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FACTORS INFLUENCING ACCOUNTING UNDERGRADUATES' EMERGING TECHNOLOGY SKILL LEVELS: EVIDENCE FROM STATE UNIVERSITIES IN THE WESTERN PROVINCE OF SRI LANKA

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ABSTRACT

Rapid developments in emerging technologies have transformed the accounting profession, altering traditional practices and required skill sets. In this context, evidence of insufficient emerging technology skill levels among accounting undergraduates raises concerns about their readiness to meet the profession's future demands. Therefore, this study was conducted to assess the level of emerging technology skills among accounting undergraduates in Sri Lanka and to identify the factors influencing the possession of these skills. Data were collected using a structured questionnaire administered to 208 final-year accounting undergraduates from state universities in the Western Province of Sri Lanka. Based on the Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB), perceived usefulness and perceived ease of use were used as the variables that affected the dependent variable, namely the possession of emerging technology skills. Self-efficacy, experience, subjective norms, and the inclusion of emerging technologies in the curriculum were used as external variables. The partial least squares structural equation modelling (PLS-SEM) technique was used to test the objectives of this research. The findings suggest that accounting undergraduates' emerging technology skill levels range from low to intermediate. It also revealed that both perceived usefulness and perceived ease of use have a significant impact on the possession of emerging technology skills of the accounting undergraduates, while self-efficacy, subjective norms, and emerging technologies in the curriculum have a significant positive impact on perceived usefulness and perceived ease of use. Further, it revealed that experience significantly impacts perceived ease of use; however, it does not significantly impact perceived usefulness. These findings are expected to have significant policy implications.

Keywords: Accounting Undergraduates, Emerging Technology Skills, Perceived Ease of Use, Perceived Usefulness, Sri Lanka

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1 INTRODUCTION

Emerging technologies have significantly impacted many industries over recent years. Integrating technologies like cloud computing, Internet of Things (IoT), Artificial Intelligence (AI), data analytics, and blockchain has revolutionised today's digital economy (Pan & Seow 2016). Those technologies are driving major changes in how businesses operate and are increasingly becoming a way of life for all kinds of businesses. Many traditional occupations have been displaced by digital transformation; however, individuals who combine digital skills with conventional education have been able to access new employment opportunities. There are no exceptions to this in the accounting profession. The fourth-ranked occupation that is most likely to be computerised is accounting, with a 98% likelihood (Frey & Osborne 2017). Due to the emergence of new technologies, accountants' tasks and the skills they need to perform the job are affected. Roles such as entering general ledger transactions, accounts receivable, and accounts payable handling may eventually be phased away as technologies and procedures become more automated and integrated (Kroon et al. 2021). Therefore, accounting professionals will have to embrace technological use and specialisation (Greenman 2017).

There is evidence of deficiencies in technological skills among accounting undergraduates in Sri Lanka, raising concerns about whether they are prepared and ready for the changing future demands in the accounting profession (Kotb et al. 2019, Pan & Seow 2016). Therefore, this study was conducted to assess the level of emerging technology skills among accounting undergraduates in Sri Lanka and to identify the factors influencing the possession of these skills. In the context of this study, Sri Lanka, as a developing country, was selected due to several reasons. After the civil war ended in 2009, Sri Lanka, an emerging country in South Asia, experienced rapid economic development (World Bank 2020). The country is home to a globally recognised, highly influential accounting profession. It is regarded as a hidden gem that creates financial and accounting experts who operate in various parts all over the world, such as the Middle East, Asia-Pacific, Australia, Europe, and Africa (World Bank 2015). Sri Lanka has 17 state universities, 11 of which offer undergraduate degree programmes in accounting (University Grants Commission 2023). The University Grants Commission imposes multiple levels of quality assurance and regulatory requirements on university curriculum to ensure academic consistency and rigor (University Grants Commission 2015). As a result, the accounting curricula of these degree programmes are generally maintained at a high standard. However, questions remain as to whether accounting curricula in Sri Lankan state universities adequately equip undergraduates with the emerging technology skills required in the contemporary accounting profession.

