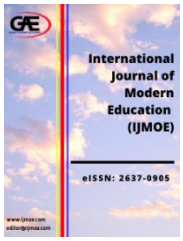
International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114



INTERNATIONAL JOURNAL OF MODERN EDUCATION (IJMOE)
www.gaexcellence.com/ijmoe

GLOBAL ACADEMIC EXCELLENCE

DEVELOPING AN INSTITUTIONAL DIGITAL ENGAGEMENT ECOSYSTEM IN ACCOUNTING EDUCATION: A QUALITATIVE CASE STUDY

Noor Hasniza Haron[1], Mazurina Mohd Ali[2]*, Dwi Fitri Puspa[3]

[1]Faculty of Accountancy, Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam, Selangor, Malaysia
hasniza3330@uitm.edu.my https://orcid.org/0000-0001-5046-3802
[2] Faculty of Accountancy, Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam, Selangor, Malaysia
mazurina@uitm.edu.my https://orcid.org/0000-0002-2877-3414
[3] Accounting Department, Faculty of Economics and Business, Universitas Bung Hatta, Indonesia
dwifitripuspa@bunghatta.ac.id https://orcid.org/0009-0007-5370-9370
*Corresponding Author

Article Info:

Article history:
Received date: 07.08.2026
Revised date: 25.08.2026
Accepted date: 09.09.2026
Published date: 22.09.2026

To cite this document:

Haron, N. H., Ali, M. M., & Puspa, D. F. (2026). Developing An Institutional Digital Engagement Ecosystem in Accounting Education: A Qualitative Case Study. *International Journal of Modern Education, 8*(31), 1100-1114.

Abstract:

Higher education programs are expected to develop students' digital capabilities by embedding digital skills within broader professional competencies and critical thinking frameworks. However, many accounting programs fail to prepare students to engage with the digital world in depth, despite significant investment in educational technologies. This study seeks to examine how an institutional digital engagement ecosystem can be developed in higher accounting education. A qualitative case study approach was adopted using document analysis of strategic plans, quality assurance reports, i-Score reports, community engagement reports, and other institutional documents from the Faculty of Accountancy, Universiti Teknologi MARA (UiTM). The documents were thematically analysed to identify antecedents, mechanisms and outcomes of digital engagement. The results show that institutional support, strategic alignment, digital infrastructure, stakeholder collaboration and professional accreditation are antecedents of digital engagement through experiential learning, digital innovation and collaborative learning mechanisms. These processes contribute to connected learning, critical document literacy, career readiness, graduate employability, and institutional excellence. Based on a sociotechnical systems approach and existing literature, the study builds an institutional digital engagement ecosystem to explain the social and technical factors in enhancing digital learning in accounting education. The findings help higher education institutions

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

understand how to enable digital transformation, and how graduates may operate in the changing profession.

DOI: 10.35631/IJMOE.831063

Keywords:

Digital Engagement, Accounting Education, Digital Transformation, Career Readiness, Graduate Employability

Introduction

The rapid proliferation of digital technologies has transformed higher education learning and teaching design, alongside delivery mechanisms. Key technologies in use in higher education today include learning management systems, cloud-based accounting software, virtual simulations, learning analytics, and collaborative digital services (Sharma et al., 2025) . The use of these technologies by universities beyond standard instructional settings can improve student engagement and learning, enable effective teaching, equip graduates for a digital economy, and provide another platform for engagement with stakeholders. Universities are therefore expected to evolve from simply adopting these technologies to building institutional ecosystems for effective, meaningful digital engagement with students, academics, industry, and professional bodies (Anvari et al., 2024).

Additionally, the need for institutional-level digital engagement in accounting education is becoming imperative, as the accounting profession is undergoing unprecedented transformation due to digitalisation, automation, big data analytics, artificial intelligence, blockchain, robotic process automation and cloud accounting technologies (Tiran-Tudor et al., 2022; Thanasas et al., 2026). Therefore, professional accounting bodies and employers require graduate accountants to have not only technical accounting knowledge and skills, but also digital, analytical, data literacy, collaborative, and technology-enabled skills. Thus, accounting education must shift from the conventional mode of content delivery to using digitally enhanced learning that aligns with the accounting profession's evolving work practices (Handoyo, 2024) . Therefore, universities have an important role to play in creating the right conditions for digital adoption in the educational process.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

