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Perceived Organizational Readiness and Enabling Factors for Human Capital Management System Use in Ugandan Public Universities

Uganda Kamu Üniversitelerinde İnsan Sermayesi Yönetim Sistemi Kullanımına Yönelik Algılanan Örgütsel Hazırlık ve Etkinleştirici Faktörler

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Abstract

With the emergence of technology as an asset in human resource management (HRM), institutions are increasingly adopting human capital management systems (HCMSs), defined as comprehensive digital systems designed to automate human resource management processes. In 2021, Uganda's Ministry of Public Service launched its HCMS, but as of 2025, no Ugandan public university has fully adopted the system owing to challenges such as limited digital literacy, infrastructure, and management support. Additionally, HCMS adoption in African higher education remains underexplored, with the available research focusing on narrow theoretical frameworks. This study adapted the unified theory of acceptance and use of technology (UTAUT) to investigate the influence of perceived organizational readiness (facilitating conditions) on HCMS use while also identifying contextual factors that enable HCMS use in Ugandan public universities. Applying a mixed-methods sequential explanatory design, quantitative data were collected from 362 staff across three public universities. Quantitative findings revealed that perceived organizational readiness significantly influenced HCMS use, while age and experience did not serve as significant moderators. Of the 362 respondents, 16 were purposively sampled for interviews. The qualitative findings identified stakeholder policy enactment, end-user involvement, functional ICT gadgets, internet connectivity, sufficient technical assistance, training, system effectiveness, system user-friendliness, improved performance ability, time-saving benefits, experience using the HCMS and positive attitude as key enabling factors for HCMS adoption. An extension to the UTAUT framework is proposed, integrating predictors—policy enactment, experience, end-user involvement, and a positive attitude. This study presents practical insights for promoting HCMS adoption and enhancing digital transformation in higher education.

Öz

Teknolojinin insan kaynakları yönetiminde (İKY) bir varlık olarak ortaya çıkmasıyla birlikte, kurumlar insan sermayesi yönetim sistemlerini (İSYS) giderek daha fazla benimsemektedir. İSYS, insan kaynakları yönetimi süreçlerini otomatikleştirmek üzere tasarlanmış kapsamlı dijital sistemler olarak tanımlanmaktadır. 2021 yılında Uganda Kamu Hizmeti Bakanlığı kendi İSYS'sini başlatmıştır, ancak 2025 itibarıyla sınırlı dijital okuryazarlık, altyapı eksikliği ve yönetim desteği gibi zorluklar nedeniyle hiçbir Uganda kamu üniversitesi sistemi tamamen benimsememiştir. Ayrıca, Afrika yükseköğretiminde İSYS'nin benimsenmesi hâlâ yeterince araştırılmamış olup mevcut çalışmalar dar teorik çerçevelere odaklanmaktadır. Bu çalışma, teknoloji kabulü ve kullanımına ilişkin birleşik teoriyi (TKKBT) uyarlayarak algılanan örgütsel hazırlığın (kolaylaştırıcı koşullar) İSYS kullanımına etkisini incelemiş ve Uganda kamu

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üniversitelerinde İSYS kullanımını mümkün kılan bağlamsal faktörleri belirlemiştir. Karma yöntemli sıralı açıklayıcı bir tasarım uygulanarak üç kamu üniversitesinden 362 personelden nicel veri toplanmıştır. Nicel bulgular, algılanan örgütsel hazırlığın İSYS kullanımını önemli ölçüde etkilediğini, yaş ve deneyimin ise anlamlı bir düzenleyici değişken olarak rol oynamadığını ortaya koymuştur. 362 katılımcıdan 16'sı amaçlı örnekleme ile görüşmeler için seçilmiştir. Nitel bulgular, paydaş politika uygulaması, son kullanıcı katılımı, işlevsel BT cihazları, internet bağlantısı, yeterli teknik destek, eğitim, sistemin etkinliği, kullanıcı dostu olması, performans artırma yeteneği, zaman tasarrufu, İSYS kullanma deneyimi ve olumlu tutumun İSYS'nin benimsenmesinde temel kolaylaştırıcı faktörler olduğunu göstermiştir. Çalışmada politika uygulaması, deneyim, son kullanıcı katılımı ve olumlu tutum gibi yordayıcıları içeren genişletilmiş bir TKKBT çerçevesi önerilmektedir. Bu çalışma, İSYS'nin benimsenmesini teşvik etmek ve yükseköğretimde dijital dönüşümü geliştirmek için pratik içgörüler sunmaktadır.

Keywords Human capital management system · perceived organizational readiness · facilitating conditions · unified theory of acceptance and use of technology

Anahtar Kelimeler insan sermayesi yönetim sistemi · algılanan örgütsel hazırlık · kolaylaştırıcı koşullar · teknoloji kabulü ve kullanımına ilişkin birleşik teori

Perceived Organizational Readiness and Enabling Factors for Human Capital Management System Use in Ugandan Public Universities

Information and communication technologies (ICTs) are continuously being developed and adopted globally, with businesses leveraging the internet to gain a competitive advantage (Akala, 2020). In the field of human resource management (HRM), organizations are increasingly adopting ICT-enabled human capital management systems as strategic assets to improve operational efficiency and enhance employee engagement and organizational agility (Panjaitan, 2023; Satispi et al., 2023). A human capital management system (HCMS) can be defined as a system that integrates ICT to automate HRM functions such as recruitment, training, performance management, payroll, and succession planning. This web-based approach uses technology to effectively execute HR strategies and practices (Ruël et al., 2004). In numerous organizations, HCMS implementation has enhanced decision-making, HR function development, planning, and competitiveness, all while enabling HR to focus on more strategic processes. Beyond efficiency gains, HCMS can also significantly positively impact revenue streams (Al-Mobaideen et al., 2013; Panjaitan, 2023).

In the context of this study, a HCMS is referred to as a system that employs ICT to integrate and automate human resource management processes in organizations (Halid et al., 2020; Schuler & Jackson, 1987; Varadaraj & Wadi, 2021). This study focused on Uganda's Ministry of Public Service HCMS and any other HCM systems currently being used in the study's target universities. This study specifically focused on the HCMS performance management module applications of attendance, promotion, and appraisal. These applications were chosen for their interactive aspects and widespread use beyond personnel in the HR department. These applications allow HR personnel to manage employee records and performance metrics; enable administrative staff to monitor attendance, appraisal and promotion requests; and permit all staff to log their attendance and submit appraisals and promotion forms. These applications provide insights into HCMS adoption patterns in higher education across various demographics.

Despite the increased investment and implementation of HCM systems in universities, the adoption rate and maturity of these systems, particularly in public universities, remains inadequate. This inadequacy negatively impacts the universities' reputation, economic development, and competitiveness (Altarawneh & Al-Shqairat, 2010). This lag can be attributed to unfavorable enabling factors, such as limited ICT expertise, implementation time constraints, inadequate support, organizational culture challenges, staff resistance, insufficient employee commitment, and inadequate infrastructure (Kananu & Nyakego, 2016).

