1318. https://doi.org/10.1177/1049732315602867

Murire, O. T., & Gavaza, B. K. (2025). Transitional challenges in technology adoption and continued use in tertiary institutions. *Trends in Higher Education*, *4*(2), Article 28. https://doi.org/10.3390/higheredu4020028

Mutisya, D. N., & Makokha, G. L. (2016). Challenges affecting adoption of e-learning in public universities in Kenya. *E-Learning and Digital Media*, *13*(3–4), 140–157. https://doi.org/10.1177/2042753016672902

Muzira, D. R., & Bondai, B. M. (2020). Perception of educators towards the adoption of Education 5.0: A case of a state university in Zimbabwe. *East African Journal of Education and Social Sciences*, *1*(2), 43–53. https://doi.org/10.46606/eajess2020v01i02.0020

Naicker, V. (2023). The problem of epistemological critique in contemporary decolonial theory. *Social Dynamics*, *49*(2), 220–241. https://doi.org/10.1080/02533952.2023.2226497

Nherera, C. M., & Mukora, F. N. (2024). Digitalisation of higher education in Zimbabwe: A challenging necessity and emerging solutions. *Journal of Comparative & International Higher Education*, *16*(2), Article 4. https://doi.org/10.32674/jcihe.v16i2.6040

Ntorukiri, T. B., Kirugua, J. M., & Kirimi, F. (2022). Policy and infrastructure challenges influencing ICT implementation in universities: A literature review. *Discover Education*, *1*(1), Article 19. https://doi.org/10.1007/s44217-022-00019-6

Ospina, S., Alshehri, Y., Aldossry, B., & Mordhah, N. (2021). Saudi Arabia: Madrasati e-learning platform. In *Learning to build back better futures for education: Lessons from educational innovation during the COVID-19 pandemic*. UNESCO International Bureau of Education. https://www.researchgate.net/profile/Badi-Aldossry/publication/356918598_Madrasati_e-learning_platform/links/61b36ccf63bbd9324282f8ed/Madrasati-e-learning-platform.pdf

Rahayu, R., & Day, J. (2015). Determinant factors of e-commerce adoption by SMEs in developing country: evidence from Indonesia. *Procedia-social and behavioral sciences*, *195*, 142-150. https://doi.org/10.1016/j.sbspro.2015.06.423

Rahimi, R. A., & Oh, G. S. (2025). Beyond theory: A systematic review of strengths and limitations in technology acceptance models through an entrepreneurial lens. *Journal of Marketing Analytics*, *13*(4), 1195–1218. https://doi.org/10.1057/s41270-024-00318-x

Rahman, A., & Muktadir, M. G. (2021). SPSS: An imperative quantitative data analysis tool for social science research. *International Journal of Research and Innovation in Social Science*, *5*(10), 300–302. https://doi.org/10.47772/ijriss.2021.51012

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Pearson Education.

Saunders, M. N. K., & Townsend, K. (2018). Choosing participants. In C. Cassell, A. L. Cunliffe, & G. Grandy (Eds.), *The SAGE handbook of qualitative business and management research methods: History and traditions* (pp. 480–492). SAGE. https://doi.org/10.4135/9781526430212.n28

Shard, Kumar, D., & Koul, S. (2024). Digital transformation in higher education: A comprehensive review of e-learning adoption. *Human Systems Management*, *43*(4), 433–454. https://doi.org/10.3233/HSM-230190

Sharma, R., & Mishra, R. (2014). A review of evolution of theories and models of technology adoption. *Indore Management Journal*, *6*(2), 17–29. https://iimidr.ac.in/wp-content/uploads/2019/12/Vol6-2RETMTA.pdf

Teyise, S. (2022). *The role of technology in promoting quality teaching and learning in the MA (Public Management and Governance) programme at the University of Johannesburg* [Master's Dissertation]. University of Johannesburg.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425–478. https://doi.org/10.2307/30036540

Xue, L., Mat Rashid, A., & Ouyang, S. (2024). The Unified Theory of Acceptance and Use of Technology (UTAUT) in higher education: A systematic review. *SAGE Open*, *14*(1), 1–22. https://doi.org/10.1177/21582440241229570