Given the distinctive nature of ongoing technological and digital transformation, universities and accounting undergraduates must be aware of how technological advancements are reshaping the profession they are preparing to enter. Failure to adequately address these changes within accounting degree programmes may undermine graduates' employability and work readiness (Kotb et al. 2019). Accordingly, identifying the level of emerging technology skills among accounting undergraduates, as well as the factors influencing the possession of these skills, is essential for enhancing accounting education and informing the continuous improvement of the accounting curriculum.

Many researchers have found that employers expect technology skills from their future employees (Chang & Nen-Chen 2003, Cory & Pruske 2012, Stoner 2009). To enhance graduate employability, universities are increasingly required to review and update their

curriculum in line with contemporary technological advancements. While multinational accounting firms have rapidly integrated emerging technologies into professional practice, accounting education in many institutions has faced challenges in keeping pace with these developments. Existing literature suggests that accounting curricula worldwide still offer limited coverage of emerging business and technological dynamics, which may constrain undergraduates' opportunities to develop relevant future-oriented skills (Damerji & Salimi 2021). Consequently, without continued curriculum improvements, accounting graduates may face difficulties in fully meeting the evolving technology skill demands of the profession.

Prior research has examined the role of information technology (IT) in accounting education and identified the technical courses that should be incorporated into accounting degree programmes to better prepare undergraduates for professional practice (Pan & Seow 2016). In addition, scholars have explored the perspectives of accounting educators and professional accounting bodies (PABs) on the extent to which technology skills are embedded within accounting curriculum across different national contexts (Kotb et al. 2019). General IT knowledge and skill requirements for accounting practitioners have also been widely discussed in studies and policy documents produced by academics and PABs (Pan & Seow 2016).

Despite these contributions, existing literature has largely overlooked accounting undergraduates' own perceptions of their self-reported levels of emerging technology skills, including AI, IoT, cloud computing, data analytics, and blockchain. Moreover, limited empirical attention has been paid to the factors that influence and explain variations in these emerging technology skill levels among accounting undergraduates. To align accounting curriculum with the evolving demands of the contemporary business environment, it is therefore essential to first identify the key determinants that shape differences in undergraduates' emerging technology skill levels. Therefore, the current study aimed to achieve two main objectives: to assess the level of emerging technology skills among accounting undergraduates in Sri Lanka and to identify the factors influencing the possession of these skills.

The remaining sections of the study are structured as follows: the second section discusses the existing literature; the third section elaborates on the research methodology; the fourth section presents the analysis and discussion, and the conclusion is presented in the final section.

2 LITERATURE REVIEW

This section reviews the previous studies related to emerging technologies in accounting and the emerging technology skills important for the accounting profession. In addition, it examines the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) as the theoretical foundations relevant to this study.

2.1 Emerging Technologies in Accounting

Emerging technologies have a significant impact on the work of accountants globally. Data analytics, AI, machine learning, robot advisors, robotic process applications, IoT, and blockchain technology have been identified as highly influential technologies in the accounting profession (Karmańska 2021, Sun & Leung 2025).

Blockchain was introduced in 2009, with its first and most widely recognised application being Bitcoin. Crosby et al. (2016) define blockchain as essentially a distributed database of records or a public ledger of all transactions or digital events that have been executed and shared among participating parties. The adoption of blockchain technology is expected to transform the role of accountants by reducing the need for traditional transaction recording and shifting the focus toward validating the reasonableness of smart contracts and financial information generated through automated systems (Crosby et al. 2016).