Digital engagement is not just about students engaging with technology for learning. An institutional definition includes a complex interrelationship among strategic leadership, institutional policies, digital infrastructure, faculty capability, curriculum design, governance infrastructure, industry partnerships, and support services. Within these institutional antecedents, technology-improved and technology-mediated learning, collaborative digital learning spaces, learning analytics, assessment, and feedback result in educational outcomes such as student engagement, academic achievement, development of professional and employability skills, graduate readiness, and institutional performance. Despite growing interest in digital transformation in higher education, existing literature has predominantly examined digital engagement from the perspective of individual learners or technology acceptance. Relatively little attention has been devoted to understanding how higher education institutions systematically cultivate digital engagement as an organisational capability, particularly within accounting education. Specifically, how institutional, curricular, and stakeholder factors collectively develop such engagement still remains underexplored.

This research gap is especially relevant to Malaysian public universities like Universiti Teknologi MARA (UiTM), the largest public university in Malaysia and the primary provider of accounting education in Malaysia, which is positioned to produce accounting graduates for the nation's economic growth and the broader accounting profession. The programs at UiTM's Faculty of Accountancy have been aligned with professional certifications and national initiatives (such as the Malaysia Education Blueprint (Higher Education), the Higher Education Digitalisation Agenda, and the Malaysia Digital Economy Blueprint (MyDIGITAL)). UiTM's heavy investment in digital learning technologies, learning ecosystems and cloud computing systems, and collaborative partnerships with various industries has improved the quality of education and employability of its graduates. However, for digital transformation to be sustained, an integrated institutional ecosystem is needed to promote deeper and more sustainable digital transformation, covering leadership commitment, faculty digital capability, digital governance, curriculum, learning support and industry partnerships.

Grounded in sociotechnical systems theory, this study argued that successful organizations achieve a balance and reciprocal interaction between social factors (people, leadership, organizational culture and collaboration) and technical factors (digital technologies, infrastructure and information systems). Meaningful digital engagement in accounting education cannot simply be achieved through adoption of digital technologies, rather, it requires an integrated interaction of institutional, student, faculty, curriculum and digital platform components. Hence, sociotechnical systems theory is a suitable theoretical lens through which to understand the effect of institutional antecedents in driving digital engagement and subsequently achieving positive student outcomes. In this paper, an institutional digital engagement ecosystem is also proposed to support the theoretical framework. Combining research on digital transformation, student engagement, organizational capabilities, and higher education ecosystems, this paper conceptualizes and operationalizes digital engagement as a higher education institutional capability consisting of antecedents, enabling mechanisms, and educational outcomes. It further explains how higher education institutions build digital engagement capabilities to create value for student learning, faculty productivity, institutional performance, and graduate employability. The case for a shift from individual adoption of technology to institutional technology capabilities contributes to the new research stream of digital transformation in accounting education and has implications for future research and institutional policies.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

Literature Review

Institutional digital engagement is particularly important, specifically for UiTM because the university educates a diverse and large population of accounting students across multiple campuses throughout Malaysia. Preserving consistent educational quality, ensuring equitable access to digital learning resources, supporting faculty innovation, and enhancing graduate competitiveness require coordinated institutional strategies rather than isolated technological initiatives (Pasi & Dhamak, 2026). Moreover, employers increasingly seek graduates who can effectively utilise cloud accounting platforms, artificial intelligence applications and data analytics tools in professional practice. Establishing a comprehensive institutional digital engagement ecosystem will therefore enable UiTM to better prepare future accountants for the evolving demands of Industry 4.0 and Society 5.0 while reinforcing its position as a leading institution for accounting education in Malaysia.

Digital engagement is conceptualised in contemporary literature as a highly dynamic, situational state of energy investment, involving the simultaneous allocation of physical, affective, and cognitive energies toward a focal stimulus or task (Nahum-Shani et al., 2022). Far from being a static trait, this engagement systematically ebbs and flows based on distinct activities (Nahum-Shani et al., 2022). Understanding what drives students' investment in digital engagement requires examining a range of interconnected antecedents. In professional accounting education, active digital engagement does not occur naturally: rather, it is preceded by deliberate institutional, structural, and curricular antecedents designed by accounting schools.

Sociotechnical Systems Theory

The theory of sociotechnical systems (STS) builds on the premise that organisations perform best when their social subsystems (people, organizational culture, leadership, communication and teamwork) optimally operate with their technical subsystems (technology, infrastructure, information systems and work design) (Ropohl, 1999). In contrast to seeing technology as a factor that exists as an independent determinant of organizational success, STS theory sees technology in itself as only adding value when complemented by human abilities and organizational conventions (Appelbaum, 1997). STS theory provides the theoretical foundation for explaining how digital engagement is developed within an institutional accounting education environment.

