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Information Technology as a Strategic Enabler of Enrolment Management in Tertiary Educational Institutions

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Keywords: strategy, technology, enrolment management, educational institutions

Abstract

This study investigates the strategic role of technology in enrollment management across Ghanaian tertiary educational institutions. It is guided by the Unified Theory of Acceptance and Use of Technology (UTAUT), a pragmatic paradigm, and a mixed-methods design. Data were collected from 872 members of the enrollment management team across 30 tertiary institutions, representing seven institutional categories in Ghana. The results indicate that technology is generally perceived as a strategic facilitator, with its role in enhancing organizational performance achieving the highest mean score. The technology's support for administrative efficiency, real-time decision-making, and student engagement, as well as its alignment with institutional goals, also received high levels of agreement. The pedagogical benefits of technology were affirmed, particularly in promoting the use of Artificial Intelligence tools in teaching, improving Learning Management Systems content delivery, and enabling flexible learning. The study concludes that while information technology significantly aids enrollment strategy and institutional efficiency, its full potential and utilization are still constrained by technical and financial barriers. These insights provide valuable implications for policy formulation, investment in Information Technology infrastructure, and capacity-building within the tertiary education sector.

Keywords: Institutional Strategy, Information Technology, Enrolment Management, Educational Institutions, Educational Technology.

Background

Institutions of higher learning today operate in complex, ever-changing environments shaped by new technologies, stakeholder needs, and competition (Dei et al., 2023). Enrolment management, which encompasses the planning and execution of processes for recruiting, admitting, and

retaining students, has become a key factor in an institution's performance and longevity (Dei et al., 2023; Habib et al., 2021). To manage enrollment effectively, institutions need to run their operations smoothly and ensure their strategies align with their operational goals and the needs of their stakeholders. In this light, information technology (IT) has become a strategic enabler, making it easier to combine processes, access information, and make data-driven decisions (Fernández et al., 2023; Qi et al., 2021).

Even though people know that IT has benefits, most research focuses on how it works in educational administration or learning delivery rather than on its strategic use in enrollment management (Ayedee, 2021; Dei et al., 2023). Researchers have examined e-learning, blended learning (Dei, 2024), and general administrative uses of IT (Habib et al., 2021), but they have not examined how technology affects the link between institutional strategy and enrollment management outcomes. The strategic potential of IT for managing enrollment remains underexploited in Ghana, where higher education institutions face limited resources, changing policies, and uneven ICT infrastructure. This is a significant gap: while researchers (Acheampong & Dei, 2020; Qi et al., 2021) agree that technology is a tool, little is known about how it interacts with institutional strategies to affect enrollment outcomes, operational efficiency, and competitive positioning. More specifically, there are still questions about which types of technology, like digital communication platforms, learning management systems, data analytics tools, and integrated student information systems, are best at improving strategic alignment and enrollment performance.

The Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2012) gives us a way to think about this interaction (Xue, Rashid, & Ouyang, 2024). Traditionally, UTAUT has used constructs such as performance expectancy, effort expectancy, social influence, and facilitating conditions to explain how people adopt technology (Ahmed et al., 2025). This framework is useful for measuring user acceptance, but it can also be used in institutions to examine how IT serves as a strategic enabler, affecting decision-making, administrative efficiency, and ensuring that enrollment strategies align with institutional goals (Mukred et al., 2025). For example, performance expectancy can show how IT makes operations run more smoothly and improves enrollment outcomes (Dei, 2024). On the other hand, facilitating conditions can demonstrate the importance of infrastructure, training, and support systems for sustaining strategic initiatives.

Research shows that aligning technology with organizational goals improves institutional performance (Dei & Tetteh, 2022; Mohamed et al., 2021). IT applications in higher education, such as student information systems and automated admissions platforms, can simplify complex tasks, reduce administrators' workload, and increase student engagement, retention, and satisfaction (Mtebe & Raisamo, 2018; Al Hallak et al., 2019). However, how well these apps work depends on managers' skills, the institution's culture, and the state of the infrastructure, all of which vary widely across Ghanaian tertiary institutions. This shows how important it is to look into things in their

own context. Even though IT use is common, there is insufficient information on how it strategically affects the link between institutional strategies and enrollment outcomes.

With this in mind, this study examines how information technology can support enrollment management in Ghanaian tertiary institutions. It aims to give more detailed information about six main areas: organizational performance and strategic alignment; pedagogical support and learning; the learning environment and student engagement; decision-making and administrative effectiveness; IT infrastructure and security; and accessibility, collaboration, and communication. The study adds to theory by applying UTAUT at the institutional and strategic levels and to practice by identifying strategies that work in specific situations for using IT to improve enrollment management. In doing so, it fills a specific gap: determining how digital tools affect strategic implementation in higher education systems with limited resources, where traditional enrollment management methods may not fully leverage technology's potential. This study enhances theoretical understanding by positioning IT as a moderating element between strategy and enrollment management, challenging the traditional perception of technology as a passive instrument.

