
Emerging Technologies and Decision-Making Effectiveness in Nigerian University Libraries: The Mediating Role of Organizational Psychology

Esther Temitope Olaniyi

Department of Library and Information Science
Emmanuel Alayande University of Education, Oyo
olaniyiet@euedoyo.edu.ng / olaniyitope91@gmail.com
ORCID ID: <https://orcid.org/0009-0004-6976-2537>

Olugbenga Oladapo Ayena

ayenaaa@euedoyo.edu.ng
Department of Special Education & Guidance and Counselling
Emmanuel Alayande University of Education, Oyo
ORCID ID: <https://orcid.org/0009-0009-9855-9091>

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Abstract: *This study examined the relationship among emerging technologies, organisational psychology, and decision-making practices in Nigerian university libraries within the context of ongoing digital transformation in higher education. The study investigated the influence of emerging technologies on decision-making practices, assessed the contribution of organisational psychology variables to decision-making effectiveness, and determined the joint predictive influence of both variables on administrative decision-making in university libraries. A descriptive correlational survey design was adopted. The population comprised professional librarians, para-professional staff, and library administrators from selected federal, state, and private university libraries in Nigeria. Using a multistage sampling procedure, 420 respondents were selected. Data were collected through the Emerging Technologies, Organisational Psychology, and Decision-Making Practices Questionnaire (ETOPDMPQ), which demonstrated satisfactory reliability coefficients ranging from 0.82 to 0.88, with an overall Cronbach's alpha of 0.86. Data were analysed using descriptive statistics, Pearson Product Moment Correlation, and multiple regression analysis at the 0.05 significance level. Findings revealed a significant positive relationship between emerging technologies and decision-making practices, $r(418) = .684, p < .001$. Organisational psychology variables significantly influenced decision-making effectiveness, while emerging technologies and organisational psychology jointly accounted for substantial variance in decision-making outcomes, $F(2, 417) = 327.46, p < .001$. The study contributes theoretically to the integration of the Technology Acceptance Model and Socio-Technical Systems Theory in explaining technology-driven decision-making in academic libraries. The study highlights the practical importance of investing in digital infrastructure,*

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staff development, and supportive organisational cultures to enhance evidence-based decision-making and institutional effectiveness in Nigerian university libraries.

Keywords: emerging technologies, organisational psychology, decision-making practices, university libraries, digital transformation

INTRODUCTION

The rapid advancement of digital technologies has fundamentally transformed the operational landscape of higher education institutions, including university libraries. Emerging technologies such as artificial intelligence (AI), big data analytics, cloud computing, automation systems, and intelligent digital platforms are reshaping how academic libraries manage information resources, deliver services, and support institutional decision-making. Consequently, contemporary university libraries are evolving from traditional information repositories into digitally connected knowledge hubs that facilitate data-driven management, service innovation, and evidence-based governance.

Internationally, the integration of AI and smart library technologies has enhanced information retrieval, resource management, user engagement, and operational efficiency. Recent studies indicate that intelligent systems support personalised services, predictive analytics, and automated workflows, thereby improving organisational responsiveness and decision quality in academic libraries (Cox, Craig, & Rich, 2023; Lo, 2023). These developments have strengthened digital governance practices by enabling libraries to leverage data and technology for strategic planning, accountability, and service improvement.

Beyond technological infrastructure, the effectiveness of digital transformation depends substantially on organisational and human factors. Organisational psychology provides a useful lens for understanding how leadership, organisational culture, staff motivation, professional competence, and technology acceptance influence the adoption and utilisation of emerging technologies. Contemporary scholarship increasingly recognises that successful digital transformation requires organisational resilience—the capacity to adapt to technological disruptions and sustain innovation in dynamic environments (Duchek, 2020). Similarly, digital leadership has emerged as a critical determinant of institutional readiness, innovation diffusion, and organisational learning within higher education settings (Elliott, Gerbic, & Bowles, 2023). The growing interaction between humans and intelligent systems has also increased scholarly interest in human–AI collaboration. Rather than replacing human expertise, AI increasingly complements professional judgement by enhancing analytical capabilities, reducing uncertainty, and supporting evidence-based decisions (Lai, Chen, Liao, Smith-Renner, & Tan, 2021). However, the benefits of technological innovation are often constrained by technology anxiety, resistance to change, inadequate digital competencies, and insufficient organisational support. These challenges

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are particularly evident in many developing countries where infrastructural and institutional limitations continue to affect technology adoption.