Another highly impactful emerging technology in accounting is AI, which increasingly requires accounting students to develop proficiency in AI-enabled accounting software and a foundational understanding of machine learning concepts. Such technological readiness enables users to effectively adopt and utilise emerging AI tools, which have been shown to enhance productivity and accuracy in accounting tasks (Abdo-Salloum & Al-Mousawi 2025). Data analytics, which involves identifying patterns, trends, and correlations within large volumes of unprocessed data to support informed decision-making, also plays a critical role in modern accounting practice. Auditors and accountants can employ predictive analytics to strengthen business intelligence and improve forecasting and estimation processes, while data visualisation tools facilitate the identification of trends in business operations (Chu & Yong 2021).

In addition, the IoT represents one of the most advanced technological developments influencing contemporary business operations (Yilmaz & Hazar 2019). For the accounting profession, IoT offers significant advantages, including the generation of large volumes of real-time data, enabling deep and multi-dimensional data analysis, seamless access to information through cloud computing irrespective of time and location, and the preparation of more comprehensive financial reports supported by advanced analytical capabilities.

Table 1 provides a summary of prior studies examining the emerging technologies in accounting.

Table 1: Emerging Technologies in Accounting

| Emerging Technology | Study Details | Author(s) |
|----------------------------|---|-------------------------------|
| Blockchain | Application of blockchain technology in the finance sector | Crosby et al. (2016) |
| | Various industries in which blockchain technology is used, challenges, and advantages of implementing blockchain | Al-Jaroodi and Mohamed (2019) |
| | Use and impact of blockchain in the fields of accounting and auditing | Bonsón and Bednárová (2019) |
| AI | Trends of Accounting future development in the AI context | Stancheva (2018) |
| Data Analytics | The ways that data analytics, machine learning technologies, and data visualisation tools are altering the way the accounting and auditing profession | Chu and Yong (2021) |
| The IoT | Areas where the IoT may be utilised to facilitate finance and accounting, as well as the connections between the IoT and these fields | Yilmaz and Hazar (2019) |
| | The IoT applications in the accounting field: advantages and problems | Karmańska (2021) |

Source: Author Constructed

2.2 Emerging Technology Skills for the Accounting Profession

Recent developments in the accounting profession have underscored the importance of equipping accounting undergraduates with robust emerging technology skills to ensure their future professional success (Andiola et al. 2020). PABs and education committees have identified several challenges within accounting education, particularly in relation to its capacity to respond to rapid technological change. The findings by Kotb et al. (2019) highlighted concerns that traditional accounting education may be inadequate in meeting the evolving skill requirements of future accounting professionals.

It is critical to identify strategies to foster talent for modern, constantly evolving accounting responsibilities, given the quick rise and prominence of new technology in the accounting profession. Managing technological advances requires a variety of skills for early-career accountants. Table 2 provides a summary of the different emerging technology skills that are important for the accounting profession. Accordingly, accountants need to possess a range of emerging technology skills, such as design thinking, synthesis skills, digital fluency, and data modelling capabilities, as these skills are generally assumed to be already mastered by accounting professionals (De Villiers 2020). Further, accounting professionals are leveraging the IoT to gather real-time data, send it fast to cloud servers, and automate and analyse the data using AI algorithms. Therefore, accounting undergraduates are expected to have the required skills, for example, the ability to use digital tools like enterprise resource management (ERM) software to get the maximum advantages from the emerging technologies for the accounting profession (Kotb et al. 2019).

2.3 Developing Emerging Technology Skills of Accounting Undergraduates

According to Jackson et al. (2022), universities are not keeping up with the changing needs of the labour market, despite their efforts to improve the employability of their graduates. As per the findings of the study done by Tudor et al. (2025), accounting undergraduates have proficient comprehension of accounting concepts, although they lack the necessary technology skills. The root causes of the skill gap include outdated academic curriculum, with 63% of programs lacking up-to-date AI and blockchain training, and a significant dropout rate in apprenticeships, which limits practical exposure to technology (Tudor et al. 2025).