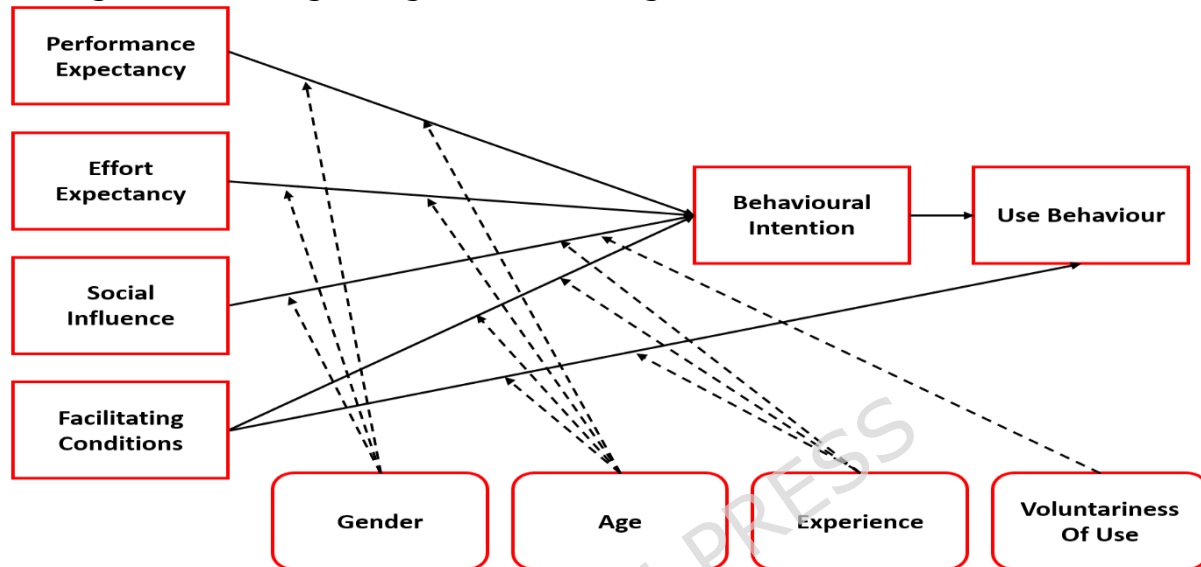
This study is structured into five main sections. The first section presents the study's background, problem, objectives, and significance. The second reviews literature on enrolment management, institutional strategy, and technology. The third presents the UTAUT-based theoretical framework and methodology. The fourth reports and discusses findings. The final section concludes with implications and recommendations.

Theoretical Perspective

A theoretical framework describes how one theorizes or makes logical sense of the links among components recognized as essential to the problem (Dei, 2023). In essence, it aims to integrate crucial bits of knowledge, particularly variables, logically, and so conceptualizes a problem that can be investigated. The Unified Theory of Acceptance and Use of Technology (UTAUT) served as the theory for this study (Venkatesh et al., 2012). The UTAUT model suggests that actual technology use is determined by behavioral intention. The decision to adopt the technology depends on the direct effects of four primary constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions (Ursavaş, 2022). The UTAUT was chosen because it offers a strong framework for studying how technology is adopted and used in organizations, going beyond individual behavior to include its integration at the institutional level.

In the context of higher education, the theory offers a detailed framework for explaining how institutional stakeholders, including administrators, faculty, and students, adopt digital tools and systems that influence strategic planning, enrollment procedures, and overall institutional performance (Chugh et al., 2023). This research broadens the UTAUT model beyond individual acceptance, exploring technology as a strategic enabler that shapes institutional decision-making and enrollment strategies.

Performance expectancy refers to the belief that technology can lead to improved results, such as increased operational efficiency, enhanced enrollment management, and better teaching quality (Ursavaş, 2022). This aligns with Theme 1 (Organizational Performance and Strategic Alignment) and Theme 4 (Decision-Making and Administrative Effectiveness). When technology clearly improves planning, admissions, and resource allocation, it strengthens strategic alignment and organizational effectiveness.



Venkatesh et al. (2012)

Effort expectancy, or how easy it is to use a system, relates to Theme 2 (Pedagogical Support, Teaching, and Learning) and Theme 3 (Learning Environment and Student Engagement). When staff and students find digital platforms like LMS simple to use and helpful for flexible, blended learning, institutions are more likely to adopt them. Social influence, which examines how friends and organizational culture impact technology use, is associated with Theme 6 (Accessibility, Cooperation, and Communication). In Ghanaian universities, peer practices and institutional policies encourage digital collaboration, making the use of technology a standard part of academic and administrative life.

Facilitating conditions, including infrastructure, technical support, and institutional readiness, are directly linked to Theme 5 (Support, Security, and Infrastructure Systems). The sustainability of technology-driven enrollment strategies depends on reliable IT infrastructure, robust cybersecurity, and continuous capacity-building (Ursavaş, 2022).

By combining these ideas, the UTAUT offers a comprehensive view of how technology functions not only as a tool for operations but also as a strategic mediator between institutional strategy and enrollment outcomes. In Ghana's growing higher education system, this model shows that institutions must be prepared, stakeholders need to have a positive attitude toward technology, and technology must align with strategic goals for successful adoption and use.

Literature Review

Strategies for Higher Education and Enrollment Administration

In business, strategy is the planned actions that help a company reach its goals, use its resources wisely, and get ahead of the competition (Porter, 1996; Leiblein, Reuer, & Zenger, 2018). In higher education, strategy is just as important, but it plays a bigger and more complex role. Tertiary institutions have many goals beyond making money. These include maintaining high academic standards, meeting students' needs, improving the school's reputation, and ensuring its long-term sustainability (Dei et al., 2023; Asiedu, Abah, & Dei, 2022). As a result, higher education strategies include how to use resources, design programs, hire and retain students, involve stakeholders, and follow rules.

Institutions of higher education are open systems that are affected by changes in policy, the economy, and the needs of stakeholders, including government agencies, accreditation bodies, industry partners, students, and faculty (Bess & Dee, 2023). These external forces make it necessary to adopt adaptive strategies that balance what the company can do with what the environment needs. Strategic planning is the process of ensuring that your internal resources, skills, and structures align with external threats and opportunities (Mahdi et al., 2019). Institutions that lack clear strategies risk fewer students, a worse reputation, and poorer performance outcomes (Kabeyi, 2019; Anane-Donkor & Dei, 2021).