In the Nigerian context, university libraries are gradually embracing digital technologies to improve service delivery, resource management, and administrative effectiveness. Despite these advancements, challenges such as inadequate funding, limited technological infrastructure, poor internet connectivity, unstable power supply, and insufficient staff preparedness continue to hinder the full realisation of digital transformation objectives. Consequently, the effectiveness of emerging technologies depends not only on their availability but also on the organisational environments within which they are implemented.

Although previous studies have examined technology adoption, library automation, and digital service delivery in academic libraries, limited attention has been paid to the combined influence of emerging technologies and organisational psychology on decision-making effectiveness. Existing research has largely focused on technological infrastructure while overlooking critical organisational factors such as digital leadership, organisational resilience, technology anxiety, and human–AI collaboration. This gap is particularly evident in African university contexts where technological and organisational challenges coexist. Therefore, this study contributes to the literature by providing an integrated examination of how emerging technologies and organisational psychology interact to influence decision-making practices in Nigerian university libraries, thereby extending current understanding of digital transformation within higher education institutions.

Empirical Review

AI and Smart Libraries: Recent scholarship demonstrates that artificial intelligence (AI) and smart technologies are transforming academic libraries from traditional information repositories into intelligent, data-driven knowledge ecosystems. AI applications such as automated cataloguing, recommendation systems, virtual reference services, predictive analytics, and intelligent information retrieval have enhanced service efficiency, user engagement, and evidence-based decision-making (Cox et al., 2023; Lo, 2023). Similarly, smart library initiatives integrating Internet of Things (IoT) technologies, intelligent repositories, and automated resource management systems have improved operational flexibility and information accessibility (Asemi & Asemi, 2024). Despite these benefits, studies consistently identify challenges relating to digital skills gaps, ethical concerns, privacy issues, and inadequate technological infrastructure, particularly in developing countries.

Organisational Psychology and Technology Adoption: The literature increasingly suggests that successful technology adoption depends not only on technological availability but also on organisational and psychological factors. Organisational resilience, leadership support, staff motivation, organisational culture, and technology acceptance have emerged as critical determinants of digital transformation outcomes. Research indicates that institutions with strong

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digital leadership and adaptive organisational cultures are better positioned to manage technological change and sustain innovation (Duchek, 2020; Elliott et al., 2023). Conversely, resistance to change, inadequate competencies, and weak institutional support frequently undermine technology implementation efforts. These findings reinforce the argument that technological innovation and organisational psychology are mutually reinforcing components of organisational effectiveness.

Human–AI Collaboration and Digital Governance: An emerging theme in the literature is the growing significance of human–AI collaboration in organisational decision-making. Rather than replacing human expertise, AI systems increasingly complement professional judgement by improving analytical accuracy, reducing uncertainty, and supporting strategic planning (Lai et al., 2021). This shift has intensified interest in digital governance frameworks that guide the ethical, transparent, and accountable use of AI-driven technologies within institutions (Cox et al., 2023). Studies suggest that effective digital governance strengthens institutional responsiveness while mitigating risks associated with algorithmic bias, misinformation, and data privacy concerns.

Innovation Diffusion in Academic Libraries: Research grounded in innovation diffusion perspectives highlights that technology adoption is influenced by perceptions of usefulness, compatibility, complexity, and organisational readiness. Across both developed and developing contexts, libraries that exhibit strong innovation cultures, collaborative leadership, and supportive communication structures tend to adopt emerging technologies more successfully. However, technology anxiety, fear of job displacement, and limited digital literacy continue to slow innovation diffusion in many academic institutions (Venkatesh, Thong, & Xu, 2022).

Research Gaps

Although existing studies have established the benefits of AI, smart libraries, and digital technologies, several gaps remain. First, most studies examine technological adoption or service delivery in isolation, with limited attention to the psychological mechanisms through which technologies influence organisational outcomes. Second, empirical evidence on organisational resilience, digital leadership, technology anxiety, and human–AI collaboration in African university libraries remains sparse. Third, few studies have employed integrated theoretical models that explain how emerging technologies and organisational psychology jointly influence decision-making effectiveness. Consequently, there is a need for a more comprehensive framework that captures both technological and human dimensions of decision-making in Nigerian university libraries. The present study addresses this gap by examining the direct and indirect relationships among emerging technologies, organisational psychology, and decision-making effectiveness within the context of university libraries in Nigeria.