Previous research also indicates that higher education institutions implementing HCM systems have not fully leveraged the systems' strategic capabilities. For instance, studies from Jordanian (Altarawneh & Al-Shqairat, 2010) and Kenyan universities (Kananu & Nyakego, 2016) revealed that HCM systems were predominantly being used for payroll and employee records management purposes in the universities. Their application toward achieving strategic objectives, such as decision-making, succession planning, training, and recruitment, remained underexplored, highlighting the considerable untapped potential of the systems.

While Uganda's Ministry of Public Service introduced a robust HCMS in 2021 with 17 computerized HR functions, the system's adoption by Ugandan public universities has been slow (Ministry of Public Service, 2021). Information obtained via personal correspondence with Ugandan public university administrators highlighted that, as of 2025, none of the universities have fully adopted the system's modules, mainly utilizing basic functions such as payroll and recordkeeping, leaving its strategic capabilities unexplored. Challenges including insufficient training, poor technology-institution context fit, low digital literacy, infrastructure constraints, delayed module rollout, minimal top management commitment, insufficient implementation planning, low staff involvement, and resistance to change were found to impede HCMS use in these universities (The Observer – Uganda, 2023; Theres & Strohmeier, 2023; Tusubira & Mulira, 2005).

Beyond the factors highlighted above, the use of digital systems such as HCMS depends on users' perception that technical support and infrastructure exist to sustain system use; a concept termed as 'facilitating conditions' in Venkatesh et al.'s (2003) unified theory of acceptance and use of technology (UTAUT). This concept has been contextualized as "Perceived Organizational Readiness (POR)," defined as users' belief that their institution can provide the necessary support, knowledge through training, and resources (including internet connectivity and ICT infrastructure), along with HCMS compatibility with other systems needed to support HCMS use (Peng et al., 2023). HCMS use refers to an HCM system's adoption within HR operations, including whether individuals use the system or not (Venkatesh et al., 2003). According to the UTAUT theory, age and experience moderated the relationship between perceived organizational readiness (facilitating conditions) and technology use. In this study, age referred to the chronological age of a respondent (Venkatesh et al., 2003), while experience reflected the duration of engagement with an HCM system (Venkatesh et al., 2003).

While previous studies have examined various factors that influence ICT adoption, research on HCMS adoption in African higher education institutions remains limited. Current studies focus narrowly on a limited scope applying limited technology adoption theories, often overlooking contextual factors such as organizational readiness for digital system adoption in Africa (Attuquayefio, 2019). This limits the understanding of adoption as an institutional process influenced by infrastructure, managerial autonomy, and system compatibility (Kamaghe et al., 2020; Michelotto & Joia, 2024).

The UTAUT theory, while acclaimed for its thorough explanation of technology adoption (Alkhwaldi et al., 2022; Timbula & Marvadi, 2023; Wang et al., 2025), necessitates contextual modification to suit the African higher education context. For instance, in universities constrained by resources characterized by inadequate digital infrastructure, inconsistent ICT literacy, bureaucratic decision-making, and cultural hierarchies—institutional dynamics beyond those presented by the original UTAUT theory, such as centralized policy control and limited managerial autonomy can profoundly influence HCMS adoption. To address the above research gaps, we applied UTAUT theory (Venkatesh et al., 2003) framework to explore the relationship between perceived organizational readiness and the use of HCM systems in Ugandan public universities, also assessing how age and HCMS experience act as moderating factors. Additionally, we explored the enabling factors driving HCMS adoption, offering insights that extend beyond the UTAUT theory's propositions to inform HCMS adoption (Venkatesh et al., 2003) in the African higher education context.

Theoretically, the study enhances the UTAUT framework by reinterpreting the construct of facilitating conditions as perceived organizational readiness. This enhances the understanding of how organizational preparation influences technology adoption in resource-limited higher education environments. Methodologically, the study employs a mixed methods sequential explanatory research design, integrating the quantitative validation of the relationship between perceived organizational readiness and HCMS use, with the qualitative investigation of contextual enablers of HCMS adoption in the African higher education context. The emerging qualitative insights enhance the UTAUT framework by incorporating new enabling factors not previously referenced by the UTAUT theory, specifically pertinent to African higher education.

From a psychological standpoint, this study emphasizes that technology adoption is essentially a cognitive process influenced by individuals' perceptions and interpretations of their surroundings. Individuals assess the sufficiency of organizational and technical support through cognitive evaluation, which subsequently affects their willingness to act (Ajzen, 1991; Del Valle et al., 2024; Roberts et al., 2021). Therefore, this study's findings highlight the importance of human cognition, perception, and contextual support in facilitating successful technology adoption. The study also provides evidence-based recommendations for policymakers and public sector administrators by emphasizing actionable enabling factors such as leadership support, capacity building, and infrastructure improvement as crucial aspects for progressing from partial to comprehensive and effective HCMS implementation. These contributions collectively enhance the theoretical understanding and provide actionable insights to promote HCMS adoption and digital transformation.

The UTAUT Theory

In a quest to find a more exhaustive ICT adoption framework, Venkatesh et al. (2003) assessed the antecedent literature and merged numerous components of the previous eight behavioral adoption theories to create the UTAUT theory. The theories assessed were the theory of reasoned action (TRA, Fishbein & Ajzen, 1975), the model of pc utilization (MPCU, Thompson et al., 1991), the innovation diffusion theory (IDT, Rogers, 1995), the technology acceptance model (TAM, Davis et al., 1989), the theory of planned behavior (TPB, Ajzen, 1991), the motivational model (MM, Davis et al., 1992), the combined TAM and TPB (C-TAM-TPB, Taylor & Todd, 1995) and the social cognitive theory (SCT, Bandura, 1986; Compeau & Higgins, 1995). From this amalgamation, the UTAUT theory posits four key determinants of technology adoption: performance expectancy, effort expectancy, social influence, and facilitating conditions.

The UTAUT theory asserts that effort expectancy (Chiu & Wang, 2008; Miah et al., 2023; Sengkalit et al., 2025), performance expectancy (Kaba & Touré, 2014; Sari et al., 2024), and social influence (Manca et al., 2022; Taiwo & Downe, 2013; VanDerSchaaf et al., 2023) predict the intention to use technology systems, while facilitating conditions directly influence actual usage (Taiwo & Downe, 2013; Timbula & Marvadi, 2023; Wang et al., 2025). Behavioral intention is also posited to directly predict user behavior (Hou, 2014; Mahardika et al., 2020; Xu, 2023), while user background characteristics—experience, gender, age and voluntariness of use—moderate the key relationships within the model (Venkatesh et al., 2003). The UTAUT theory also suggests that organizational support, access to knowledge, favorable infrastructure, and system compatibility are significant enabling factors of technology use, all encompassed within the construct of facilitating conditions conceptualized as perceived organizational readiness in this study. This aligns with previous studies that have highlighted how the lack of adequate support, training, and sufficient infrastructure can hinder technology adoption (Kamaghe et al., 2020; Kananu & Nyakego, 2016; Shaikh & Karjaluoto, 2015).