Empirical research demonstrates that a well-formulated strategic orientation improves institutional efficiency and performance (Anane-Donkor, 2025; Asiedu et al., 2022). Ofori and Appiah-Nimo (2021) note that a strategic orientation leads to better decision-making, more efficient operations, and long-term institutional resilience. Grant and Baden-Fuller (2018) contend that institutions that implement strategies centered on innovation, sustainability, and differentiation achieve quantifiable competitive advantage. Strategies in enrollment management direct recruitment efforts, admissions procedures, student retention initiatives, and the allocation of human and financial resources, thereby directly impacting student enrollment and institutional effectiveness (Dei et al., 2023). Nonetheless, the current literature in Ghana indicates a lack of understanding of the direct correlation between strategy and enrollment management (Anane-Donkor, 2025). A majority of research derives concepts from business strategy without adequate contextualization to the higher education setting (Asiedu et al., 2022). Moreover, research frequently neglects the interplay between strategy and facilitating elements such as technological infrastructure, organizational culture, and human capacity.

These gaps highlight the necessity for context-specific research into the mechanisms by which strategy influences enrollment outcomes in Ghanaian private tertiary institutions. In higher education, strategies are flexible tools that help institutions meet their goals while still being realistic about how things work. They affect enrollment outcomes by interacting with organizational culture, stakeholder expectations, and technological capabilities. Even though people, in theory, know how important strategy is,

there is little real-world evidence of its exact role in managing enrollment in Ghana.

Technology and Enrollment Management

Technology has progressively evolved from a mere operational instrument to a strategic facilitator of institutional goals (Dei et al., 2023; Fernández et al., 2023). In higher education, technology aids enrollment management by streamlining application processing, admissions, registration, financial transactions, student records management, and counseling services (Habib et al., 2021; Mtebe & Raisamo, 2018). Technology not only makes operations run more smoothly but also encourages innovation, collaboration, and evidence-based decision-making. This enables institutions to implement their plans more effectively and respond quickly to environmental changes (Dei et al., 2023; Acheampong & Dei, 2020a). Technology also affects how students learn, which can indirectly boost enrollment by making schools more appealing. Learning Management Systems (LMS) and online platforms enable flexible course delivery, fair grading, and clear communication between students and teachers. These platforms encourage participation, group learning, and quick academic support, all of which help students stay in school longer (Dei, 2018; Salaria, Mengi, & Gondhi, 2023). So, technology serves both as a way to streamline operational processes and as a strategic tool to support enrollment goals.

However, the use of technology depends a lot on the situation. In developed nations, strong infrastructure, digital literacy, and financial resources enable institutions to exploit technology for strategic benefit fully (Qi et al., 2021). In developing nations such as Ghana, inconsistent ICT infrastructure, insufficient funding, and disparate institutional readiness can hinder the efficacy of technology, resulting in discrepancies between strategic objectives and operational results (Owusu-Ansah & Frempong, 2019; Yeboah & Larbi, 2020). The efficacy of technology in improving enrollment processes is additionally affected by human capacity, managerial acumen, and organizational culture (Acheampong & Dei, 2020; Dei & Tetteh, 2022).

There is proof that technology can help with managing enrollment. Digital tools make administrative tasks easier, let you keep an eye on applications and financial records in real time, and help you make better decisions (Alam, 2021; Harvey-Smith, 2022). They make it easier to talk to both current and future students, which leads to quicker interventions and happier students (Amponsah et al., 2024; Jović et al., 2020). However, there are still problems, particularly in infrastructure, human resources, and financial stability, that could limit the strategic impact of technology in Ghanaian institutions (Anane-Donkor, 2025).

Integrating Strategy and Technology

The literature demonstrates a significant correlation between institutional strategy and technology in influencing enrollment outcomes. Strategy establishes vision, prioritizes objectives, and directs resource distribution, while technology implements strategic goals via automation, data analytics, and communication platforms (Dei et al., 2023; Mohamed et al., 2021). For

example, an institution that wants to attract more students can use digital marketing, online application platforms, and LMS to reach more people and engage students more. On the other hand, poorly implemented technology or insufficient adoption can make even well-thought-out plans less effective, resulting in inefficiencies and lower enrollment rates (Owusu-Ansah & Frempong, 2019).

Nonetheless, literature offers divergent viewpoints on the effectiveness of technology as a strategic facilitator. Some studies indicate direct performance improvements resulting from IT investments (Qi et al., 2021), whereas others contend that success depends on managerial competence, organizational culture, and stakeholder preparedness (Dei & Tetteh, 2022; Acheampong & Dei, 2020). These contradictions underscore the need for context-specific research, especially in developing nations where institutional capacities, digital maturity, and financial resources differ markedly from those in the contexts in which the majority of technology adoption studies have been conducted.

For effective enrollment management, it is essential to combine strategy and technology. Strategies set goals and give direction, while technology enables putting enrollment plans into action, keeping an eye on them, and evaluating them. They work together to build a dynamic system that translates strategic intent into measurable results, supporting recruitment, retention, and institutional performance (Dei et al., 2023).

The integration also shows how important it is for leaders and managers to adapt. Leaders who can connect strategy with technology, get staff to use it, and keep stakeholders interested are more likely to meet enrollment goals. On the other hand, if strategy and technology are not in sync, it can lead to wasted resources, low adoption, and failure to meet institutional goals (Mahdi et al., 2019; Dei & Tetteh, 2022).

Putting it all together, to reach their enrollment management goals, strategy and technology need each other. Strategy gives things meaning and direction, while technology ensures these goals are met by ensuring things run smoothly, being responsive, and involving stakeholders. In Ghana, where limited resources, poor infrastructure, and a lack of managerial skills can all affect their effectiveness, it is important to understand how they work together.