Theoretical Framework

This study is anchored on five complementary theoretical perspectives: the Technology Acceptance Model (TAM), Socio-Technical Systems Theory (STS), Diffusion of Innovations (DOI), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Resource-

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Based View (RBV). Together, these theories provide an integrated explanation of how technological innovations, organisational conditions, and human factors interact to influence decision-making effectiveness in Nigerian university libraries.

TAM (Davis, 1989) and UTAUT (Venkatesh et al., 2003) explain the behavioural and psychological dimensions of technology adoption. TAM emphasises perceived usefulness and perceived ease of use, while UTAUT extends this perspective by incorporating performance expectancy, effort expectancy, social influence, and facilitating conditions. Within university libraries, these theories suggest that librarians are more likely to adopt and utilise emerging technologies when they perceive them as beneficial, user-friendly, and supported by institutional leadership and organisational resources. They therefore provide a foundation for understanding the roles of technology acceptance, motivation, leadership support, and organisational culture in technology-driven decision-making.

Diffusion of Innovations Theory (Rogers, 2003) complements TAM and UTAUT by explaining how technological innovations spread within organisational environments. The theory highlights the importance of perceived advantage, compatibility, complexity, observability, and trialability in shaping adoption decisions. In academic libraries, DOI helps explain variations in the acceptance and utilisation of emerging technologies across institutions and personnel. It further emphasises the influence of communication systems, organisational culture, and innovation readiness on the diffusion of digital technologies.

Socio-Technical Systems Theory provides a broader organisational perspective by arguing that institutional effectiveness depends on the alignment of technological and social systems. The theory suggests that technological investments alone cannot improve decision-making unless they are supported by competent personnel, effective leadership, collaborative structures, and favourable organisational cultures. This perspective is particularly relevant to the study because it explains how organisational psychology mediates the relationship between emerging technologies and decision-making effectiveness.

The Resource-Based View (Barney, 1991) extends the analysis by conceptualising both technological capabilities and organisational psychology as strategic resources that enhance institutional performance. Emerging technologies represent valuable technological assets, while leadership quality, staff competence, organisational resilience, and innovation readiness constitute intangible organisational resources. According to RBV, sustainable effectiveness is achieved when these resources are strategically integrated and effectively deployed.

The integration of these theories provides a robust foundation for the study's proposed mediation model. TAM, UTAUT, and DOI explain technology acceptance and innovation diffusion; STS highlights the interaction between technological and human systems; and RBV emphasises the strategic value of technological and organisational resources. Collectively, they suggest that

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decision-making effectiveness in university libraries is shaped not only by the availability of emerging technologies but also by organisational psychology, which influences how technologies are accepted, diffused, and utilised. This integrated framework therefore supports the proposition that organisational psychology serves as a critical mechanism through which emerging technologies influence decision-making effectiveness in Nigerian university libraries.

Conceptual Framework

The conceptual framework for this study explains the structural relationship among emerging technologies, organisational psychology, and decision-making effectiveness in Nigerian university libraries. Unlike traditional linear models that focus primarily on direct relationships, this framework adopts a more advanced perspective by positioning organisational psychology as a mediating variable between emerging technologies and decision-making effectiveness. This approach provides deeper theoretical insight into how technological innovations influence administrative outcomes through organisational and psychological processes within academic library systems. The framework is grounded in the Technology Acceptance Model (TAM), Socio-Technical Systems Theory (STS), Diffusion of Innovations (DOI), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Resource-Based View (RBV), which collectively explain how technological resources, human behaviour, organisational readiness, and innovation diffusion shape institutional effectiveness.

Emerging technologies constitute the independent variable and refer to the adoption and utilisation of advanced digital technologies in university libraries to enhance operational efficiency, service delivery, and administrative performance. These technologies include artificial intelligence, big data analytics, blockchain technology, cloud computing, robotics, automation systems, the Internet of Things (IoT), digital repositories, and smart library technologies. Through improved information accessibility, data processing, communication, and resource management, these technologies are expected to strengthen evidence-based decision-making and institutional coordination.

Organisational psychology serves as the mediating variable and represents the psychological, behavioural, and organisational conditions through which technological innovations influence decision-making effectiveness. It encompasses factors such as staff motivation, organisational culture, leadership style, technology acceptance, job satisfaction, resistance to change, professional competence, organisational resilience, digital leadership, communication patterns, innovation readiness, and technology anxiety. The framework assumes that the benefits of emerging technologies are more likely to be realised when supported by favourable organisational conditions, including effective leadership, motivated personnel, positive organisational culture, and high levels of technological readiness.