Due to the complexity of the digital learning environment, STS theory has been proposed as a powerful theoretical framework for the digital transformation of higher education, in which digital technologies, institutional leadership, lecturers' digital capabilities, curricula, students' adoption of digital technologies, and organizational infrastructures for digital learning are considered. The mere adoption of learning management systems, artificial intelligence applications, cloud-based accounting tools and digital learning environments does not result in improved educational quality. Universities must create an environment in which technology provision is supported by good governance, professional development opportunities, communities of practice, and engagement from all stakeholders (Wawak et al., 2024; Ukeje et al., 2024). Consequently, digital engagement emerges from the interaction between social and technical elements, rather than from technology adoption alone.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

The application of STS theory is particularly relevant to accounting education because the accounting profession is undergoing rapid digital transformation (Eulerich et al., 2022). In addition to traditional accounting knowledge, professional accountants are increasingly expected to possess competencies in digital technologies, cloud accounting, data analytics, digital communication, and artificial intelligence. Therefore, higher education institutions play a significant role in preparing graduates who can operate within digitally enabled professional environments (Goulart et al., 2022). From an STS perspective, accounting education should be viewed as an integrated ecosystem in which institutional policies, faculty capability, digital infrastructure, student participation, professional accreditation and industry collaboration collectively shape students' digital learning experiences and career readiness.

Accordingly, the study conceptualises antecedents as the institutional and technical conditions that enable digital engagement, mechanisms as the socio-technical processes through which these conditions are translated into active engagement, and outcomes as the educational and professional consequences of this interaction. Therefore, STS theory provides the theoretical foundation for explaining how the alignment between social and technical elements enables higher education institutions to create sustainable digital engagement ecosystems that enhance student learning and graduate employability within accounting education.

From this perspective, institutional support without appropriate digital infrastructure may constrain digital engagement, while sophisticated technology without faculty capability, student participation or appropriate pedagogical design may also fail to produce meaningful learning. Digital transformation, therefore, requires alignment among the human, organisational and technological elements of the educational system. This STS perspective provides the theoretical basis for the Institutional Digital Engagement Ecosystem proposed in this study.

Research Methodology

This study adopted a qualitative case study approach using institutional document analysis to examine how digital engagement has been institutionalised within the Faculty of Accountancy at Universiti Teknologi MARA (UiTM), Cawangan Selangor, Kampus Puncak Alam, Selangor, Malaysia. The unit of analysis was the institutional documentation relating to strategic planning, quality assurance, digital initiatives, community engagement and educational outcomes.

The documentary dataset comprised one main institutional document, comprising the Faculty Strategic Plan, i-Score reports, ICAN reports, community engagement reports and other related reports that contributed to the administrative and quality records of the faculty. The most recent administrative and quality report from the year 2025 was chosen because these documents provided empirical evidence of the faculty’s digital learning initiatives, institutional performance, stakeholder engagement activities, and graduate-related outcomes.

The documents were analysed using thematic analysis. First, the researchers familiarised themselves with the complete documentary dataset and identified text that referred to institutional resources, policies, infrastructure, curriculum, faculty capability, student participation, industry engagement, professional requirements, digital learning activities, and educational outcomes. Second, relevant documentary evidence was assigned initial descriptive codes that represented the content of each evidence segment. Third, conceptually similar codes

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

were compared and grouped into broader categories. For example, references to institutional policies, strategic alignment, funding, and administrative support were grouped under institutional support; references to software, applications, and digital platforms were grouped under digital infrastructure; and references to experiential projects, digital collaboration, and training were grouped under digital engagement mechanisms. The categories were subsequently reviewed against the complete dataset and organised into three higher-order analytical themes: (i) antecedents, (ii) mechanisms, and (iii) outcomes.

Data Analysis

The administrative and quality reports of the Faculty of Accountancy provide rich, real-world case evidence on how digital engagement is planned, operationalised, and measured within a professional accounting education ecosystem. By analysing the faculty's strategic initiatives reports, the findings surrounding the antecedents, mechanisms, and outcomes of digital engagement in accounting education can be synthesised as follows:

Antecedents of Digital Engagement

Antecedents represent the foundational conditions, institutional support, and resources that facilitate meaningful digital engagement among accounting students and educators. These include access to digital technologies, digital literacy, institutional initiatives, and learning opportunities that prepare students and educators to engage effectively in digital learning environments.