Contextual Review

In Ghana, private tertiary institutions operate in a competitive landscape marked by rising student mobility, varied program offerings, and fluctuating enrollment trends (Anane-Donkor & Dei, 2021). Strategies in these situations are not fixed; they must adapt to changes in the economy, policies, and market needs. To get students to sign up, for example, program offerings must meet the needs of the national labor market. To reach potential students effectively, marketing strategies must use both traditional and digital channels. Ghana's use of technology is not consistent. Some schools have better online application systems, digital learning platforms, and student information management systems than others. Others still use manual

processes because they lack sufficient infrastructure or funding (Owusu-Ansah & Frempong, 2019). This variability influences the degree to which technology can facilitate strategic objectives, especially in enrollment management.

Research in Ghana shows that institutions must combine strategy and technology to succeed. Dei et al. (2023) discovered that institutions integrating strategic planning with technological solutions for admissions, marketing, and student engagement attained superior enrollment growth and retention rates. Acheampong and Dei (2020) also noted that the effectiveness of technology adoption in implementing strategic initiatives was greatly influenced by managers' skills and staff's digital literacy.

So, for private universities in Ghana, using technology strategically is not an option; it is a must if they want to stay ahead of the competition, get more students, and stay in business. This study addresses the literature gap by analyzing the moderating role of technology in the relationship between strategy and enrollment management in these institutions, offering insights into best practices, challenges, and context-specific interventions.

Methodology

This study was guided by the pragmatist research paradigm, which supports the integration of quantitative and qualitative approaches to generate actionable, context-sensitive insights into complex organizational phenomena (Zhang & Bhattacharjee, 2025). Pragmatism is particularly suitable for this study because it allows for examining how information technology (IT) functions as a strategic enabler of enrollment management, rather than focusing solely on technology adoption or use (Díaz de Rada, 2022). Quantitative data were collected through structured surveys to capture measurable perceptions of IT's strategic role across institutional domains, while qualitative data were gathered through open-ended survey questions to provide contextual explanations and institutional perspectives that illuminate the quantitative trends.

The study targeted tertiary educational institutions in Ghana. Thirty (30) institutions were purposively selected to ensure broad representation across the seven recognized categories of tertiary institutions in Ghana: Chartered Educational Institutions, Distance Learning Institutions, Registered Foreign Institutions, University Colleges, Teacher Training Colleges, Tutorial Colleges, and Nursing/Midwifery Schools. The selection ensured diversity in ownership (public and private), geographic location (urban and rural), and institutional type, enabling a comprehensive examination of how IT strategically supports enrollment management across varying contextual conditions.

The unit of analysis for the study was the institutional enrollment management system, represented by the EMT members within each institution. These included registrars, admissions and recruitment officers, marketing staff, counseling personnel, accounts officers, and heads of academic departments or schools. A census approach was used to collect data

from all EMT members across the selected institutions, yielding a total study population of 872 respondents.

Data were collected via a survey administered over a six-week period. The survey method was selected because it facilitates efficient data collection from geographically dispersed institutional actors, enhances response rates, reduces administrative costs, and minimizes data entry errors (Díaz de Rada, 2022). Two follow-up reminders were sent to respondents to improve participation. The survey instrument consisted primarily of closed-ended items measured on a five-point Likert scale, complemented by open-ended questions that allowed respondents to articulate their views on how technology enables or constrains strategic enrollment management decisions and outcomes.

Content validity was established through expert review by three higher education specialists who assessed item clarity, relevance, and alignment with the study objectives. A pilot test with 30 respondents from institutions excluded from the main study confirmed the instrument's clarity and suitability. Reliability testing produced Cronbach's alpha and composite reliability values ranging from 0.78 to 0.91, exceeding the recommended threshold of 0.70 (Nunnally & Bernstein, 1994).

Quantitative data from closed-ended survey items were analyzed using descriptive statistics, including means and standard deviations, in SPSS. Items were grouped into the following strategic enrollment management domains: strategic alignment, pedagogical support, learning environment, decision-making effectiveness, infrastructure readiness, and accessibility and communication to assess the perceived strength of IT-enabled strategic alignment across institutions. Qualitative data from open-ended responses were analyzed using thematic content analysis following Braun and Clarke's (2019) procedures. Codes were inductively generated to identify patterns that explain how IT supports or constrains strategic enrollment management processes. Two researchers independently coded the data, achieving strong intercoder reliability ($\kappa = 0.82$). Discrepancies were resolved through consensus. Integration of quantitative and qualitative findings occurred during the interpretation stage, where qualitative themes were used to explain and contextualize quantitative patterns, thereby providing a more nuanced understanding of IT's strategic role in enrollment management.

The study adhered to the ethical principles outlined in the Declaration of Helsinki (2013 revision). Participants were informed of the study's purpose, assured of anonymity and confidentiality, and advised that participation was voluntary. Informed consent was obtained via a pre-survey statement. Ethical approval was granted by the Institutional Review Board of the Center for Research and Graduate Studies, KAAF University (IRB-KU/HSS/25/02/09).

Analysis and Presentation of Findings

This section presents descriptive statistical analysis of data collected from the enrollment management teams of several selected tertiary institutions in Ghana. Out of 872 questionnaires distributed, 720 valid responses were received, resulting in an 82.6% response rate. The data collection method,

institutional support, and follow-up reminders achieved this high response rate. This rate exceeds the generally accepted 60% threshold for organizational survey research (Saunders et al., 2019), indicating that the results are both reliable and representative.

The findings are organized based on the themes to highlight the various impacts of technology on teaching and learning processes, institutional strategy alignment, and the overall learning environment. The themes derived from the objectives guided the presentation of results: organizational performance and strategic alignment; pedagogical support, instruction, and learning; the learning environment and student engagement; decision-making and administrative effectiveness; support, security, and infrastructure systems; and accessibility, collaboration, and communication.