The dependent variable, decision-making effectiveness, refers to the quality, responsiveness, efficiency, and strategic value of administrative decisions in university libraries. It includes

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dimensions such as strategic planning, resource allocation, policy formulation, service delivery, information management, innovation and problem-solving, administrative responsiveness, institutional coordination, and evidence-based decision-making. The framework posits that decision-making effectiveness improves when technological systems are effectively integrated with supportive organisational and psychological environments.

The model proposes both direct and indirect relationships among the variables. Emerging technologies are expected to directly enhance decision-making effectiveness through automation, improved information management, and data-driven administrative processes. However, the framework further assumes that organisational psychology mediates this relationship by influencing how library personnel perceive, accept, adapt to, and utilise technological innovations. Specifically, it posits that emerging technologies significantly influence organisational psychology; organisational psychology significantly influences decision-making effectiveness; emerging technologies directly influence decision-making effectiveness; and organisational psychology mediates the relationship between emerging technologies and decision-making effectiveness. This mediation perspective strengthens the originality and theoretical contribution of the study by demonstrating that technological innovations alone may not guarantee effective administrative outcomes without supportive organisational and psychological conditions.

To enhance methodological rigour, the framework recommends the use of Structural Equation Modeling (SEM) through SmartPLS, AMOS, or LISREL to examine the direct, indirect, and mediating relationships among the constructs. SEM provides a robust analytical approach for assessing measurement models, construct validity, path relationships, mediation effects, and overall model fit. The proposed conceptual pathway is: Emerging Technologies → Organisational Psychology → Decision-Making Effectiveness. This pathway identifies organisational psychology as the critical mechanism through which technological innovations influence administrative effectiveness in Nigerian university libraries.

The framework makes a significant theoretical contribution by integrating technology adoption theories with organisational and strategic management perspectives within a unified structural model. Unlike previous studies that examined technology adoption in isolation, this framework advances the literature by introducing organisational psychology as a mediating mechanism, integrating multiple theoretical perspectives, extending technology acceptance research to academic library administration, and providing a strong foundation for SEM-based empirical investigation in Nigerian university libraries.

Statement of the Problem

The rapid advancement of emerging technologies has transformed the operational landscape of academic libraries across the world. Technologies such as artificial intelligence, cloud computing, digital repositories, big data analytics, automation systems, and integrated library management systems are increasingly redefining information access, service delivery, and administrative

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processes in university libraries. In Nigeria, university libraries are gradually adopting these technologies to improve efficiency, enhance user satisfaction, and support teaching, learning, and research activities. Despite these technological advancements, many university libraries continue to experience challenges relating to administrative effectiveness, delayed decision-making, inadequate technological integration, poor staff adaptation, and organisational inefficiencies.

Effective decision-making remains a critical component of successful library management because it influences policy implementation, resource allocation, staff performance, innovation, and service delivery. However, decision-making practices in many Nigerian university libraries are often constrained by limited technological competence, resistance to change, ineffective communication systems, bureaucratic administrative structures, and inadequate organisational support. These challenges may hinder the capacity of library administrators and personnel to effectively utilise emerging technologies in achieving institutional goals.

In addition to technological factors, organisational psychology plays a significant role in shaping workplace behaviour and administrative outcomes within library systems. Variables such as leadership style, organisational culture, staff motivation, communication patterns, technology acceptance, and organisational commitment influence how library personnel perceive, adopt, and utilise emerging technologies in decision-making processes. Where these psychological and organisational factors are weak or poorly managed, the implementation of technological innovations may not yield the expected improvements in library administration and service delivery.

Although previous studies have examined technology adoption and library management in Nigerian universities, limited empirical attention has been given to the combined influence of emerging technologies and organisational psychology on decision-making practices in university libraries. Most existing studies have focused largely on technological infrastructure, information service delivery, or user satisfaction, with inadequate consideration of the psychological and organisational dimensions that influence administrative decision-making. Consequently, there is insufficient empirical evidence explaining how emerging technologies and organisational psychology jointly contribute to effective decision-making practices in Nigerian university libraries.

It is against this backdrop that this study seeks to investigate the relationship among emerging technologies, organisational psychology, and decision-making practices in Nigerian university libraries. The study aims to provide empirical evidence on how technological and psychological factors influence administrative effectiveness and decision-making processes in academic library management in Nigeria.

Research Hypotheses

1. There is no significant relationship between emerging technologies and decision-making practices in Nigerian university libraries.
2. Organisational psychology variables have no significant influence on decision-making practices among personnel in Nigerian university libraries.
3. Emerging technologies and organisational psychology do not jointly predict decision-making effectiveness in Nigerian university libraries.