There is a notable insufficiency in the incorporation of AI-related skills within accounting education (Jackson et al. 2022). This limited integration of AI technologies into accounting curriculum represents a challenge not only for current educational practice but also for future workforce preparedness, potentially constraining the profession's capacity to respond effectively to emerging technological demands (Jackson et al. 2022). Further, it has been determined that the accounting curriculum lacks the inclusion of data analytics, thereby denying students the essential skills and abilities related to big data and data analytics. A study conducted by Felski and Empey (2020) examining the inclusion of blockchain in accounting curriculum has revealed that accounting undergraduates possess a minimal understanding of blockchain, with a significant number being completely unaware of its existence. Therefore, developing emerging technology skills is important for future career accountants.

Table 2: Emerging Technology Skills

| Emerging Technology | Technology Related Skills | Source |
|----------------------------|---|--|
| AI | <ul style="list-style-type: none"> - Underlying data skills, including skills in data management and processing, probability, statistics, and deductive reasoning - Storytelling ability: the ability to communicate information in a manner that their audience can grasp - Being able to automate - Data modelling skills - Proficiency with accounting software - Advanced skills in Microsoft Excel - Data analysis skills | Tysiac (2018) Damerji and Salimi (2021) |
| IoT | <ul style="list-style-type: none"> - Ability to use digital tools like ERM software - Design thinking skills - Infographics skills - Digital literacy - Synthesis skills - Digital fluency | Tysiac (2018) De Villiers (2020) |
| Data Analytics | <ul style="list-style-type: none"> - Working knowledge of cloud-based technologies and cloud services - Expertise in advanced analytical data management - Abilities in programming and statistics for data analysis - Comprehensive knowledge of analytical systems - Ability to use sophisticated analytical tools related to accounting - Knowledge of cyber/information security - Skills in digital investigation | Greenman (2017) Al-Htaybat and Alhtaybat (2017) Rezaee and Wang (2018) Sprakman et al. (2020) |

| | | |
|------------|--|--|
| | <ul style="list-style-type: none">- Skills in data mining and visualisation- Knowledge of enterprise resource planning systems- Knowledge of Business Intelligence tools related to accounting | |
| Blockchain | <ul style="list-style-type: none">- Knowledge of the triple-entry system's data recognition process results in three entries for each transaction- Recording the debit- Recording the credit- A cryptographic signature confirming the legitimacy of a transaction- Having the capacity to use professional judgment during the accounting process- Ability to advise and counsel on reporting of cryptocurrency assets and Initial Coin Offerings (ICOs)- Accounting information synthesis skills- Knowledge of computer languages and computer security systems | Garanina et al. (2022) Carr and Marshall (2016) |

Source: Author Constructed

2.4 Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB)

In several studies on IT adoption and a wide range of other topics, both the TAM and the TPB have been utilised regularly as a tool to explain various aspects impacting behavioural intentions (Al-Harbi 2011, Yang & Su 2017). The TPB research primarily focuses on three key variables: attitude, subjective norms, and perceived behavioural control. The combination of TAM and TPB can be seen in many prior studies. In the current study, variables from both theories have been used to conceptualise the factors influencing the emerging technology skills level of accounting undergraduates. TAM was primarily employed to develop the current study framework for explaining variations in accounting undergraduates' emerging technology skill levels. TAM offers a coherent basis for empirically examining undergraduates' perceptions of their emerging technology skills. Accordingly, the study adopts two core constructs proposed by Davis (1989): perceived usefulness, defined as the extent to which an individual believes that using a technology will enhance job performance, and perceived ease of use, defined as the extent to which an individual believes that using the technology will be free of effort.

In this study, self-efficacy, subjective norms, and experience are conceptualised as external factors. Beyond the core TAM constructs, a fourth variable, emerging technologies in the curriculum, is incorporated to capture the extent to which emerging technologies are embedded within the current accounting curriculum. Evidence from Ahmed's (2003) examination of IT skill coverage in British university accounting programmes indicates that undergraduate curriculum often provides insufficient IT-related skills. Accordingly, the present study treats the degree of curricular integration of emerging technology skills as a key antecedent influencing accounting undergraduates' perceived usefulness and ease of use with respect to emerging technologies.