Socio-Demographic Characteristics of Respondents

This section provides the background characteristics of respondents to contextualize the findings. Of the 720 valid responses, the majority (58.3%) were male, while 41.7% were female, reflecting a relatively balanced gender distribution. Regarding institutional roles, respondents included admissions and recruitment officers (28.5%), registrars and administrative staff (22.1%), academic staff (19.4%), marketing and public relations officers (15.7%), and finance or accounts personnel (14.3%).

Regarding work experience, 34.6% of respondents had 1-5 years, 38.2% had 6-10 years, and 27.2% had more than 10 years, indicating that most participants possessed enough institutional knowledge to deliver informed responses. Institutional representation was diverse, including universities (32.5%), university colleges (21.3%), teacher training colleges (14.7%), nursing and midwifery institutions (12.9%), and other tertiary institutions (18.6%).

These characteristics show that the sample is sufficiently diverse and representative of enrollment management stakeholders across Ghanaian higher education institutions.

Theme 1: Organizational Performance and Strategic Alignment

This theme evaluates how well technology aligns with strategic institutional objectives and operational goals. According to the theme's highest mean ($M = 3.58$, $SD = 1.27$), a noteworthy 65.8% of respondents (25.9% strongly agree and 39.9% agree) think that technology is a strategic instrument for organizational effectiveness.

<i>Technology</i>	<i>SA</i>	<i>A</i>	<i>N</i>	<i>D</i>	<i>SD</i>	<i>Mean</i>	<i>Standard Dev</i>
1. Optimize operations and strategy	17.20 %	18.70 %	29.30 %	21.50 %	13.30 %	3.05	1.27
2. Deploying low-cost programs	8.50 %	16.90 %	30.80 %	30.20 %	13.60 %	2.76	1.14

3. A strategic tool for organizational performance	25.90 %	39.90 %	9.10%	16.60 %	8.50%	3.58	1.27
4. Complies with the strategic objectives of the institution	24.20 %	37.00 %	15.00 %	13.10 %	9.70%	3.53	1.11 %
Average	18.95 %	28.63 %	21.05 %	20.10 %	11.28	3.23	1.20

Table 1. Organizational Performance and Strategic Alignment (field data, 2024)

In a similar vein, 61.2% of respondents confirmed that technology aligns strongly with the institution's goals by meeting strategic institutional objectives ($M = 3.53$, $SD = 1.11$). However, just 25.4% of respondents agreed that technology helps implement low-cost initiatives, whereas 43.8% disagreed (30.2% disagree, 13.6% strongly disagree), resulting in the lowest mean across all variables ($M = 2.76$, $SD = 1.14$). This highlights a significant perception gap: whereas technology is valued strategically, its economic viability is questioned. There were differing opinions on operational effectiveness, as seen by the relatively low mean for operations and strategy optimization ($M = 3.05$, $SD = 1.27$), with only 35.9% agreeing and 34.8% disagreeing.

According to the respondents, technology is crucial for coordinating institutional initiatives with enrollment management goals. It improves overall decision-making, policy creation, and strategic planning, affecting admissions across a range of time horizons.

Technology provides qualitative data that supports planning, strategy, policy development, decision-making, and their execution. These mostly affect admissions in the short, medium, and long terms. UGR-3 Additionally, it was seen that the thoughtful application of technology improved the achievement of institutional objectives and saved time.

"Technology has influenced and helped my institution develop and implement strategies. Making decisions quickly and conveniently has been made easier by the use of technology. KUR-2

In terms of decision-making, it has saved the organization time.

However, concerns about underutilization due to financial and technical capacity constraints persist.

"We can employ technology to help us with our tasks. However, due to the expense and technical difficulties involved, it has not yet been completely implemented in this organization. ATUR-2

Theme two: Pedagogical Support, Teaching, and Learning.

Respondents to this topic see technology as a means of facilitating better instruction and academic assistance. Interestingly, 57.5% of respondents confirmed that technology enables flexible learning ($M = 3.53$, $SD = 1.14$), and 59.9% agreed that LMS enhances content delivery ($M = 3.51$, $SD = 1.12$).

Technology	SA	A	N	D	SD	Mean	Standard Dev
1. allows for flexible learning	25.10 %	34.90 %	18.00 %	12.00 %	10.00 %	3.53	1.14
2. LMS improves delivery	23.50 %	36.40 %	17.30 %	13.50 %	9.30%	3.51	1.12
3. Encourages openness in the evaluation of AI tools	22.60 %	35.90 %	18.00 %	13.70 %	9.80%	3.48	1.13
4. Enhance academic assistance	19.00 %	30.80 %	24.50 %	15.00 %	10.70 %	3.33	1.14
5. Pupils are ready to use technology.	21.10 %	33.00 %	21.00 %	15.50 %	9.40%	3.41	1.13
Average	22.26 %	34.60 %	19.76 %	13.94 %	9.84%	3.45	1.13

Table 2. Pedagogical Support, Teaching, and Learning (field data, 2024)

Additionally, 58.5% of respondents agreed that technology promotes transparency when assessing AI tools ($M = 3.48$, $SD = 1.13$), indicating an increasing level of confidence in the use of cutting-edge technologies in the classroom. 54.1% of respondents agreed that students were ready to use technology ($M = 3.41$, $SD = 1.13$). Similarly, 49.8% of respondents agreed moderately that technology may improve academic help ($M = 3.33$, $SD = 1.14$), indicating that although technology is generally seen as benefiting pedagogy, more specialized academic support apps would be required. Overall, the theme has moderate variability and consistently high averages (3.33–3.53), suggesting strong but somewhat varying support.