The UTAUT theory serves as a prominent framework for investigating technology use within organizational and human resource management contexts (Alkhwaldi et al., 2022; Islam et al., 2022; Keong & Ayue Binti Abdul Rahman, 2021). The theory has also been applied across the banking (Zhang et al., 2012), e-

governance (Dwivedi et al., 2017), health (Bawack & Kamdjoug, 2018) and education sectors, particularly in e-learning adoption (Akbar, 2013; Al-Adwan et al., 2021; Bhat et al., 2024; Du & Lv, 2024; Oye et al., 2014). However, gaps exist in the theory's application to HCMS in African higher education. Previous studies have also suggested enhancing the theory by investigating and including additional ICT adoption enabling factors beyond those suggested by the theory (Abbad, 2021; Bhat et al., 2024; Chao, 2019; Ennajeh & Najjar, 2024; Im et al., 2011; Ivanaj, 2023; Jena, 2022; Menant et al., 2021; Noutsa et al., 2017).

This study focused on the context of Ugandan public universities, which provides a unique setting for examining HCMS adoption by applying the UTAUT framework. Ugandan universities operate under the semi-centralized oversight of the Ministry of Public Service and face challenges such as insufficient ICT infrastructure, limited technical support, and limited institutional autonomy. Furthermore, the institutions must mandatorily implement the digital systems rolled out by the Ministry (Ministry of Public Service, 2021). Such variables influence employees' perceptions of organizational readiness and resource accessibility for digital transformation (Kananu & Nyakego, 2016). Additionally, unlike better-funded or independent institutions, Ugandan public universities often have bureaucratic structures and financial limitations that affect user engagement with technology.

The three targeted universities in this study were selected for their relatively advanced implementation of HCMS compared to other institutions in the Ugandan public university context, having been among the first adopters of the system (Ministry of Public Service, 2021). This context was also anticipated to provide a strong basis for extending the UTAUT paradigm to settings where digital system adoption is low, mandatory and enabling conditions are hampered by structural and infrastructural constraints, thus uncovering additional enabling factors unique to the African higher education context that extend beyond those suggested by the UTAUT theory.

This therefore led us to explore the following research question:

RQ1. What are the enabling factors that influence HCMS use in Ugandan public universities?

Association between Perceived Organizational Readiness and Technology Use

The concept of perceived organizational readiness (POR) in this study is defined by the UTAUT theory construct of 'facilitating conditions' which pertains to the extent to which an individual believes that their institution can provide enabling factors in terms of both organizational and technical support to facilitate their utilization of an HCM system (Venkatesh et al., 2003; Venkatesh et al., 2008). HCMS technology use can be defined as the extent to which digital systems such as HCM systems are embraced within an organization's operations. This construct not only encompasses the technical execution of the system but also the degree to which human resources personnel and other users engage with the system in their day-to-day responsibilities, perceive the system as advantageous, and express contentment with its operational efficacy (Humes, 2007; Kumar et al., 2006; Rogers, 2003).

In accordance with Venkatesh et al. (2008), Ali and Warraich's (2023) analysis of 70 ICT adoption articles found that 52.86% of the reviewed research confirmed the strong significance of perceived organizational readiness to adopt digital systems. Additionally, previous studies have shown that perceived organizational readiness predicts usage intention (Ali & Warraich, 2023; Hamzah et al., 2023; Jewer, 2018; Kopplin, 2023; Laukkanen, 2016) as well as actual technology use (Chaouali & Souiden, 2019; López-Rodríguez & Rodríguez-Calderón, 2024; Nunes et al., 2019; Timbula & Marvadi, 2023; Williams et al., 2015). Thus, we formulated the following hypothesis:

H1. Perceived organizational readiness has a significant positive influence on HCMS use among staff in Ugandan public universities.

The Moderating Effect of Age

Examining the influence of age on the adoption of technology has consistently emerged as a subject of profound scholarly interest. Research demonstrates notable differences in technology adoption across various age groups, revealing that younger individuals generally adopt new technologies more swiftly than older individuals (Morris & Venkatesh, 2000). Venkatesh et al. (2003), through the UTAUT theory, also posited that perceived organizational readiness is more likely to influence technology use among older staff. In tandem, Hua et al. (2021), Pimmer et al. (2019) and Yap et al. (2022) reported that older technology consumers place a high value on, and depend more on, external assistance because of their lower levels of digital literacy compared to younger users. Older individuals also often face challenges related to declining cognitive abilities, leading to greater reliance on external support (Czaja et al., 2006), thus prioritizing clarity and organizational support, compared to younger users who prioritize efficiency and esthetics (Arning & Ziefle, 2007). However, some studies have shown age to be an insignificant moderator, as demonstrated by Fettermann and Calegari's (2024) meta-analysis of e-technology acceptance. Based on the above literature, we hypothesized that

H2. Age significantly and positively moderates the association between perceived organizational readiness and HCMS Use, with the positive effect being stronger among older employees than among younger employees.

Moderating Effect of Experience

The notion of experience within the confines of this study is the duration of time that an individual has engaged with an HCM system (Venkatesh et al., 2003). User experience significantly moderates behavioral responses to technology, especially in relation to the concept of perceived organizational readiness (Izkair & Lakulu, 2021; Xue et al., 2024). Less experienced users are more likely to adopt technology when they perceive that their institution can provide the support and resources they need to use it (Venkatesh et al., 2003) compared with more technically savvy users (Kalvakolanu et al., 2023). A study assessing the impact of facilitating conditions (perceived organizational readiness) and user experience on mobile payment adoption indicated that experience significantly moderated the relationship between perceived organizational readiness and technological adoption (Tsai, 2021), while Wong et al. (2015) found an insignificant effect. Hence, we hypothesized:

H3. HCMS Experience significantly and positively moderates the association between perceived organizational readiness and HCMS use, with the positive effect being stronger among less experienced employees than among more experienced employees.

The conceptual model illustrating the above hypothesized relationships is presented in Figure 1 below.