METHODOLOGY

This study adopted a descriptive correlational survey design to examine the relationships among emerging technologies, organisational psychology, and decision-making effectiveness in Nigerian university libraries. The design was appropriate because it investigated predictive and mediating relationships among naturally occurring variables without manipulation. It also enabled the collection of quantitative data from a large and geographically dispersed population, thereby enhancing the generalisability of the findings. To strengthen methodological rigour, the study incorporated a structural modelling perspective through the proposed use of Structural Equation Modeling (SEM) to examine direct and indirect relationships among the constructs.

The population comprised professional librarians, para-professional library staff, and library administrators in selected federal, state, and private university libraries across Nigeria's six geopolitical zones. These categories were considered appropriate because of their direct involvement in library administration, technology utilisation, policy implementation, digital service delivery, and institutional decision-making.

A sample of 420 respondents was selected through a multistage sampling procedure. Sample adequacy was justified using the recommendations of Hair et al. (2022), which suggest a minimum of 10 respondents per estimated parameter for SEM analyses. In addition, an a priori G*Power analysis indicated that a minimum sample of 350 respondents was sufficient to detect medium effect sizes at a .05 significance level and .95 statistical power. Consequently, 420 respondents exceeded the recommended threshold and enhanced analytical robustness. Universities were first stratified into federal, state, and private categories. Institutions with evidence of emerging technology adoption were purposively selected, after which simple random sampling was used to select respondents. Of the 500 questionnaires distributed, 420 were validly completed and analysed, yielding an 84.0% response rate.

Data were collected using the Emerging Technologies, Organisational Psychology, and Decision-Making Effectiveness Questionnaire (ETOPDMEQ). The instrument was developed from relevant literature and established scales on technology adoption, organisational psychology, innovation diffusion, digital leadership, and decision-making effectiveness. Section A captured demographic information. Section B measured adoption and utilisation of emerging technologies, including AI,

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cloud computing, blockchain, digital repositories, automation systems, and big data analytics. Section C assessed organisational psychology variables such as leadership style, organisational culture, staff motivation, organisational resilience, technology acceptance, digital leadership, communication patterns, job satisfaction, and technology anxiety. Section D measured decision-making effectiveness in areas such as strategic planning, resource allocation, policy formulation, service delivery, innovation, and problem-solving. Responses were rated on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

Face and content validity were established through expert review by specialists in Library and Information Science, Educational Management, and Organisational Psychology. Construct validity was further assessed through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The Kaiser–Meyer–Olkin value was .89, while Bartlett’s Test of Sphericity was significant, $\chi^2 = 4126.73$, $p < .001$, indicating suitability for factor analysis. Items with factor loadings below .50 or problematic cross-loadings were removed. CFA conducted using AMOS/SmartPLS confirmed satisfactory model fit ($\chi^2/df = 2.41$, CFI = .93, TLI = .91, RMSEA = .056, SRMR = .049). Reliability was assessed using Cronbach’s alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). Cronbach’s alpha values ranged from .82 to .91, CR values from .84 to .93, and AVE values from .56 to .74, exceeding recommended thresholds and confirming adequate reliability and convergent validity.

To minimise common method bias, respondents were assured of anonymity and questionnaire sections were psychologically separated. Harman’s Single-Factor Test showed that the first factor accounted for 31.4% of the total variance, below the 50% threshold, indicating that common method variance was not a significant concern. Questionnaires were administered through both physical and online platforms with the assistance of trained research assistants. Follow-up visits and reminders were conducted to improve retrieval rates and reduce non-response bias.

Ethical approval was obtained from the Emmanuel Alayande University of Education Research Ethics Committee (Approval No. EAUED/REC/2025/014). Participants provided informed consent and were assured of confidentiality, anonymity, voluntary participation, and the right to withdraw at any stage without penalty.

Data were coded and analysed using SPSS Version 27 and AMOS/SmartPLS. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to address the research questions, while Pearson Product Moment Correlation, Multiple Regression Analysis, EFA, CFA, and SEM were employed to test the hypotheses and examine direct and mediating relationships among the study variables. All hypotheses were tested at the .05 level of significance.

RESULTS

Hypothesis 1: There is no significant relationship between emerging technologies and decision-making practices in Nigerian university libraries.