3 METHODOLOGY

This section explains and justifies the research approach adopted in the study. It outlines the study context, research design, hypothesis development, conceptual framework, and the operationalisation of key variables. It also describes the survey instrument, pilot testing for reliability, sampling procedure, and data collection methods. Finally, the section summarises the techniques used to analyse the data.

3.1 Research Approach

This study adopts a deductive, quantitative research approach. Drawing on established theories, hypotheses were formulated and subsequently tested using data collected.

3.2 Population and Study Sample

Sri Lanka's state university system comprises 17 universities under the University Grants Commission, of which 11 offer degree programmes in accounting (University Grants Commission 2023). This study, therefore, focused on three universities located in the Western Province, selected due to their established reputation and substantial contribution to accounting education. For example, the University of Sri Jayewardenepura has a long-standing accounting programme that is closely aligned with the requirements of PABs in Sri Lanka, including the Institute of Chartered Accountants of Sri Lanka (CA Sri Lanka). Collectively, these universities enrol a sizeable share of accounting undergraduates, providing a relevant setting for examining the current state of accounting education in Sri Lanka.

This study employed a sample of 208 undergraduates. Participants were allocated across the selected universities using stratified sampling to ensure appropriate representation from each institution. Subsequently, within each university stratum, respondents were identified using convenience sampling. Table 3 presents the population and sample distribution across the selected universities, based on the University Grants Commission (2023).

Table 3: Population and Sample

| University | Annual Student Intake to the Accounting Degree Programme | Selected Sample |
|-----------------------------------|--|-----------------|
| University of Colombo | 92 | 48 |
| University of Sri Jayewardenepura | 200 | 115 |
| University of Kelaniya | 128 | 45 |
| Total Population and Sample | 420 | 208 |

Source: University Grants Commission (2023)

3.3 Hypotheses Development

According to prior studies, self-efficacy was a crucial element in the adoption of e-learning systems or technologies (Al-Adwan & Smedley 2013). The term 'self-efficacy' refers to a person's evaluation of their own ability to perform specific tasks (Bandura 1982). Numerous empirical research studies have shown that users who have high levels of self-efficacy have positive opinions of perceived usefulness and perceived ease of use (Chahal & Rani 2022, Chen & Tseng 2012, Fatima et al. 2017, Thongsri et al. 2020). Hence, based on the discussion above, it is hypothesised that,

- H₁: Self-efficacy positively affects accounting undergraduates' perceived usefulness of emerging technologies
- H₂: Self-efficacy positively affects accounting undergraduates' perceived ease of use of emerging technologies

Prior research indicates that experience, particularly computer-related experience, constitutes a significant determinant of technology adoption within the accounting profession (De Smet et al. 2012). Prior studies further demonstrated that the intention to use technologies in the accounting profession is strongly influenced by a person's computer-related experience over time, since people's behavioural intentions toward using technologies and computer-related experience are positively correlated (De Smet et al. 2012). As per the prior literature, it is recognised that computer-related experience has a high impact on the perceived usefulness and ease of use of emerging technologies (De Smet et al. 2012). As a result, the following hypotheses are formulated.

- H₃: Experience (particularly computer-related experience) positively affects accounting undergraduates' perceived usefulness of emerging technologies
- H₄: Experience (particularly computer-related experience) positively affects accounting undergraduates' perceived ease of use of emerging technologies

Numerous empirical research findings have shown how crucial subjective norms are in influencing whether students would accept a certain technology or a system (Farahat 2012, Park 2009). Subjective norms mean an individual's perception that the people who are important to him will believe he should or should not perform that behaviour (Ajzen 1991). This study proposes the following research hypotheses.