Figure 1

A Conceptual Framework of Study Hypotheses, H1, H2 and H3

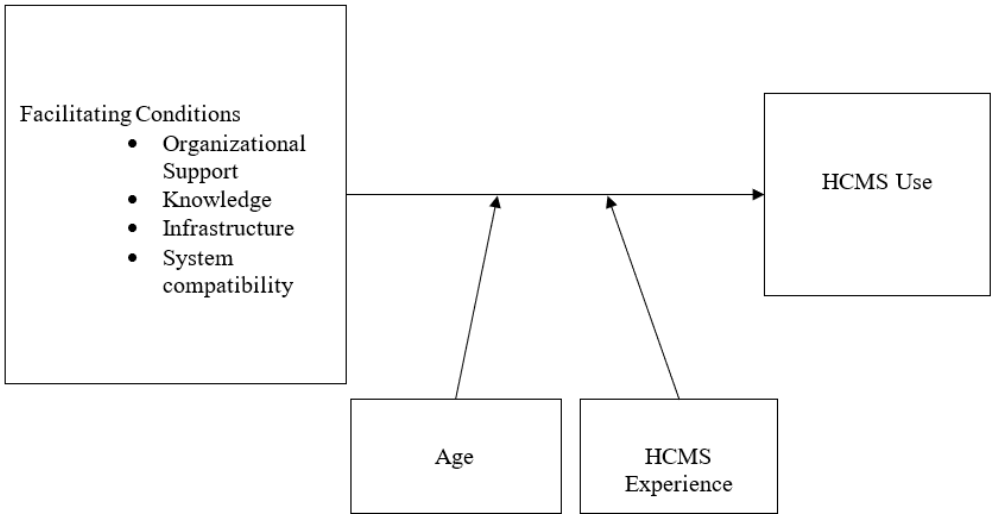

Figure 1 provides a summary of the conceptual framework applied in the study, drawing from the unified theory of acceptance and use of technology (UTAUT) proposed by Venkatesh et al. (2003).

Methods

Research Design

A mixed-methods sequential explanatory design (Isabel, 2018) was employed in this study. We obtained quantitative data, the fundamental basis of the study, by administering an online survey to 362 public university staff across three universities in Uganda. This quantitative analysis was complemented with qualitative data obtained from semi-structured interviews with 16 purposively sampled staff members from the 362 staff that participated in the quantitative phase (Ivankova et al., 2006). The qualitative phase aimed to achieve two main objectives: first, to validate the patterns identified in the quantitative results, and second, to explore the factors enabling HCMS adoption while also identifying any additional factors that the quantitative findings may have overlooked. The combination of methodologies also ensured that the quantitative results were corroborated by comprehensive narrative evidence (Creswell & Creswell, 2018). This technique enabled the study to attain a comprehensive and elucidative understanding of how perceived organizational readiness influences HCMS use as well as the enabling factors for HCMS adoption in Ugandan public universities.

Participants

The targeted study population comprised 4150 Ugandan public university staff (3400 from University X, 500 from University Y, and 250 from University Z) who had been employed in the institutions for over one year and used or were expected to use their institutions' HCMS performance management module applications for attendance, appraisal, and leave, identified as the most frequently used applications of the HCMS. The performance management module and its applications were focused on because of their interactive nature, necessitating active participation from both HR department staff and personnel from other departments, in contrast to other modules such as payroll management that are predominantly used by the HR department.

To determine the appropriate sample size, the Krejcie and Morgan Table (Krejcie & Morgan, 1970) was applied, resulting in a recommended target of 351 public university staff members. Following this recommendation, cluster sampling was then applied to ensure sufficient representation from each participating institution (Lavrakas, 2008). In total, e-questionnaire links were randomly sent to 375 contacts across three

universities: 290 to University X, 55 to University Y, and 30 to University Z. The study obtained 362 valid responses, with response rates of 98.9% for University X (287/290), 90.9% for University Y (50/55), and 83.3% for University Z (25/30). The high participation rate was due to the online survey format enabling quick completion and submission.

The final sample consisted of 362 respondents, with 56.9% male and 43.1% female. The predominant age group was 46-55 years (32.9%). For education, 31.2% held master's degrees, 28.5% bachelor's degrees, 22.1% postgraduate diplomas, and 18.2% doctoral qualifications. 53.3% worked in the academic and teaching department, while 46.7% were in administrative and other support departments. Most respondents (84.8%) were in the operations/support position. The majority (27.1%) had worked at their university for 5-10 years. This demographic composition shows a diverse distribution across key respondent characteristics, enhancing credibility. The data also reflects staff profiles typical of Ugandan public universities, indicating an appropriate sample for capturing insights into HCMS use and providing quality data.

To derive the qualitative sample, the principle of data saturation was applied. Based on research indicating that saturation occurs after 12-20 interviews (Guest et al., 2006; Hennink & Kaizer, 2022; Saunders et al., 2017), 16 participants were purposively selected for their potential to offer in-depth insights. The sample included six participants from University X, five from University Y, and five from University Z. Of the 16 respondents, 62.5% were male, 37.5% were female, and 37.5% were aged 36-45. Most participants (68.8%) held master's degrees and respondents from both the academic and administrative divisions were equally represented. 62.5% held operational or middle management positions, 25% held senior leadership roles, and the majority (43.8%) had worked 3-5 years.

Ethical approval was obtained from a University in Uganda (approval: MAKSSREC 05.2024.740/AR on July 12, 2024), and the Uganda National Council for Science and Technology (Ref: SS2972ES on August 22, 2024). The survey respondents completed an online consent form, while the interview subjects signed the printed consent documents. Participants were assured of confidentiality and anonymity through pseudonyms (University X/Y/Z) for the target institutions. Participation was voluntary, with the right to withdraw at any time. These measures ensured ethical research compliance.

Materials

A structured closed-ended questionnaire was used to gather quantitative data, and a semi-structured interview guide was used to obtain qualitative data.

A Demographic and Contextual Information Scale

The questionnaire comprised a detailed section on demographic and contextual information, capturing variables such as university affiliation, age, gender, highest educational attainment, department, job position, and length of tenure in the current role. These variables provided crucial background data for profiling respondents and served as covariates in the analysis, given their potential influence on HCMS use. Age was categorized into ordered ranges (18–25, 26–35, 36–45, 46–55, 56–65, and above 65 years) and analyzed as an ordinal variable, while gender was coded as binary (male and female). Educational attainment was measured as an ordinal variable with six categories (certificate, diploma, bachelor's degree, postgraduate diploma/professional course, master's degree, and doctorate). Department was treated as a nominal variable, representing the respondent's functional unit within the university (e.g., academic, administration, finance, human resources, ICT, library, estates, or other). Position was measured as an ordinal variable with six hierarchical categories (top management, senior management, middle management, supervisor/team lead, operations/support staff, and intern), and tenure in the current position was also considered to be an

ordinal variable, categorized into six groups (1–2 years, 3–5 years, 5–10 years, 10–15 years, 15–20 years, and over 20 years). The above variables were encoded as dummy variables to enable effective analysis.

Within the same section, digital literacy, internet accessibility, and HCMS experience (Lai, 2022; Venkatesh et al., 2003) were measured using single self-reported items on 5-point Likert-type scales. Digital literacy and HCMS experience were rated from 1 (*Extremely Inexperienced*) to 5 (*Highly Experienced*), while internet accessibility was rated from 1 (*Never*) to 5 (*Always*). These items captured the individual and infrastructural dimensions of HCM system readiness, reflecting the knowledge and infrastructure components of the POR construct (Augner, 2022; zur Kammer et al., 2025). While single-item indicators may limit detail, they suit exploratory studies where such variables serve as contextual enablers (Bergkvist & Rossiter, 2007).