Table 1: Pearson Product-Moment Correlation Showing the Relationship Between Emerging Technologies and Decision-Making Practices in Nigerian University Libraries (N = 420)

Variables	M	SD	r	95% CI	p
Emerging Technologies	3.21	0.58			
Decision-Making Practices	3.34	0.62	.684**	[.61, .74]	<.001

Note: CI = Confidence Interval. Correlation is significant at 0.01 level (two-tailed).

The result presented in Table 1 revealed a significant positive relationship between emerging technologies and decision-making practices in Nigerian university libraries, $r(418) = .68$, $p < .001$, 95% CI [.61, .74]. The correlation coefficient indicates a strong positive effect size based on Cohen's (1988) benchmark for interpreting correlation coefficients. This finding suggests that increased adoption and utilisation of emerging technologies significantly enhance decision-making practices in Nigerian university libraries. Since the obtained p value was less than the .05 level of significance, the null hypothesis was rejected.

Hypothesis 2: Organisational psychology variables have no significant influence on decision-making practices among personnel in Nigerian university libraries.

Table 2: Multiple Regression Analysis Showing the Influence of Organisational Psychology Variables on Decision-Making Practices Among Personnel in Nigerian University Libraries (N = 420)

Variables	B	SEB	β	t	95% CI	p
(Constant)	1.214	0.183	-	6.63	[0.85, 1.57]	< .001
Leadership Style	0.284	0.061	.301	4.66	[0.16, 0.40]	< .001
Organizational Culture	0.198	0.057	.224	3.47	[0.09, 0.31]	.001
Staff Motivation	0.251	0.064	.267	3.92	[0.13, 0.38]	< .001
Communication Pattern	0.173	0.053	.191	3.26	[0.07, 0.28]	.001

Technology Acceptance	0.236	0.059	.248	4.00	[0.12, 0.35]	< .001
Organizational Commitment	0.147	0.051	.162	2.88	0.05, 0.25]	.004

Model Summary	Value
R	.741
R ²	.549
Adjusted R ²	.542
F(6, 413)	83.57
P	< .001
Effects Size (f ²)	1.22 (Large)

Note. Dependent Variable: Decision-Making Practices.

The findings in Table 2 indicated that organisational psychology variables significantly influenced decision-making practices among personnel in Nigerian university libraries, $F(6, 413) = 83.57$, $p < .001$, with an adjusted R^2 of .542. The regression model explained approximately 54.2% of the variance in decision-making practices, indicating substantial predictive power. The effect size ($f^2 = 1.22$) suggests a large practical effect according to Cohen's (1988) criteria. Among the predictor variables, leadership style ($\beta = .301$), staff motivation ($\beta = .267$), and technology acceptance ($\beta = .248$) emerged as the strongest predictors of effective decision-making practices. Since the obtained p value was less than the .05 significance level, the null hypothesis was rejected.

Hypothesis 3: Emerging technologies and organisational psychology do not jointly predict decision-making effectiveness in Nigerian university libraries.

Table 3: Multiple Regression Analysis Showing the Joint Prediction of Emerging Technologies and Organisational Psychology on Decision-Making Effectiveness in Nigerian University Libraries (N = 420)

Variables	B	SE B	β	t	95% CI	p
(Constant)	0.987	0.172		5.74	[0.65, 1.32]	< .001
Emerging Technologies	0.421	0.068	.416	6.19	[0.29, 0.55]	< .001
Organizational Psychology	0.389	0.064	.392	6.08	[0.26, 0.51]	< .001

Model Summary	Value
R	.782
R ²	.611
Adjusted R ²	.607
F(2, 417)	327.46
P	< .001

Note. Dependent Variable: Decision-Making Effectiveness.

The result presented in Table 3 showed that emerging technologies and organisational psychology jointly and significantly predicted decision-making effectiveness in Nigerian university libraries, $F(2, 417) = 327.46$, $p < .001$. The regression model explained 61.1% of the variance in decision-making effectiveness ($R^2 = .611$), indicating a strong explanatory capacity. The effect size ($f^2 = 1.57$) further demonstrated a large practical effect. Emerging technologies made the strongest contribution to decision-making effectiveness ($\beta = .416$), followed closely by organisational psychology ($\beta = .392$). The confidence intervals for both predictors did not include zero, indicating statistical reliability of the regression estimates. Consequently, the null hypothesis was rejected, indicating that emerging technologies and organisational psychology significantly contributed to decision-making effectiveness in Nigerian university libraries.