Structured Digital Engagement Learning Opportunities

Fostering digital self-efficacy requires departments to design structured, hands-on learning opportunities within the formal curriculum (Kahne & Bowyer, 2019). This enables students to develop the confidence and competence to effectively use digital technologies for learning, problem-solving, collaboration, and professional accounting tasks within the formal curriculum. In an accounting program, this involves providing explicit, classroom-based instruction in which students learn to use, create, and share digital financial models, tax platforms, and audit databases, while discussing professional perspectives in collaborative online spaces (Kahne & Bowyer, 2019).

Pedagogical Alignment to Prevent the "Gap"

Curricular design must be dynamically aligned to prevent a mismatch between student expectations and traditional classroom environments (Hietajärvi et al., 2020). Rigid, conventional, and teacher-centred instruction often alienates tech-savvy students (Hietajärvi et al., 2020). Most students entering universities are digital natives who are accustomed to interactive, technology-rich environments where information is readily accessible, communication is immediate, and learning is participatory rather than passive. When teaching relies primarily on one-way lectures, rote memorisation, and limited student interaction, learners may perceive the learning experience as disconnected from their daily digital experiences and future professional environments. To counter this socio-technical "gap," accounting schools must transition from textbook-centred teaching toward collaborative, technology-enhanced, and inquiry-based digital learning practices (Hietajärvi et al., 2020).

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

Provision of Formal Support Networks

Establishing robust institutional help desks, software orientations, and peer-to-peer tutoring systems serves as a critical antecedent to the adoption of complex systems (Helsper & van Deursen, 2017). While low-resource users typically rely on informal support from friends or family, higher-resource professional cohorts leverage structured, formal networks (IT experts, colleagues, and institutional workshops), which significantly increase the quality and complexity of their digital interactions (Helsper & van Deursen, 2017).

Student Involvement and Co-Creation

Adapting organisational change models to the academic context highlights the importance of involving all stakeholders as active co-creators in transforming the digital curriculum. Rather than being passive recipients of institutionally imposed technologies, students and educators should actively participate in shaping the digital learning environment through collaborative initiatives, such as user–developer workshops and joint "as-is" and "to-be" analyses of accounting software. This participatory approach serves as a critical antecedent that enhances satisfaction with technology, builds trust in digital systems, and promotes greater acceptance of educational change (Ullrich et al., 2023). Consequently, digital transformation in accounting education is more likely to succeed when stakeholders are empowered to contribute to the design, implementation, and continuous improvement of digital learning experiences.

From the perspective of sociotechnical systems theory, institutional support represents the organisational component that enables individuals to effectively utilise digital technologies. Without adequate institutional coordination, technological resources alone are unlikely to generate meaningful digital engagement. For example, the Faculty of Accountancy, UiTM, has implemented community engagement initiatives that promote digital accounting literacy among underserved communities. Recognising that many participants have limited access to accounting resources and digital training, the faculty developed interactive digital tools, such as the mobile-friendly iAsnaf ACT accounting and taxation application and the Accounting Card Challenge gamified learning application. These initiatives are designed to match participants' existing digital literacy levels, thereby reducing barriers to digital learning and supporting meaningful engagement with accounting knowledge.

Furthermore, the Faculty of Accountancy, UiTM is aligned with the overall university strategy and governance. High-level university objectives, such as "Globally Marketable" and "Globally Respected" (UiTM's strategic objectives), provided a primary driver for the relative ease of the faculty's design and implementation of digital engagement initiatives. Faculty alignment towards the UiTM planned objectives further secured institutional commitment to, and prioritization of faculty resources. The material inputs include financial grants and sponsorship from international and national banks such as Maybank Islamic and the Malaysian Commission for UNESCO, which are spent on developing digital applications and logistics support for training programs conducted by the students.

Furthermore, the students' digital literacy skills are influenced by professional and industrial perspectives. The standard syllabi recommended by the Malaysian Qualifications Agency (MQA) and professional bodies such as the Malaysian Institute of Accountants (MIA) are other antecedents that influence the technical and practice-oriented skills integrated into the faculty's digital systems.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

Mechanisms of Digital Engagement

Mechanisms explain the specific interactive pathways, technologies, and experiential systems through which students and faculty actively engage with digital concepts.