Perceived Organizational Readiness and HCMS Use Scale

POR was evaluated using a four-item scale adapted from the facilitating conditions construct of the UTAUT model scale (Venkatesh et al., 2003). This scale measured how respondents viewed their institutions' preparedness and supportiveness in facilitating HCMS use by providing essential resources, infrastructure, and technical assistance. Participants expressed their level of agreement with each statement on a 7-point Likert scale, from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). An item evaluated was: *"My institution has provided me with the resources necessary to use this HCMS."*

HCMS use was assessed using a two-item scale derived from the behavioral intention component of the UTAUT model scale. This construct measured the degree to which the university staff actively engaged with the HCMS functionalities in their daily work activities. Respondents expressed their level of agreement with each statement on a 7-point Likert scale, ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). An item included was: *"I use this HCMS in my work."*

To ensure the reliability and validity of the above UTAUT scale-adapted items, a series of statistical analyses were performed. First, Cronbach's alpha coefficient was applied to ensure the instrument's reliability (Willis & Artino, 2013). The coefficients generated were 0.68 for perceived organizational readiness, following the removal of item POR3, which negatively impacted the scale's reliability, and 0.85 for HCMS use after reverse coding item 2. The limited applicability of POR3 (meant to assess users' perception of the HCM System's compatibility with other systems) could be attributed to the fact that most users had little exposure to cross-system integration functionalities and a low technical comprehension of the operation of backend procedures such as system compatibility. Additionally, as HCMS implementation is still in the early stages with users mainly interacting with key transactional modules (e.g., attendance, appraisal, and promotion) rather than integration functionalities, respondents were inadequately equipped to evaluate the compatibility dimension, leading to inconsistent responses and lower inter-item correlation. The retained items accurately reflected the core aspects of perceived organizational readiness—resource availability, institutional support, and knowledge access through training mechanisms for HCMS use.

The validity results of the retained adapted UTAUT scale items supported the construct validity, producing a dominant factor (eigenvalue = 1.27) explaining 63.3% of the variance. The convergent validity showed strong factor loadings (0.795) and communalities (0.485-0.875). The above modified UTAUT items were also evaluated for clarity and contextual relevance by three experts from Ugandan universities. Minor wording modifications were implemented to align with the local institutional nomenclature and the study's context, for instance, the emphasis of the study's system of focus being HCMS.

To enhance the study's validity and mitigate the diminished reliability as well as the effects of the single-item indicators above, the study also incorporated qualitative interviews aimed at exploring the study's aspects in greater detail. The interview guide explored institutional readiness, infrastructure, and

support systems in greater detail, enabling the triangulation of perceived organizational readiness factors in Ugandan public universities as well as identified other HCMS enablers.

Semi-structured Interview Guide

The semi-structured interview guide, informed by the quantitative data analysis, comprised sections related to user background characteristics, HCMS understanding, enabling factors, HCMS experience, level of digital literacy and additional perspectives on HCMS use. The guide also sought to gain deeper insights into the enabling factors that facilitate HCMS adoption. It included targeted questions aimed at evaluating HCMS enabling factors such as *"What would you consider the most important aspects your institution needs to put in place for you to effectively utilize the system?", "How do these factors propel you to use the HCMS?"* These questions were designed to investigate the critical HCMS enablers within and beyond those presented by the quantitative findings. Inter-coder reliability was assessed using Cohen's Kappa coefficient using ATLAS.ti, with three coders achieving a 0.84 Kappa score, indicating strong agreement.

Procedure

Quantitative data were collected using self-administered e-questionnaires via Google Forms, owing to its user-friendly interface, automatic data consolidation into Google Sheets, and the ability to collect data from dispersed populations without operational constraints. Respondents accessed the questionnaire via email and WhatsApp links. Based on the quantitative data, in-person interviews were conducted to gather qualitative data. Quantitative data were collected between November 2024 and February 2025, while qualitative data were collected between February 2025 and March 2025.

Data Analysis

The quantitative data were coded using SPSS (version 26). PROCESS macro Version 4.3 Model 2 (Hayes & Preacher, 2014) was employed to investigate the association between perceived organizational readiness and public university staff HCMS use as well as the moderating effects of age and HCMS experience. Gender, educational level, position, position length, and digital literacy level were included as covariates, as these factors were presumed to have the potential to affect the association between perceived organizational readiness and HCMS use.

Qualitative data were analyzed using ATLAS.ti version 7.5.18 to examine the contextual factors influencing HCMS adoption in Ugandan public universities. The interview transcripts were transcribed, categorized, and analyzed using a hybrid coding approach. Deductive codes, derived from the UTAUT framework and ICT adoption literature, included training, technical support, and infrastructure support. Inductive coding uncovered additional enablers such as positive attitude, end-user involvement, policy enactment, and system experience. ATLAS.ti's code-networking tools were used to link related codes into families, which were synthesized into thematic clusters representing organizational enablers.

Three coders independently analyzed the data, with the percentage agreement metric computed using ATLAS.ti's Inter-Coder Agreement tool. The derived average percentage agreement score of 0.84 (range = 0.80–0.88) indicated strong concordance. Discrepancies were then resolved through consensus meetings. The final analysis yielded four themes: 1) policy and institutional support (stakeholder policy enactment, end-user participation), 2) infrastructure and technical support (reliable ICT infrastructure, internet reliability, training), 3) system characteristics (effectiveness, user-friendliness, time-saving capability, performance enhancement), and 4) user background characteristics (system-use experience and positive attitude). These themes reflected both perceived organizational readiness dimensions (Venkatesh et al., 2003) and enabling factors unique to the Ugandan higher education context.

Results

Descriptive Statistics

Table 1 presents the descriptive statistics and inter-variable correlations, including the means and standard deviations for all study variables. Several variables exhibited significant correlations. Higher education levels were positively associated with both digital literacy (r = .562, p < .01) and position (r = .410, p < .01), suggesting that more educated staff tended to occupy higher roles and possess stronger digital skills. POR showed significant positive associations with education (r = .286, p < .01), digital literacy (r = .384, p < .01), and HCMS experience (r = .354, p < .01), implying that employees' perceptions of their organization as well-prepared and supportive are associated with increased digital literacy, experience, and thus engagement with HCMS. Similarly, HCMS use was significantly correlated with position (r = .136, p < .01), HCMS experience (r = .181, p < .01), and POR (r = .266, p < .01), highlighting that greater experience, higher job position, and stronger perceptions of organizational readiness could contribute to increased adoption of HCMS functionalities.

In contrast, age and position length displayed small negative correlations with digital literacy (r = .258, p < .01; r = .353, p < .01, respectively) and POR (r = .167, p < .01; r = .227, p < .01) implying that older and longer-serving employees are likely to encounter greater difficulties in adapting to digital systems, leading to diminished digital literacy and less favorable perceptions of organizational readiness. Overall, most relationships were statistically significant, highlighting digital literacy, experience, and organizational readiness as key factors influencing HCMS use.