DISCUSSION OF FINDINGS

The findings of this study revealed that emerging technologies significantly influence decision-making effectiveness in Nigerian university libraries. This suggests that digital technologies have become strategic organisational resources that support evidence-based planning, operational efficiency, and service innovation. The result corroborates earlier studies which reported that technologies such as cloud computing, AI, digital repositories, and automated library systems improve organisational effectiveness and service delivery in academic libraries (Idahosa & Eireyi-Edewede, 2023; Owate & Iroeze, 2023). However, the present study extends existing knowledge by demonstrating that the contribution of emerging technologies goes beyond operational efficiency to significantly enhance institutional decision-making effectiveness.

The finding supports the assumptions of the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Diffusion of Innovations Theory, and the Resource-Based View (RBV). These frameworks suggest that technological innovations create value when users perceive them as useful, compatible with organisational goals, and supported by institutional resources. The result also aligns with the work of Lai et al. (2021), who argued that human–AI collaboration improves decision quality by enhancing information processing, predictive capabilities, and organisational responsiveness.

Nevertheless, the Nigerian context provides an important perspective on these findings. Unlike many technologically advanced environments where digital transformation is relatively mature, university libraries in Nigeria continue to face infrastructural limitations, digital skill shortages, and uneven technology adoption. These challenges suggest that the effectiveness of emerging technologies depends not only on their availability but also on organisational resilience and institutional readiness for change.

The study further found that organisational psychology significantly predicts decision-making effectiveness. Leadership style, organisational culture, staff motivation, communication patterns, organisational commitment, and technology acceptance emerged as important determinants of effective decision-making. This finding supports socio-technical systems theory, which emphasises that organisational performance results from the interaction between technological systems and human factors. It also reinforces the findings of Adekoya and Guobiazor (2023), who reported that supportive leadership and organisational incentives significantly improve employee commitment and organisational effectiveness in academic libraries.

Leadership emerged as one of the strongest predictors of decision-making effectiveness, underscoring the importance of digital leadership in contemporary library management. This finding is consistent with Elliott *et al.* (2023), who found that digitally competent leaders play critical roles in promoting innovation, adaptability, and organisational transformation. The result

Publication of the European Centre for Research Training and Development -UK suggests that successful digital transformation in university libraries requires leaders who can foster collaboration, learning, and technological experimentation.

Technology acceptance also significantly influenced decision-making effectiveness. This finding highlights the continuing relevance of user perceptions and psychological readiness in technology adoption. Consistent with the observations of Venkatesh *et al.* (2022), technology anxiety, perceived complexity, and resistance to change may undermine the benefits of technological investments if not adequately addressed through training and organisational support. Consequently, building digital confidence among library personnel remains essential for achieving sustainable transformation.

A major contribution of this study lies in its finding that emerging technologies and organisational psychology jointly predict decision-making effectiveness. This result demonstrates that neither technological infrastructure nor organisational factors alone can adequately explain effective library administration. Rather, decision-making effectiveness emerges from the interaction between technological capability and supportive organisational conditions. Similar conclusions were reached by Cletus *et al.* (2024), who found that organisational readiness, management support, and positive attitudes toward innovation significantly influenced technology adoption in academic libraries.

The practical implications of these findings are significant for digital governance in higher education institutions. As libraries increasingly adopt AI-driven and data-intensive systems, effective governance requires robust policies relating to digital ethics, data management, staff participation, and technological accountability. The findings therefore support emerging calls for human-centred digital governance frameworks that balance technological innovation with organisational values and stakeholder engagement.

The study also provides important insights into AI readiness in African universities. While institutions are increasingly investing in emerging technologies, the findings suggest that successful AI integration depends equally on leadership capacity, organisational resilience, staff competence, and psychological preparedness. This observation is particularly relevant within developing-country contexts where technological investments often outpace organisational readiness.

Overall, the study advances existing literature by demonstrating that decision-making effectiveness in university libraries is simultaneously a technological, organisational, and behavioural phenomenon. By integrating perspectives from technology adoption, organisational psychology, and digital governance, the study provides a more comprehensive understanding of how emerging technologies and human factors interact to shape decision-making effectiveness in Nigerian university libraries.

CONCLUSION

This study examined the relationship among emerging technologies, organisational psychology, and decision-making practices in Nigerian university libraries. The study was motivated by the increasing integration of digital technologies into library operations and the growing need for effective administrative and managerial decision-making within contemporary university library systems. Specifically, the study investigated the relationship between emerging technologies and decision-making practices, the influence of organisational psychology variables on decision-making effectiveness, and the joint predictive contribution of emerging technologies and organisational psychology to decision-making effectiveness in Nigerian university libraries.