Technology is said to enable improved pedagogy, and, as the qualitative findings show, it has a direct impact on graduation and retention rates. The way learning is carried out and how students interact with academic material have changed as a result of its incorporation into academic delivery.

"Technology's role in teaching, learning, and decision-making has increased retention and graduation rates." UGR-2

"In the long run, technology has enabled our institution to attract the busy working class for admission, which ultimately leads to an increase in admissions." WUCR-1

“Technology has also assisted our university in introducing a blended learning and remote learning strategy.” ACER-1

Theme 3: The Learning Environment and Student Engagement

Positive perceptions exist about the influence of technology on social learning dynamics and student involvement. For example, 55.3% of respondents said that technology promotes bonding through shared learning settings ($M = 3.37$, $SD = 1.29$), and 59.6% agreed that it increases student engagement ($M = 3.52$, $SD = 1.13$). Additionally, 55.7% of respondents think it improves staff-student collaboration ($M = 3.34$, $SD = 1.26$).

Technology	SA	A	N	D	SD	Mean	Standard Dev
1. improved collaboration between staff and students	18.40 %	37.30 %	15.80 %	16.90 %	11.60 %	3.34	1.26
2. Foster bonding through a mutual learning environment	21.40 %	33.90 %	15.60 %	18.70 %	10.40 %	3.37	1.29
3. Creation of a modern learning environment	16.30 %	33.10 %	20 %	20.60 %	10.10 %	3.25	1.24
4. boosts student engagement,	24.50 %	35.10 %	16.70 %	14.90 %	8.80 %	3.52	1.13
Average	20.15 %	34.85 %	17.53 %	17.78 %	10.23 %	3.37	1.23

Table 3. Learning Environment and Student Engagement (field data, 2024)
A comparatively high 40.6% disagree or are indifferent, whereas only 49.4% believe that technology contributes to the development of a modern learning environment ($M = 3.25$, $SD = 1.24$). This shows that even if technology is thought to improve connections and interaction, learning environments may not be changing as quickly as they could. Greater variety in perception is revealed by this theme's significant standard deviations (~1.26–1.29) and average mean (≈ 3.37), which are probably driven by inequalities in infrastructure.

This emphasizes how technology facilitates an adaptable learning environment that appeals to a wider range of learners, which in turn helps with enrollment and academic success. Technology use was closely linked to

increased student engagement, lower attrition rates, and responsiveness to student needs.

"Technology aids in student retention because it makes it simple to receive and address students' concerns." UGR-2

"Students are ultimately satisfied and can complete their program without being postponed or transferring to another university." KUR-1

In this case, technology is positioned as a tool for student retention and happiness, which eventually affects graduation rates and the standing of the school.

Theme 4: Decision-Making and Administrative Effectiveness

There is broad agreement on this issue about the administrative advantages of technology. Technology enhances administrative efficiency, according to a significant 59.9% of respondents ($M = 3.50$, $SD = 1.12$), and it helps real-time decision-making, according to 58.8% ($M = 3.50$, $SD = 1.10$). Furthermore, 53.0% of respondents concurred that it facilitates performance monitoring ($M = 3.36$, $SD = 1.15$). Only 45.1% of respondents agreed with the claim that technology reduces operational costs, while 29.3% disagreed ($M = 3.21$, $SD = 1.15$). Though financial cost-saving effects are still up for debate, the theme's average mean (~ 3.39) and low standard deviation (~ 1.12) indicate significant and continuous agreement with technology's ability to increase efficiency.

Technology	SA	A	N	D	SD	Mean	Standard Dev
1. Improves administrative efficiency,	21.20 %	38.70 %	18.10 %	13.30 %	8.70 %	3.50	1.12
2. Facilitates real-time decision-making.	22.30 %	36.50 %	19.40 %	12.70 %	9.10 %	3.50	1.10
3. aids in monitoring and enhancing performance	20.00 %	33.00 %	21.00 %	15.00 %	11.00 %	3.36	1.15
4. lowers operating expenses	16.70 %	28.40 %	25.60 %	18.00 %	11.30 %	3.21	1.15
Average	20.05 %	34.15 %	21.03 %	14.75 %	10.53 %	3.39	1.13

Table 4. Decision-Making and Administrative Effectiveness (field data, 2024)
Many people believed that technology might speed up administrative procedures, particularly those involving internal planning, enrollment, and admissions decisions.

"Decision-making is now quicker and easier thanks to technology, especially when done online with tools like email, Zoom, and WhatsApp." - KUR-1

Universities have been able to respond to internal and external stakeholders more quickly and efficiently because of it.

"Technology plays a major role in our admissions process and informs our decision-making processes." SKNSR-1

However, some organizations have not completely embraced technology tools because of the perceived complexity and expense.

"In my institution, technology and its application are seen as being highly costly when it comes to decision-making and strategy development. As a result, my university has not entirely embraced its usage in enrollment management decision-making." KU-1

Theme 5: Support, Security, and Infrastructure Systems

The respondents somewhat agreed that cybersecurity measures are adequate (49.6%, $M = 3.31$, $SD = 1.13$) and that institutions have the required IT infrastructure (47.5%, $M = 3.29$, $SD = 1.13$). The notion that data protection is sufficiently secured was reinforced by a somewhat higher 55.7% who felt that technology safeguards students' information ($M = 3.40$, $SD = 1.28$). However, only 46.2% of respondents agreed ($M = 3.20$, $SD = 1.16$), with 29.3% disagreeing, that instructors receive sufficient technological training. This indicates a serious lack of personnel readiness, which may jeopardize larger technological projects. The consistent standard deviations (≈ 1.13 – 1.28) and comparatively modest means (3.20–3.40) show moderate support but significant concern, especially with regard to human capital readiness.