Table 1

Descriptive Statistics and Inter-correlations of Variables

Variables	*Min*	*Max*	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. HCMSUse	1	7	4.73	1.71	-	.27**	.18**	-.13*	-.12*	.14*	.06	-.02	-.13*
2. POR	1	7	4.74	1.38		-	.38**	.35**	-.23**	.12*	.29**	.01	-.17**
3. DigitalLit	1	5	3.68	1.00			-	.41**	-.35**	.16**	.56**	-.14**	-.26**
4. HCMSExp	1	5	3.37	.96				-	-.07	.18**	-.09	-.09	-.06
5. PosLength	1	6	3.18	1.69					-	-.34**	-.01	-.01	.60**
6. Position	1	6	2.31	.82						-	-.34**	-.08	.13*
7. Education	1	6	3.41	1.85							-	-.10	-.17**
8. Gender	1	2	1.43	.50								-	-.02
9. Age	1	6	3.38	1.02									-

Note. *Correlation is significant at the 0.05 level (2-tailed), **Correlation is significant at the 0.01 level (2-tailed).

HCMS Use

Regarding HCMS use, most respondents (39.6%) reported having interacted with the appraisal function, followed by attendance (35.8%) and promotion (7.1%). The leave function, not initially a primary focus of the study, emerged as an occasionally used HCMS function, accounting for 17.6% of the usage. Frequent combinations of HCMS function use included attendance and appraisal (12.3%) and attendance, appraisal, and leave (11.5%).

In terms of user friendliness, attendance received the highest ranking, at 59.3%, followed by appraisal at 29.8%, leave at 6.8%, and promotion at 4.1%. The appraisal function was also considered the least user-friendly, with a rating of 61.9%, followed by attendance at 14.9%, promotion at 14.9%, and leave at 8.3%. Among the participants, 40.9% had moderate HCMS experience, 31.2% were highly inexperienced, and 12.4% reported extreme experience. Regarding digital literacy, 39.0% were extremely digitally literate, 27.3% were

moderately digitally literate, and 21.8% were highly digitally literate. Regarding institutional internet access, 30.7% had access most of the time, 27.9% sometimes, and 24.6% always.

Inferential Statistics

Table 2 presents the regression results illustrating the direct and moderating effects of effort expectancy, age, and HCMS experience on HCMS use among staff in Ugandan public universities.

Table 2

Regression Model for Effects on HCMS Use

Predictor	***B***	***SE***	***t***	***95% CI***	
				LLCI	***ULCI***
Constant	5.116	0.659	7.764***	3.820	6.412
Perceived Organizational Readiness (POR)	0.292	0.071	4.119***	0.152	0.431
Age	−0.200	0.112	−1.783	−0.421	0.021
HCMS Experience	0.253	0.102	2.490*	0.053	0.453
Gender	−0.066	0.176	−0.376	−0.413	0.280
Education Level	−0.051	0.062	−0.829	−0.172	0.070
Position	0.310	0.124	2.504*	0.066	0.553
Position Length	−0.032	0.070	−0.463	−0.170	0.105
Level of Digital Literacy	−0.205	0.118	−1.744	−0.437	0.026
POR × Age	0.018	0.063	0.287	−0.105	0.141
POR × HCMS Experience	0.061	0.066	0.920	−0.069	0.191
Model summary	R^2 = .118, $F(10, 351)$ = 4.70***				
ΔR2 due to POR × Age	ΔR^2 = .000, $F(1, 351)$ = 0.08, p = .774				
ΔR2 due to POR × Experience	ΔR^2 = .002, $F(1, 351)$ = 0.85, p = .35				
BOTH	ΔR^2 = .002, $F(2, 351)$ = 0.44, p = .644				

*p < .05; **p < .01; ***p < .001

PROCESS Macro Version 4.3 (Model 2) was applied to examine the influence of perceived organizational readiness on HCMS use among staff in Ugandan public universities. The findings indicated a significant positive association between perceived organizational readiness and HCMS use (β = .292, p < .001, 95% CI [152, .431]), with the unstandardized coefficient indicating that a one-unit increase in perceived organizational readiness corresponds to an approximate increase of 0.29 units in HCMS use. The overall regression model demonstrated statistical significance

(R^2 = .118, $F(10, 351)$ = 4.70, p < .001), meaning that perceived organizational readiness explained 11.8% of the variance in HCMS use. These findings suggest that the more staff perceive their institutions to have the capability of providing ICT enabling factors such as infrastructure, knowledge access, and organizational support, the more likely they are to adopt HCM systems. Thus, the first hypothesis was supported.

The interactive effect of perceived organizational readiness and age on HCMS use was found to be non-significant (β = .018, p = .774, 95% CI [–.105, .141]), indicating that age does not substantially change the relationship between perceived organizational readiness and HCMS usage. Thus, the second hypothesis was not supported.

The interaction between perceived organizational readiness and HCMS experience with HCMS use was found not to be statistically significant (β = .061, p = .359, 95% CI [–.069, .191]), highlighting that whether university staff are highly experienced with using HCM systems does not substantially alter the relationship

between perceived organizational readiness and HCMS utilization. Thus, the third hypothesis was not supported.

Qualitative Analysis Results

Table 3 presents the qualitative findings of the study. In reference to Table 3 belove, the qualitative analysis employed a hybrid coding approach that combined deductive and inductive strategies. Deductive codes were developed from previous literature and the UTAUT constructs (Fettermann & Calegari, 2024; López-Rodríguez & Rodríguez-Calderón, 2024; Wang et al., 2025). These included training, technical support, and favorable infrastructure. The inductive codes were then generated from the participants' accounts of their lived experiences. These generated codes were then systematically categorized into broader themes, grouping conceptually related items to generate four key themes.

Table 3

Qualitative Analysis Results

Theme	Code/Enable	Number of Responses	Quotation
Policy and Institutional Support	Stakeholder policy enactment	6	"I use the system because it's mandated by policy" (Head of Department - Psychology, University Y). "Do or die" (ICT Personnel, University X).
	End-user involvement	2	"Universities lack constant engagement with the staff concerning new systems" (Administrative Staff, University Z).
Infrastructure and Technical Support	Functional ICT gadgets	3	"Without a computer, it's difficult to use it" (University Secretary, University Y).
	Internet connectivity	8	"With the internet, it's easy to access the system" (Head of Department of Mechanical Engineering, University Y).
	Sufficient technical assistance	6	"Using the system is not a problem when someone is there to train you on what to do..." (Academic Staff, University Z).
	Training	10	"After the training, I found no issues with it" (ICT Personnel, University Z).
System Characteristics	System effectiveness	15	"It does what it's meant to do and makes my work easy..." (Academic Staff, University Z).
	System User-friendliness	16	"I use the Biometrics part of the system because it is the easiest to use; you just stand and are able to get feedback" (Dean of Students, University X).
	Improved performance ability	6	"It helps you accomplish your work better" (Academic Staff, University Z).
	Time-saving factor	11	"The system is effective, transparent and saves time" (Principal – College of Humanities and Social Sciences, University Y).
User background characteristics	Experience with system usage	7	"If you have been interacting with the system for a year, you're far different from one who began recently" (Academic Staff, University Y).
	Positive attitude	5	"It's just change of attitude... in this era you cannot do away with technology" (University Secretary, University Z)