- H₅: Subjective norms positively affect accounting undergraduates' perceived usefulness of emerging technologies
- H₆: Subjective norms positively affect accounting undergraduates' perceived ease of use of emerging technologies

According to a study conducted by Jackson et al. (2022), it has been identified that both early career accountants and managers highlighted that it is crucial to develop technology skills at several points in their accounting careers, more notably during their undergraduate studies, their internships, and when working with employers and professional associations. Including emerging technology skills in the accounting curriculum will enhance the future readiness of accounting undergraduates (Andiola et al. 2020). Therefore, in the extended conceptual framework of this study, in addition to the three TAM variables, a new variable has been included as the inclusion of emerging technologies in the curriculum, which is the fourth variable. Hence, this study formulates the following research hypotheses.

- H₇: The inclusion of emerging technologies in the curriculum positively affects accounting undergraduates' perceived usefulness of emerging technologies
- H₈: The inclusion of emerging technologies in the curriculum positively affects accounting undergraduates' perceived ease of use of emerging technologies

Perceived usefulness refers to the extent to which an individual expects that using a particular technology will enhance job performance (Davis 1989). Within the TAM, perceived usefulness is a central belief shaping individuals' attitudes towards technology acceptance and, in turn, their intention and actual use (Barkhi et al. 2008). Extending this logic to the development of emerging technology skills, undergraduates who perceive such technologies as useful are more likely to engage with them and build relevant skills. Accordingly, the following hypothesis is proposed:

- H₉: Perceived usefulness positively affects the accounting undergraduate's possession of emerging technology skills

Perceived ease of use refers to the extent to which an individual believes that a particular technology can be used with minimal physical and cognitive effort (Davis 1989). Prior research has demonstrated that perceived ease of use significantly influences technology use, including mobile learning adoption (Mac Callum & Jeffrey 2013). Similarly, Ong et al. (2004) found perceived ease of use to be the most influential determinant of intention to use among engineers in the high-tech industry. Extending these insights to emerging technology skills in accounting education, it is expected that undergraduates who perceive emerging technologies as easy to use are more likely to engage with them and develop relevant skills. Accordingly, the following hypothesis is proposed:

- H₁₀: Perceived ease of use positively affects the accounting undergraduates' possession of emerging technology skills

3.4 Conceptual Framework

Building on the hypotheses proposed, the study develops an extended TAM by incorporating the identified external factors and their expected relationships with the core TAM constructs and the dependent variable. The resulting conceptual framework is presented in Figure 1.