Elevating the Degree of Employee Involvement and Participation

Organisations frequently fail to drive digital engagement because they limit their communication to top-down, transactional information provision (Tong & Chan, 2023; Ullrich et al., 2023). To foster genuine engagement, organisations must implement intervention formats that actively transition all stakeholders (Ullrich et al., 2023). For instance, involving stakeholders directly in the design and decision-making phases of digital tools (e.g., deciding on process layouts or selecting platform features). Users can also be granted autonomous control over specific digital tasks rather than being micromanaged in their use of tools. This decentralisation of decision power leverages localised knowledge and significantly boosts intrinsic motivation to engage with new platforms (Ullrich et al., 2023).

Activating Structured Collaboration

From an ecosystem perspective, digital engagement is maximised when organisations design collaborative environments that enable participants to share and integrate knowledge across functional boundaries (Ning et al., 2026). Organisations can set up user-developer workshops, inter-disciplinary product/service development groups, and cross-company learning networks to stimulate knowledge exchange (Ullrich et al., 2023). Organisations should foster relational trust and mutual support online, but remain cautious of over-embeddedness (Ning et al., 2026).

Upskilling and Modular Learning

Rather than overwhelming employees with massive, complex technology overhauls, organisations should implement phased, modular training and simulation-based learning to lower the perceived barriers to entry (Oyuga et al., 2026). Establishing clear peer-to-peer mentoring programs and appointing "internal champions" who can demonstrate context-specific, practical value to their teams (Oyuga et al., 2026). Creating dedicated, low-stakes spaces where participants can openly share lessons learned and digital trial-and-error without fear of negative evaluation (Ullrich et al., 2023).

The digital engagement in the Faculty of Accountancy, UiTM is mediated through interactive gamification tools like the *Accounting Card Challenge* app, available on mobile app stores and social platforms (Facebook), which helps students actively master financial concepts outside traditional lecture settings. Rather than practising in isolation, students are engaged as real-time monitors and consultants for local micro-entrepreneurs using the Real-World Software Deployment (*iAsnaf ACT)* accounting and taxation application. This connects classroom instruction to live web-based accounting systems, such as *Hitung Untung* and *STOM*.

The integration of digital platforms into experiential service learning (SULAM) programs serves as a powerful engagement mechanism. Accounting students actively analyse local and international small and medium enterprises (SMEs), using digital tools to map, interview, and propose business improvement strategies. Additionally, under the *FACTrepreneurial* project, students are exposed to digital entrepreneurship mechanisms through *BizStart 2.0*. This

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114
involves hands-on digital business registration via Go-eCommerce, utilising financial literacy models, and interacting with industrial mentors.

Outcomes of Digital Engagement

When institutional antecedents are aligned with optimised cognitive and interactive mechanisms, digital engagement in accounting education produces multi-dimensional outcomes:

Connected Learning vs. Academic Disengagement

In accounting education, successful alignment between students' digital learning preferences and digitally enriched teaching practices promotes *connected learning*, whereby students' self-regulated, interest-driven digital learning preferences are meaningfully integrated into the formal curriculum. Such alignment strengthens students' motivational and cognitive resources, thereby fostering sustained academic engagement and deeper learning (Hietajärvi et al., 2020). In contrast, the *gap hypothesis* argues that when digitally oriented students are exposed to conventional, teacher-centred instruction with limited opportunities to engage with digital tools or authentic accounting technologies, a socio-technical mismatch occurs. This disconnect weakens students' motivation and sense of belonging, ultimately leading to lower academic engagement, disengagement from digital learning activities, and feelings of alienation (Hietajärvi et al., 2020).

Critical Document Literacy

Sophisticated digital engagement develops multi-dimensional digital competencies (creative, social, critical, and technical) and elevates digital self-efficacy, which is a far stronger predictor of complex online performance than basic operational software skills (Helsper & Eynon, 2013). Rather than exhibiting naive trust in automated search engine results or unverified software outputs, digitally literate graduates develop critical document literacy, enabling them to evaluate complex electronic sources, verify the origins of data, and engage in strategic financial decision-making (Helsper & Eynon, 2013; Salza & Samuel, 2025; Tsegaye Kassa, 2026).

Career Readiness

Exposing students to direct, hands-on, and utilitarian digital experiences (such as online transaction tools, real-world databases, and e-commerce platforms) leads to substantial gains in awareness of digital transformation and satisfaction (Jo & Ahn, 2024). This aligns with professional change goals, resulting in high acceptance of transformation, proactive knowledge exchange, and increased workplace readiness among technology-driven firms (Jo & Ahn, 2024).