Policy and Institutional Support

Respondents identified policy and institutional support as critical to the implementation of HCMS. For instance, one Head of Department commented, *"I use the system because it's mandated by policy"* (University Y), highlighting the impact of policy on compliance. In relation to this theme, some respondents also noted

a lack of staff engagement, as evidenced by the remark, *"Universities lack continuous interaction with the staff regarding new systems"* (Administrative Staff, University Z), implying that while policy enforcement may initiate HCMS adoption, it does not guarantee long-term adoption. For users to feel engaged in the system's implementation, participatory change management and continuous dialogue with leadership are still required (Leso & Cortimiglia, 2021; Parra-Sánchez et al., 2021; Wang & Wang, 2024). This highlights that implementing inclusive policies grounded in shared ownership and feedback mechanisms is crucial for the sustained adoption of digital technologies.

Infrastructure and Technical Support

This theme indicates that technological readiness and institutional support systems are critical for adoption. Participants highlighted that the availability of devices, reliable internet, and technical assistance significantly influenced their capacity to use HCMS effectively. The statements from the University Secretary and the Head of Department at University Y highlight the facilitating function of the technology infrastructure: *"Without a computer, it's difficult to use it"* and *"With the internet, it's easy to access the system."* Similarly, the statement, *"After the training, I found no issues with it"* (ICT Personnel, University Z) highlights the significant impact of digital skills training as it provides end users with the necessary knowledge and skills needed to adopt the system. The findings correspond with the facilitating conditions construct of UTAUT (Venkatesh et al., 2003), indicating that institutional investment in infrastructure and training improves user competence, confidence, and satisfaction, thus increasing their likelihood of adopting the system (Almazroi, 2023).

System Characteristics

This theme examined user perceptions regarding usability, efficiency, and performance. Participants characterized the system as reliable and efficient, stating, *"It fulfills its intended purpose and facilitates my work"* (Academic Staff, University Z) and *"I utilize the Biometrics component because it's the simplest; you just stand and receive feedback"* (Dean of Students, University X). These accounts align with effort expectancy and performance expectancy, highlighting that when systems are easy to use and accomplish the tasks they are meant to accomplish, they are likely to be adopted (Venkatesh et al., 2003). In alignment with the findings of Almazroi (2023), Naatu et al. (2024), and Venkatesh et al. (2008), respondents also identified user-friendliness, time-saving advantages, and performance improvement as key HCMS enablers. These perceptions indicate that effective system design and clear utility can drive digital system adoption and are essential for enhancing behavioral intention and sustaining long-term engagement.

User Background Characteristics

Experience and attitude were identified as critical factors. A university secretary stated, *"It's just a change of attitude... in this era you cannot do away with technology."* (University Z), highlighting the significance of psychological readiness and optimism in overcoming technical or structural obstacles to use technology. Another academic also noted, *"If you have been interacting with the system for a year, you're far different from one who began recently"* (University Y), positioning experience as a developmental facilitator rather than a fixed moderator, highlighting that if one has used a system for an extended period of time, they are likely to easily adopt it. The findings align with the experiential learning theory (Kolb, 1984) and support the notion that familiarity and a positive attitude contribute to increased confidence and self-efficacy, thus driving system adoption (Granić, 2022; Hecklau et al., 2016; Neves et al., 2022).

Discussion

The above findings demonstrate generally low levels of HCMS adoption and significant variations in user experiences, digital literacy, and internet accessibility that may adversely impact HCMS adoption (López-Rodríguez & Rodríguez-Calderón, 2024; Timbula & Marvadi, 2023). The underutilization of key modules, such as promotion and leave, along with the predominance of appraisal and attendance functions, indicates that users are mainly utilizing the most necessary or institutionally required aspects that pertain to their job security and promotion, leaving the system's strategic capabilities underutilized. The many respondents who rated functions such as appraisal as the least user-friendly highlight usability issues that could hinder wider system adoption (Sari et al., 2024; Sengkalit et al., 2025). Additionally, large disparities in internet access and digital competency indicate organizational adoption constraints. These limitations must be addressed to enhance the adoption of HCMS.

The quantitative findings revealed that perceived organizational readiness significantly and positively influences HCMS use in Ugandan public universities. This correlates with the UTAUT theory's claim that facilitating conditions (which has been conceptualized as perceived organizational readiness in this study) significantly influence technology adoption (Venkatesh et al., 2003). The findings suggest that HCMS end-users are more inclined to utilize HCM systems when they perceive that their institutions possess and can provide enabling factors, specifically organizational support, training resources to provide knowledge, and dependable infrastructure, and are therefore ready for HCMS adoption. This is in tandem with recent studies (Kim et al., 2024; López-Rodríguez & Rodríguez-Calderón, 2024; Timbula & Marvadi, 2023; Vaithilingam et al., 2022; Wang et al., 2025) that also affirmed the significance of perceived organizational readiness in technology adoption.

The insignificant moderating effects of age and HCMS experience indicate a substantial divergence from the initial UTAUT assertion that these variables influence technology adoption (Venkatesh et al., 2003). This finding can be attributed to the contextual reality of Ugandan public universities, where HCMS adoption was found to be in its infancy and exposure levels were consistently low. Due to this, the majority of staff, regardless of age or previous experience with the system, were still acquiring knowledge of the system; thus, the anticipated diversity in usage among the demographic groups was negligible. Additionally, in this uniform context, the typical age- or experience-related disparities in technology use could not be completely realized. Furthermore, the organizational mandates necessitating all personnel to execute specific duties through the HCMS are likely to have standardized usage patterns, hence diminishing opportunities for individual discretion.

The above institutional dynamics, along with measurement constraints such as wide age groups and self-assessed experience levels, may also have masked any nuanced interaction effects. In agreement with previous research (Fettermann & Calegari, 2024; Wong et al., 2015), indicating comparable null moderations, these results imply that age and experience are not universal moderators but rather context-dependent variables whose impact diminishes under significant structural limitations. However, they contradict previous studies that highlight age (Kim & Ho, 2021; Garg, 2021) and experience (Bervell & Umar, 2017; Tsai, 2021) as key moderators. In this context, other variables such as organizational culture and policy enforcement could have had a more significant impact than demographic features, suggesting that when enabling conditions and mandates are established, users of all ages and experience levels benefit uniformly. Therefore, initiatives to bolster digital adoption should prioritize the enhancement of infrastructure, training, institutional support and other enabling factors universally, rather than concentrating on particular demographic groups.