Technology	SA	A	N	D	SD	Mean	Standard Dev
1. Secure students' information	22%	33.70%	16.70%	17.20%	10.40%	3.40	1.28
2. Sufficient IT infrastructure	17.00%	30.50%	26.00%	16.80%	9.70%	3.29	1.13
3. Teachers receive tech training.	14.20%	32.00%	24.50%	18.00%	11.30%	3.20	1.16
4. Cybersecurity measures are sufficient.	18.40%	31.20%	23.60%	16.00%	10.80%	3.31	1.13
Average	17.90%	31.85%	22.70%	17.50%	10.55%	3.30	1.18

Table 5. Support, Security, and Infrastructure Systems (field data, 2024)

Although it was not the most prominent issue in the qualitative data, there were clear underlying worries about the cost and readiness of the

infrastructure. Although institutions acknowledge the advantages of technology, they point to budgetary and infrastructure constraints as preventing its full implementation.

"We can employ technology to help us with our tasks. However, due to the expense and technical difficulties involved, it has not yet been completely implemented in this organization. UG-2

This implies that in certain institutions, there is a discrepancy between strategic aim and real operational capacity.

Theme 6: Accessibility, Cooperation, and Communication

Many people believe that technology is a driving force behind better digital access and communication. 55.6% of respondents agreed that technology facilitates cooperation through cloud systems ($M = 3.43$, $SD = 1.12$), and 56.6% agreed that technology reduces obstacles to communication ($M = 3.39$, $SD = 1.14$). Furthermore, 53.5% of respondents stated that mobile applications made possible by technology improve accessibility ($M = 3.39$, $SD = 1.11$). Strong agreement on the importance of digital systems in fostering fairness, flexibility, and connection in academic and administrative contexts is indicated by this theme's persistent mean scores above 3.3 with little fluctuation.

Technology	SA	A	N	D	SD	Mea n	Stan d Dev
1. increases accessibility through mobile applications	18.90 %	34.60 %	22.00 %	15.50 %	9.00%	3.39	1.11
2. lowers barriers to communication	19.80 %	35.60 %	19.00 %	15.20 %	10.40 %	3.39	1.14
3. Collaboration is supported via cloud systems.	20.90 %	34.70 %	20.00 %	15.30 %	9.10%	3.43	1.12
Average	19.87 %	34.97 %	20.33 %	15.33 %	9.50%	3.40	1.12

Table 6. Accessibility, Cooperation, and Communication (field data, 2024)

The respondents provided considerable support for this subject. Prospective students may now more easily obtain information about admissions thanks to the technological revolution in institutional communication.

"Nowadays, people can simply and stress-free access information on their phones. In a sense, this makes it simple for interested and prospective students to apply to a school. The implementation of an

online application system at my university serves as a typical illustration." ACE-1

Apart from recruiting, students' experiences at the school have been enhanced by continuous communication and assistance.

"It has made it easier for students to receive information, which has improved their experience at my institution." UG-1

These viewpoints highlight the ways that better communication and accessibility result in more enrollment and happier students.

Discussion of Findings

Theme 1: Organizational Performance and Strategic Alignment

The quantitative and qualitative results demonstrate how technology is integrated as a strategic facilitator. With a high mean score of 3.58 (SD = 1.27), 65.8% of respondents (SA = 25.9%, A = 39.9%) quantitatively agreed that technology is a strategic instrument for organizational performance. According to qualitative data, respondents stated that "technology has aided and impacted strategy formulation and implementation" and that "technology has a significant influence on admission drives."

This is consistent with the performance expectancy UTAUT concept, which holds that people would embrace technology if they think it will improve their ability to execute their jobs (Venkatesh et al., 2003). Fernández et al. (2023) and Mohamed et al. (2022) also revealed quantifiable increases in enrollment and competitive positioning for schools that integrated technology with their institutional strategy. Digital dashboards and AI-enabled analytics greatly aided decision-making in Ghanaian private colleges, improving enrollment targeting and program alignment (Loglo, 2024).

Theme 2: Pedagogical Support, Teaching, and Learning.

There is a broad consensus that technology improves teaching. For instance, 59.9% of respondents confirmed that technology enhances the delivery of learning management systems (LMS) (Mean = 3.51, SD = 1.12), and 56.1% agreed or strongly agreed that it enhances the quality of programs and services (Mean = 3.40, SD = 1.26). Additionally, 59.2% of respondents (Mean = 3.53, SD = 1.14) felt that technology makes flexible learning possible. Additionally, respondents emphasized how blended learning helps working-class, time-pressed students.

Since adaptable, user-friendly technologies facilitate improved teaching and learning outcomes, these findings are consistent with UTAUT's enabling conditions and effort expectations. The use of LMS and online learning technologies by universities to increase access and retention is confirmed by qualitative data. This supports the findings of Mtebe and Raisamo (2018), who found that e-learning and mobile technologies enhance student autonomy and academic support at African institutions.

Theme 3: The Learning Environment and Student Engagement

Technology has a beneficial impact on student engagement, as evidenced by the fact that 55.8% of respondents think that it creates mutual bonding via a learning environment (Mean = 3.37, SD = 1.29), and 59.6% agree that it increases engagement (Mean = 3.52, SD = 1.13). Furthermore, by facilitating

quick replies to student problems, raising satisfaction levels, and lowering dropout or transfer rates, respondents stated that "technology helps in retaining our students."

According to UTAUT, the adoption of collaborative technologies that promote engagement may be influenced by social factors. This is supported by research by Yeboah and Larbi (2020), who discovered a substantial correlation between digital student support services, communication platforms like WhatsApp, and institutional applications and student satisfaction and ongoing enrollment.