As for the academic, career, and socio-economic outcomes through the practical utilisation of accounting software under faculty supervision (iAsnaf ACT) alongside digital entrepreneurship training have improved the capacities of local asnaf and B40 micro-entrepreneurs. For example, BizStart incubator enrollment raised the number of community participants reporting their ability to prepare their own financial budgets by 60%.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

The experiential digital education at the Faculty of Accountancy allows for enhanced career opportunities for students, resulting in a higher employment rate (96.1%) for the graduating students, as well as a higher percentage (12%) of first-degree graduates in the cohort securing high starting salaries, the largest in UiTM's Business and Management cluster. The project's successful engagement with the industry allows for technology transfer through registering the cases as MyIPO and placement into the Google Play Store to close the academia-industry loop. This initiatives bridge the academic research, commercial capability by leveraging digital tools through structured mechanism.

These digital innovations have also earned the Faculty of Accountancy several prestigious institutional-level recognitions, namely the Anugerah Khas Timbalan Naib Canselor ICAN Platinum (Faculty Category) , Anugerah Pelan Tindakan Strategik Terbaik, and several years of achieving a 6-Star rating and a score above 94% in the university i-Scores.

Table 1 below summarises the key student-level outcomes of digital engagement in accounting education. These outcomes are categorised into three complementary dimensions: connected learning and academic engagement, critical document literacy, and career readiness.

Table 1 Student-Level Outcomes of Digital Engagement in Accounting Education

Outcome	Definition	Indicators	Examples
Connected Learning and Academic Engagement	Students meaningfully integrate digital technologies with accounting knowledge through authentic, collaborative, and self-directed learning experiences, leading to sustained academic engagement.	• Academic engagement • Motivation to learn • Self-directed learning • Application of accounting knowledge • Sense of belonging	• Student-developed accounting software (iAsnaf ACT) • Digital entrepreneurship projects (BizStart) • Real-world community engagement using digital accounting solutions
Critical Document Literacy	Students develop the ability to critically analyse, create, evaluate, and communicate accounting information using digital technologies and professional accounting systems.	• Digital financial reporting skills • Critical evaluation of accounting documents • Digital communication • Innovation and problem-solving	• Development of iAsnaf ACT and STOM • MyIPO registrations • Deployment of applications on Google Play Store • Production of digital accounting solutions
Career Readiness	Students acquire the digital competencies, professional skills, and practical experience required for a successful transition into the	• Graduate employability • Digital competencies	• 96.1% graduate employability • 12% of graduates receive premium starting salaries

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

Outcome	Definition	Indicators	Examples
	digital accounting profession.	• Professional skills • Industry readiness • Entrepreneurial mindset	• Industry-relevant digital projects and experiential learning

Based on Table 1, the Faculty of Accountancy's model suggests that effective digital engagement in professional education is achieved when strategic, accredited structural inputs (antecedents) are paired with interactive, community-facing software platforms and rigorous monitoring dashboards (mechanisms). This alignment successfully overcomes the cognitive and operational barriers of traditional learning to deliver superior professional readiness for graduates and measurable socioeconomic advancement for the community (outcomes).

Of relevance to this study, figure 1 illustrates the proposed Institutional Digital Engagement Ecosystem developed in this study. The proposed ecosystem therefore operationalises STS theory by positioning digital engagement as the outcome of interactions between social and technical elements. Institutional antecedents provide the social and technical foundations, while digital engagement mechanisms represent the processes through which these elements are combined and enacted in practice. The resulting educational and professional outcomes reflect the value created when the two subsystems are appropriately aligned. Figure 1 illustrates this relationship.