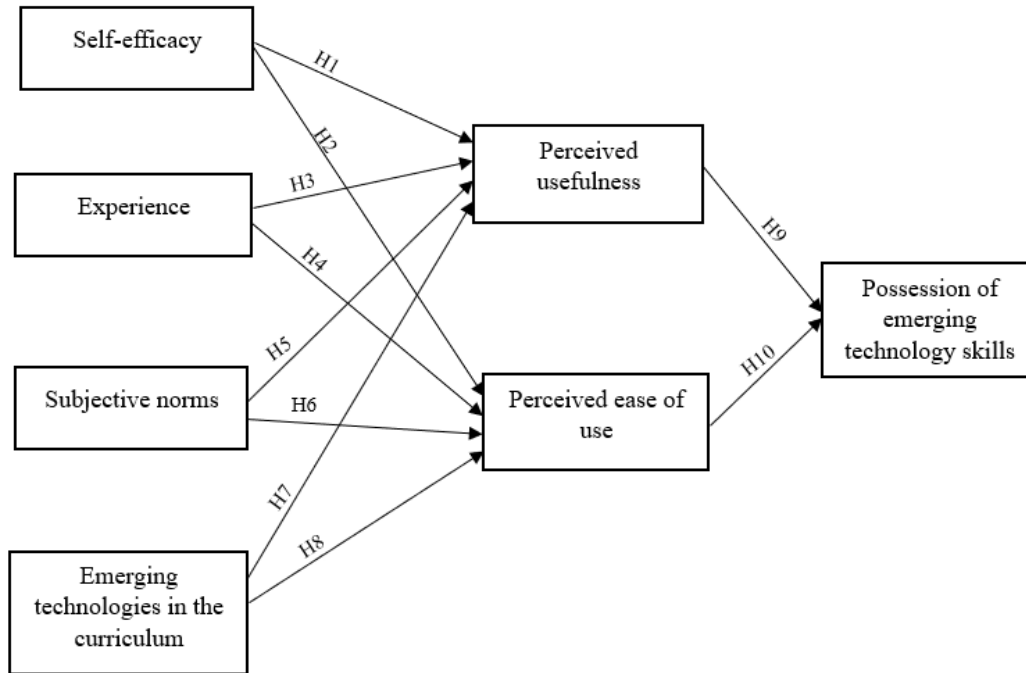


Figure 1: Conceptual Framework

Source: Author Constructed

3.5 Sources and Collection of Data

Primary data were collected using a structured questionnaire. A pilot study was conducted to refine the instrument by improving its content, structure, and overall clarity. The questionnaire was pre-tested with 15 accounting undergraduates, and their feedback was used to revise ambiguous or unclear items. The unit of analysis comprised final-year accounting undergraduates enrolled in Sri Lankan state universities. The sample was drawn from three state universities located in the Western Province, comprising 208 final year accounting undergraduates (Table 5). Data were collected through an online survey distributed to eligible undergraduates via email, LinkedIn, and other social media platforms to facilitate accessibility and respondent convenience.

3.6 Operationalisation

Table 4 presents the operationalisation of the study variables, outlining their definitions, measurement items, and data sources used for empirical testing.

Table 4: Operationalisation

| Construct | Working Definition | Measurement | Source |
|--|--|---|--|
| Self-efficacy (<i>SE</i>) | An individual's self-confidence, which represents the degree of aptitude the person feels he/she possess (Bandura 1982) | I am confident of using emerging technologies even if there is no one around to show me how to do it. I am confident in using technologies even if I have never used such technology. I am confident in using the technology even if I only have the software manuals for reference. I intend to use emerging technologies to assist my job in the future. As long as I have just seen someone using it before trying it myself, I am confident of using emerging technologies. | Abdullah et al. (2016) Compeau and Higgins (1995) Pituch and Lee (2006) |
| Experience (<i>Exp</i>) | An individual's experience with regard to using a specific technology (Alfadda & Mahdi 2021) | I have prior experience with using emerging technologies to perform my job tasks. I am comfortable using emerging technologies. I enjoy using emerging technologies. I have the feeling that it is easy for me to use emerging technologies since I have prior experience with them. I have actively participated in emerging technology skill development courses before. | Alfadda and Mahdi (2021) Lee et al. (2013) Pal and Patra (2021) |
| Subjective Norms (<i>SN</i>) | An individual's perception that the people who are important to him will believe he should or should not perform that behaviour (Ajzen 1991) | People who influence my behaviour would think that I should use emerging technologies. I need to experience emerging technologies for my future job. It is necessary to learn emerging technology skills according to recent social needs. My friends at the university think that it is important to learn about emerging technologies. My colleagues in the office think that it is important to learn emerging technologies. | Abdullah et al. (2016) Venkatesh et al. (2003) Park et al. (2012) Lee et al. (2013) |
| Emerging technologies in the curriculum (<i>ETC</i>) | The extent to which the emerging technology skills have been integrated into the curriculum (Author Constructed) | We have courses to develop emerging technology-related skills included in our accounting curriculum. We have specific lecturers available to teach technology-related skills. When I need help to use emerging technologies, guidance is available to me from the university. We have the necessary IT equipment, tools, and software available in the university to develop emerging technology skills. | Thompson et al. (1991) Teo et al. (2007) Lee (2008) |