Theme 4: Decision-Making and Administrative Effectiveness

According to the statistics, 59.9% of respondents believe that technology increases administrative efficiency (Mean = 3.50, SD = 1.12), and 58.8% acknowledge that it makes real-time decision-making easier (Mean = 3.50, SD = 1.10). According to one responder, "technology makes decision-making faster and simpler," especially when it comes to tools like emails and web apps.

These results are consistent with the UTAUT principle of performance expectancy, which holds that adoption is boosted by perceived efficiency increases. This is reinforced by empirical evidence from Owusu-Ansah and Frempong (2019), who reported that data-driven decision-making systems in tertiary institutions lowered administrative response times and facilitated more strategic admission predictions.

Theme 5: Support, Security, and Infrastructure Systems

The support ecosystem and infrastructure received a mediocre rating. About 50.1% said cybersecurity measures were appropriate (Mean = 3.31, SD = 1.13), whereas 47.5% confirmed having a suitable IT infrastructure (Mean = 3.29, SD = 1.13). Qualitative findings, however, point to inadequacies; according to many respondents, technology is "yet to be fully deployed due to cost and technical challenges."

Under the enabling circumstances of UTAUT, this duality represents a conflicting perspective. Adoption may be hampered by inadequate infrastructure and budgetary limitations. Al-Samarraie et al. (2020) emphasize that maintaining technological interventions, especially in environments with limited resources, requires institutional preparedness and ongoing investment in IT infrastructure.

Theme 6: Accessibility, Cooperation, and Communication

Accessibility and communication were shown to be important facilitators of enrollment management. For example, 58.5% said that technology reduces obstacles to communication (Mean = 3.39, SD = 1.14), and 55.6% agreed that it facilitates cooperation through cloud systems (Mean = 3.43, SD = 1.12). According to the respondents, technology is "making it easy for people to access information with no stress," particularly through online platforms, Zoom, and WhatsApp.

Peer usage and simplicity of use promote the broad adoption of digital communication technologies, which reflects the social impact and effort expectation elements of UTAUT. This is consistent with the findings of

Amponsah et al. (2024), who found that peer interaction, recruiting drives, and student engagement are all improved by real-time communication using mobile and online platforms at Ghanaian colleges.

Implications of the Study Findings

Practical Implications

Although technology is viewed as strategically advantageous, cost and technical challenges hinder its widespread practical use. To realize its full benefits, institutions must invest in IT infrastructure, change management, and technological training. Universities should prioritize enterprise systems that integrate enrollment, academic, and performance data for comprehensive strategy execution, considering the significant impact on decision-making, performance monitoring, and alignment with institutional goals. By investing further in LMS, AI tools for assessment, and mobile-accessible materials, primarily to support blended and distance learning institutions, can improve academic quality and flexibility.

Policy Implication

Creating policies that encourage digital transformation, such as subsidies, tax incentives for tech infrastructure, and national LMS platforms, is one way that national educational authorities and accrediting organizations can support schools. To safeguard student and institutional data across postsecondary institutions, legislators should establish minimum standards and compliance procedures, as concerns about data protection and cybersecurity grow. Government assistance, including tech literacy initiatives and public-private partnerships, should focus on bridging access disparities, especially at universities with limited funding, to reduce digital gaps across private institutions.

Managerial Implications

Instead of using technology solely as an operational tool, university administrators must incorporate it as a crucial element of academic and strategic planning. Institutional management should provide ongoing training, technical support, and incentives to faculty and staff to enhance their technological skills, thereby increasing acceptance and confidence in using technology. Finally, institution leaders should perform cost-benefit analyses to justify technology expenses while addressing concerns about financial sustainability. This approach ensures value by increasing enrollment, enhancing academic outcomes, and boosting administrative efficiency.

Conclusion

This study examined how technology may enhance academic delivery, administrative effectiveness, enrollment management, and strategic planning at Ghana's private higher education institutions. The results, based on both qualitative and quantitative data, indicate that technology is generally perceived as a strategic facilitator that improves student engagement, teaching and learning processes, institutional decision-making, and overall organizational effectiveness. Despite its promise, the research also identified several barriers to its deployment, including high costs, a

shortage of technical expertise, limited infrastructure, and inadequate data governance frameworks. However, organizations that have successfully utilized digital technologies report improvements in academic flexibility, operational efficiency, and the alignment of performance tracking with institutional goals. The study offers theoretical support for the Strategic Human Capital Theory and the Unified Theory of Acceptance and Use of Technology (UTAUT), highlighting how performance expectancy and strategic value influence technology adoption. Practically, it stresses the importance of private universities prioritizing digital transformation through consistent funding, training, and strategic coordination. The study concludes that while technology has significant potential to enhance innovation and competitiveness in private higher education, its success relies on deliberate leadership commitment, supportive legislative environments, and a clear alignment between institutional strategy and digital tools. To ensure long-term sustainability and academic success, future initiatives should focus on expanding best practices, addressing infrastructural gaps, and fostering a data-driven culture.

Declarations

Ethics Approval

This research did not require formal ethical approval under KAAF University, Ghana's policies, because it did not involve sensitive personal data, vulnerable populations, or procedures that posed more than minimal risk. Nevertheless, the study adhered to all relevant ethical guidelines, and informed consent was obtained from all participants.

Consent to Participate

All participants in this study were fully informed of the research objectives, procedures, potential risks, and benefits.

Consent to Publish

All participants gave their consent to publish the outcome of the study.

Consent to Participate

Written informed consent to participate in this study was obtained from all participants prior to data collection. Participants were informed about the purpose of the study, confidentiality of responses, voluntary participation, and their right to withdraw at any stage without penalty.

Availability of data and materials

The data used for the study will be made available upon reasonable request.

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