Figure 1. Proposed Institutional Digital Engagement Ecosystem in Accounting Education Based on Socio-Technical Systems Theory

STS Dimension	Elements In This Study	Role In Digital Engagement
Social Subsystem	Institutional support and governance	Provides leadership, policies and resources
	Lecturer digital competence	Enables effective integration of technology into teaching
	Student participation and co-creation	Promotes active involvement and ownership
	Industry/community collaboration	Connects learning with authentic professional contexts
	Professional accreditation	Aligns digital learning with professional expectations
Technical subsystem	Digital infrastructure	Provides technological capacity for digital learning
	Accounting software and applications	Enables authentic accounting practice
	Digital learning platforms	Facilitates access, communication and collaboration

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

	Digital tools and databases	Supports analysis, problem-solving and professional tasks
Socio-technical interaction	Experiential learning	Connects students, technology and authentic accounting tasks
	Digital collaboration	Connects people through technology-enabled knowledge sharing
	Technology-enabled pedagogy	Aligns teaching practices with digital resources
	Upskilling and modular learning	Develops human capability to use technological resources
Outcomes	Connected learning, critical document literacy, career readiness and graduate employability	Reflects the value generated through social–technical alignment

Conclusion

The case study of the Faculty of Accountancy, UiTM offers preliminary empirical insight into integrating digital elements within the professional accounting curricula. Through mapping the quality reports for planned quality, it can be concluded that the integration of antecedents, mechanisms, and outcomes has contributed to the self-sustaining socio-technical learning ecosystem. This study contributes to the accounting education literature by showing that institutional digital engagement as an ecosystem can be explained using sociotechnical systems theory, organizational support, digital technologies, and stakeholder collaboration to enhance educational outcomes.

This is especially important for UiTM, as it is one of the largest single providers of accounting education in Malaysia and consequently serves the majority of the accounting profession in Malaysia. As the accounting profession becomes more reliant on digital technology, accounting graduates need to acquire not only accounting knowledge, but also technological knowledge and skills, including digital skills, and the ability to learn in technology-rich environments.

Despite these contributions, this paper has a number of limitations. First, although the findings offer rich empirical illustrations from a qualitative case study, the relationships between constructs have not been statistically tested. Second, the framework is developed almost entirely within the context of higher education, and more specifically accounting education, limiting its applicability to other academic or organisational contexts. Future research should adopt quantitative or mixed methods approaches to examine the relationships among antecedents, mechanisms and outcomes across disciplines and institutions. Future studies could also examine how students' digital engagement changes over time, including its impact on their' academic performance, digital competence, and career readiness.

Acknowledgements: The authors would like to express their sincere gratitude to Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam, Malaysia for providing the resources and institutional support that made this research possible. The authors also extend their appreciation to colleagues and peers for their valuable insights, constructive comments, and continuous encouragement, all of which have significantly improved the quality of this paper.

Funding Statement: This research received publication support from Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam, Malaysia. The financial support was provided to facilitate the publication of this paper.

Conflict of Interest Statement: The authors declare that they have no competing interests or conflicts of interest related to this manuscript. All authors have made substantial contributions to this paper and have reviewed and approved the final version of the manuscript for submission to the *International Journal of Modern Education (IJMOE).*

Ethics Statement: This study did not involve any human participants, animals, or sensitive data requiring ethical approval. The authors confirm that the research was conducted in accordance with accepted academic integrity and ethical publishing standards.

Author Contribution Statement: All authors contributed significantly to the development of this manuscript. [Noor Hasniza Haron] was responsible for the conceptualisation, methodology, data analysis and overall supervision of the study. [Mazurina Mohd Ali] and [Dwi Fitri Puspa] are responsible to ensure that the manuscript presents a clear, logical, and coherent flow of ideas, with each section systematically aligned to support the overall argument and objectives of the paper. All authors read and approved the final version of the manuscript prior to submission.

International Journal of Modern Education
EISSN: 2637-0905
Volume: 8 Issue: 31 (September 2026) PP. 1100-1114

References

Anvari, R., Moradi, F., & Shirvani, A. (2024). Digital learning ecosystem at educational institutions: a 4-university perspective. Professional studies: theory and practice, 28(1), 100-110.

Appelbaum, S. H. (1997). Socio-technical systems theory: an intervention strategy for organizational development. Management decision, 35(6), 452-463.

Eulerich, M., Pawlowski, J., Waddoups, N. J., & Wood, D. A. (2022). A framework for using robotic process automation for audit tasks. Contemporary Accounting Research, 39(1), 691-720.

Goulart, V. G., Liboni, L. B., & Cezarino, L. O. (2022). Balancing skills in the digital transformation era: The future of jobs and the role of higher education. Industry and Higher Education, 36(2), 118-127.

Handoyo, S. (2024). Evolving paradigms in accounting education: A bibliometric study on the impact of information technology. The International Journal of Management Education, 22(3), 100998.