However, it should be noted that the qualitative findings redefined experience from a simple moderator to a crucial enabler, implying that repeated exposure and practical application incrementally improved con-

fidence and competence. For instance, one respondent noted, *"If you have been interacting with the system for a year, you're far different from one who began recently"* (Academic Staff, University Y). Consequently, experience serves as a developmental avenue that enhances preparedness and sustained use, highlighting the significance of continuous training and experiential learning opportunities for all personnel in driving digital adoption (Granić, 2022; Kolb, 1984; Samuel, et al., 2025).

The qualitative data insights further validated the study's quantitative results and theoretical framework, highlighting that organizational support, knowledge access, and infrastructure posited by the UTAUT theory construct of facilitating conditions (Venkatesh et al., 2003) are key enablers of HCMS use in Ugandan public universities. The qualitative results highlighting the need for training, sufficient technical assistance, internet access, and functional ICT gadgets affirmed the relevance of these identified core adoption enablers.

In addition to the above factors, the study also identified additional enabling factors that influence HCMS use. These included stakeholder policy enactment, end-user involvement, system effectiveness, system user-friendliness, improved performance ability, time-saving benefits, experience with system usage, and positive attitude. These insights imply that beyond the enabling factors proposed by the UTAUT theory (Venkatesh et al., 2003), additional enabling factors exist that influence HCMS adoption.

The findings suggest that HCMS adoption is a complex socio-technical process influenced by organizational directives, infrastructural readiness, system usability, and user disposition. Policy and institutional support initiate usage, while infrastructure and training sustain it, and system quality and individual attitudes ensure continuity. The qualitative results also validate the UTAUT framework and expand its explanatory capacity to include enablers specific to African higher education contexts, namely policy enactment, participatory engagement, experiential learning, and attitudinal openness. These enabling factors suggest that ICT adoption enablers vary across institutional and cultural contexts and further support the expansion of the UTAUT framework to capture context-specific technology adoption aspects. Previous research also emphasizes the need to explore factors that extend beyond the UTAUT theory's original constructs (Ivanaj, 2023; Menant et al., 2021). The findings therefore imply that the previous UTAUT constructs may overlook context-specific influences and that the UTAUT framework (Venkatesh et al., 2008) should be reevaluated to develop models that cater to the current under-researched African higher education context.

Theoretical and Practical Implications

The study theoretically reinforces the UTAUT theory's core premise that perceived organizational readiness (facilitating conditions) strongly influences technology use, while enhancing the model in two principal ways. First, it redefines user experience as a strong enabling factor and not merely a moderator. Second, it presents a collection of additional enablers, comprising positive attitude, policy enforcement, experience and end-user engagement, which enhance the UTAUT framework to more accurately reflect the psychosocial and contextual dynamics of digital adoption in the African higher education context. These enhancements frame technology acceptance as both a behavioral outcome and a consequence of organizational culture, user motivation, and experiential learning.

From a psychological perspective, the findings also enhance UTAUT by incorporating psychosocial aspects such as the construct of perceived organizational readiness and identifying psychosocial contextual factors such as positive attitude, training and end user engagement that influence digital adoption in African higher education. They draw from the motivational theory, which posits that users' intrinsic motivation to embrace technology is enhanced by autonomy, competence, and institutional support (Deci & Ryan, 2000); the learning theory, which asserts that experiential engagement and feedback cultivate confidence and digital self-efficacy (Kolb, 1984; Samuel, et al., 2025) and the behavioral decision-making theory, which interprets

adoption as a cognitive process shaped by perceived control and organizational preparedness (Ajzen, 1991; Roberts et al., 2021). These viewpoints collectively frame HCMS adoption as a psychological process of motivation, learning, and reinforcement influenced by individual and organizational factors and highlight that establishing an environment that fosters users' motivation, continuous learning, and perceived autonomy can drive adoption.

The findings also emphasize the necessity for institutions to consistently invest in training and capacity-building to convert experience into confidence and proficiency, streamline system interfaces and workflows to enhance use and satisfaction, employ participatory implementation approaches that incorporate user feedback, and provide adequate infrastructure such as stable internet and reliable devices to support digital system use.

Additionally, institutions must harmonize enforcement with user engagement by integrating explicit policy directions with motivation, acknowledgement, and technical support in order to transform compliance into genuine commitment. These strategies collectively correspond with previous research indicating that organizational support, user engagement, and enabling infrastructure are critical for sustainable digital transformation (Kim, 2024; Timbula & Marvadi, 2023; Wang et al., 2025).

Limitations and Recommendations for Future Research

The study had the following limitations: The UTAUT's facilitating conditions scale adapted to measure perceived organizational readiness consisted of only three items after the deletion of one item to improve the scale's reliability ($\alpha = 0.68$). The omission of the system-compatibility component, albeit warranted by contextual irrelevance, significantly restricted the construct coverage. Future research may use disaggregated subscales measuring each construct aspect to improve validity and reliability. Likewise, the self-reported scales in the study may not have accurately represented real behavior. Triangulating the survey results with the system log metrics or other objective metrics could enhance the precision.

This study examined age and HCMS experience as moderators using broad categorical ranges, which may have limited the detection of subtle interaction effects. Low system usage in a mandatory adoption context may also have constrained the statistical power for identifying moderation patterns. While the predictors were mean-centered and analyzed using PROCESS Macro Version 2, alternative approaches such as multilevel modeling and structural equation modeling may provide better insights by accounting for nested data and latent constructs. Additionally, future research should use more granular measures of age and experience and examine settings with greater system usage variability to better understand digital adoption mechanisms in higher education.

The generalizability of the study is also limited by the study's scope, which encompasses three Ugandan public universities in the initial phase of HCMS implementation. Organizational culture and resource availability may vary among private institutions, nations, or system types. Future research should perform cross-institutional or cross-national comparisons to evaluate the robustness of the identified enablers.

The study's cross-sectional methodology allows for causal inferences at a single point in time. Longitudinal or experimental studies could reveal whether improved readiness resulted in longer system use over time. The mixed-methods paradigm improved interpretation, although integrating several data sources inevitably implies analytical tradeoffs. Subsequent research should build on this foundation through intervention studies (e.g., training trials) and a more in-depth examination of psychological mediators, such as trust, contentment, and organizational culture, in influencing digital adoption.

Conclusion

This study demonstrates the significance of the UTAUT theory in investigating HCMS enabling factors and the influence of perceived organizational readiness on HCMS use in Ugandan public universities. The study's findings also revealed the existence of additional HCMS enabling factors beyond those proposed by the UTAUT framework, reaffirming the importance of adapting the UTAUT theoretical framework to specific institutional and cultural contexts, as well as the need for strategic investment in enabling factors to improve HCMS adoption in Ugandan universities and drive overall digital adoption.

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AI Note In this work, AI was only used for grammatical correction and sentence refinement using the Grammarly checker tool. All written material is original to me and the research team, except where specifically cited.

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