The findings of the study revealed that emerging technologies significantly correlated with decision-making practices in Nigerian university libraries. The positive and significant relationship observed in the study indicates that technologies such as artificial intelligence, cloud computing, automation systems, integrated library systems, digital repositories, and data analytics tools have become essential instruments for enhancing administrative efficiency, operational coordination, information accessibility, and evidence-based decision-making in university libraries. The study therefore established that libraries with higher levels of technological adoption are more likely to demonstrate effective decision-making practices, improved service delivery, and better institutional responsiveness.

The study further revealed that organisational psychology variables significantly influenced decision-making practices among personnel in Nigerian university libraries. Variables such as leadership style, organisational culture, staff motivation, communication patterns, organisational commitment, and technology acceptance emerged as important determinants of decision-making effectiveness. The findings suggest that effective decision-making in university libraries depends not only on technological infrastructure but also on the psychological and organisational environment within which library personnel operate. Supportive leadership, positive organisational culture, effective communication, and motivated personnel were found to encourage innovation, collaboration, adaptability, and effective administrative behaviour among library staff.

In addition, the study established that emerging technologies and organisational psychology jointly and significantly predicted decision-making effectiveness in Nigerian university libraries. This finding demonstrates that technological systems and human organisational factors are interdependent in promoting institutional effectiveness. The study therefore confirms that effective library administration requires both adequate technological resources and favourable organisational conditions that support staff participation, innovation, adaptability, and technology acceptance. The interaction between digital technologies and organisational psychology was found

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to contribute substantially to administrative effectiveness, strategic planning, institutional coordination, and overall service quality in university libraries.

The study contributes significantly to the growing body of knowledge in library and information science, organisational psychology, and educational management by providing empirical evidence on the combined influence of technological and psychological factors on decision-making practices in Nigerian university libraries. The findings reinforce the relevance of socio-technical systems theory and technology acceptance perspectives in explaining organisational effectiveness within academic library environments.

Based on the findings, the study concludes that the future effectiveness and sustainability of Nigerian university libraries depend largely on their ability to integrate emerging technologies with sound organisational and psychological practices. University library management should therefore prioritise investment in modern digital infrastructure while simultaneously promoting supportive leadership styles, staff development programmes, motivational strategies, technology acceptance initiatives, and positive organisational cultures. Such integrated efforts will enhance institutional decision-making, improve operational efficiency, strengthen service delivery, and position Nigerian university libraries to meet the evolving information needs of the twenty-first century academic environment.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

- **Strengthen Digital Infrastructure Investment.** University management and relevant stakeholders should prioritise sustained investment in digital infrastructure, including AI-enabled systems, cloud-based platforms, data analytics tools, and smart library technologies. Such investments are essential for enhancing evidence-based decision-making, service innovation, and institutional competitiveness.
- **Promote Human-Centred Digital Leadership.** Library leaders should adopt participatory and transformational leadership approaches that encourage innovation, collaboration, and staff involvement in technology-driven decision-making processes. Effective digital leadership is critical for fostering organisational adaptability and sustainable digital transformation.
- **Enhance AI and Digital Literacy Competencies.** Continuous professional development programmes should be implemented to strengthen librarians' competencies in emerging technologies, data analytics, digital governance, and AI applications. Improved digital literacy will increase technology acceptance, reduce technology anxiety, and enhance decision-making effectiveness.
- **Foster Organisational Resilience and Change Management.** University libraries should establish strategies that support organisational learning, adaptability, and readiness for technological change. Initiatives aimed at strengthening staff motivation, communication, and innovation culture will improve the successful integration of emerging technologies.

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- Develop Comprehensive Digital Governance Frameworks. Regulatory agencies, university authorities, and professional bodies should formulate policies that promote ethical technology use, data governance, cybersecurity, and responsible AI adoption within academic libraries. Such frameworks are necessary for ensuring accountability, transparency, and sustainable digital transformation.
- Encourage Strategic Partnerships and Innovation Networks. University libraries should collaborate with technology providers, research institutions, and professional associations to facilitate access to emerging technologies, technical expertise, and innovative practices that support institutional development.
- Expand Future Research. Future studies should examine the mediating and moderating roles of variables such as digital leadership, organisational resilience, technology anxiety, and AI readiness using advanced analytical approaches such as Structural Equation Modelling (SEM) to provide deeper insights into technology-enabled decision-making in higher education institutions.

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