Helsper, E. J., & van Deursen, A. J. A. M. (2017). Do the rich get digitally richer? Quantity and quality of support for digital engagement. Information Communication and Society, 20(5), 700–714. https://doi.org/10.1080/1369118X.2016.1203454

Helsper, E., & Eynon, R. (2013). Pathways to digital literacy and engagement Article (Accepted version) (Refereed).

Hietajärvi, L., Lonka, K., Hakkarainen, K., Alho, K., & Salmela-Aro, K. (2020). Are schools alienating digitally engaged students? Longitudinal relations between digital engagement and school engagement. Frontline Learning Research, 8(1), 33–55. https://doi.org/10.14786/flr.v8i1.437

Jo, H., & Ahn, H. Y. (2024). Understanding digital engagement: factors influencing awareness and satisfaction of digital transformation. Discover Computing, 27(1). https://doi.org/10.1007/s10791-024-09455-4

Kahne, J., & Bowyer, B. (2019). Can media literacy education increase digital engagement in politics? Learning, Media and Technology, 44(2), 211–224. https://doi.org/10.1080/17439884.2019.1601108

Nahum-Shani, I., Shaw, S. D., Carpenter, S. M., Murphy, S. A., & Yoon, C. (2022). Engagement in Digital Interventions. American Psychologist, 77(7), 836–852. https://doi.org/10.1037/amp0000983

Ning, J., Li, W., Xu, Y., & Lu, B. (2026). Digital technology adoption and servitization of manufacturing firms —The role of knowledge coupling and collaborative network cohesion. Technovation, 156. https://doi.org/10.1016/j.technovation.2026.103627

Oyuga, S., Ochieng, E. G., Al-Emran, M., Ominde, D., & Zuofa, T. (2026). Exploring the drivers and barriers of digital twin adoption in Kenya and its implications for manufacturing asset optimisation. Technology in Society, 88. https://doi.org/10.1016/j.techsoc.2026.103417

Pasi, B. N., & Dhamak, P. (2026). Transforming higher education for the fourth industrial revolution: a strategic review of digital integration and institutional readiness. Journal of Science and Technology Policy Management, 1-29.

Ropohl, G. (1999). Philosophy of socio-technical systems. Society for Philosophy and Technology Quarterly Electronic Journal, 4(3), 186-194.

Salza, G., & Samuel, R. (2025). Digital engagement and youth: a scoping review of opportunities, risks, and the role of socioeconomic resources. In Information

Communication and Society. Routledge. https://doi.org/10.1080/1369118X.2025.2574297

Sharma, A., Gurram, N. T., Rawal, R., Mamidi, P. L., & Gupta, A. S. G. (2025). Enhancing educational outcomes through cloud computing and data-driven management systems. Vascular and Endovascular Review, 8(11s), 429-435.

Thanasas, G., Kampiotis, G., & Halkiopoulos, C. (2026). Transforming digital accounting: Big Data, IoT, and Industry 4.0 technologies—A comprehensive survey. Journal of Risk and Financial Management, 19(1), 92.

Tiron-Tudor, A., Donțu, A. N., & Bresfelean, V. P. (2022). Emerging technologies' contribution to the digital transformation in accountancy firms. Electronics, 11(22), 3818.

Tong, S. C., & Chan, F. F. Y. (2023). Strategies to drive interactivity and digital engagement: a practitioners' perspective. Journal of Research in Interactive Marketing, 17(6), 901–920. https://doi.org/10.1108/JRIM-05-2022-0153

Tsegaye Kassa, S. (2026). Cognitive benefits and risks of digital technology engagement. In Discover Psychology (Vol. 6, Number 1). Discover. https://doi.org/10.1007/s44202-025-00527-0

Ukeje, I. O., Elom, C. O., Ayanwale, M. A., Umoke, C. C., & Nwangbo, S. O. (2024). Exploring an innovative educational governance framework: Leveraging artificial intelligence in a stakeholder-driven'Open Campus Model'in Southeast Nigerian Universities. International Journal of Learning, Teaching and Educational Research, 23(6), 416-440.

Ullrich, A., Reißig, M., Niehoff, S., & Beier, G. (2023). Employee involvement and participation in digital transformation: a combined analysis of literature and practitioners' expertise. Journal of Organisational Change Management, 36(8), 29–48. https://doi.org/10.1108/JOCM-10-2022-0302

Wawak, S., Teixeira Domingues, J. P., & Sampaio, P. (2024). Quality 4.0 in higher education: reinventing academic-industry-government collaboration during disruptive times. The TQM Journal, 36(6), 1569-1590