| | | | |
|---|---|--|---|
| Perceived Usefulness (PU) | The extent to which a person thinks employing a certain system will improve his or her capacity for work (Davis 1989) | Using emerging technologies in my job would enable me to accomplish tasks more quickly. Using emerging technologies would improve my job performance. Using emerging technologies in my job would increase my productivity. Using emerging technologies would enhance my effectiveness on the job. Using emerging technologies would make it easier to do my job. I would find emerging technologies useful in my job. | Venkatesh et al. (2003) |
| Perceived Ease of Use (PEOU) | The extent to which a person thinks that utilizing a system would be effortless (Davis 1989) | Learning to use emerging technologies would be easy for me. I would find it easy to get the emerging technologies to do what I want them to do. My interaction with emerging technologies would be clear and understandable. I would find emerging technologies to be flexible to interact with. It would be easy for me to become skilled at using emerging technologies. I would find emerging technologies easy to use. | Venkatesh et al. (2003) |
| Possession of Emerging Technology Skills (SKILLS) | The extent of emerging technology skills possessed by accounting undergraduates (Author Constructed) | Advanced skills in Microsoft Excel Ability to automate Data modelling skills Ability to use digital tools like ERM software Infographics skill Synthesis skills Working knowledge of cloud-based technologies and cloud services Abilities in programming and statistics for data analysis Ability to use sophisticated analytical tools related to accounting Knowledge of the triple-entry system's data recognition process Ability to advise and counsel on reporting of cryptocurrency assets and ICOs Knowledge of computer languages and computer security systems | Tysiac (2018) Greenman (2017) Villiers (2020) |

Source: Author Constructed

Table 5 shows the demographic profile of the respondents of the study.

Table 5: Respondents’ Demographic Profile

| Items | Frequency | Percentage (%) |
|-----------------------------------|------------------|-----------------------|
| Gender | | |
| Male | 71 | 34.1 |
| Female | 137 | 65.9 |
| University | | |
| University of Sri Jayewardenepura | 115 | 55.3 |
| University of Colombo | 48 | 23.1 |
| University of Kelaniya | 45 | 21.6 |
| Employment Status | | |
| Audit sector | 136 | 65.4 |
| Non-Audit sector | 71 | 34.1 |
| Self-employed | 1 | 0.5 |
| Work Experience | | |
| Less than one year | 37 | 17.8 |
| One year | 96 | 46.2 |
| Two years | 54 | 26.0 |
| More than two years | 21 | 10.1 |

Source: Author Constructed

3.7 Data Analysis Strategies

Data were analysed using a combination of descriptive and multivariate techniques. Descriptive statistics for respondent demographics were generated using SPSS. The study objectives and hypotheses were tested using partial least squares structural equation modelling (PLS-SEM) in SmartPLS. The reliability of the measurement model was assessed using Cronbach’s alpha and composite reliability, while validity was evaluated through convergent validity and discriminant validity criteria. Mean values were first computed to assess the level of emerging technology skills of accounting undergraduates. Multicollinearity was assessed using the Variance Inflation Factor (VIF), and model fit was examined using Standardized Root Mean Square Residual (SRMR) and the Normed Fit Index (NFI). The model’s explanatory and predictive capability was assessed using R² and Q² values. Finally, the structural model was tested through bootstrapping to estimate the significance of path coefficients, following the recommended procedure of Hair et al. (2017).

4 ANALYSIS AND DISCUSSION

4.1 Level of Emerging Technology Skills Possessed by Accounting Undergraduates

The level of emerging technology skills of accounting undergraduates was measured using a Likert-type self-assessment scale. Respondents rated their proficiency across a set of distinct emerging technology skills, ranging from very low to high, enabling the construction of a latent variable representing overall emerging technology skill level. Descriptive analysis of item-level mean scores indicates that only eight of the 12 skills exceeded the midpoint value of 3.0, whereas all blockchain-related skills remained below this threshold. In aggregate, AI-related skills recorded the highest mean score (M = 3.47), while blockchain-related skills exhibited comparatively lower perceived proficiency (M = 2.82). Table 6 indicates the mean and standard deviation (SD) values for each skill item.

Table 6: Level of Emerging Technology Skills

| Emerging Technology | Code | Mean | SD |
|---------------------|---------|-------|-------|
| AI | | 3.47* | .755 |
| | SKILL1 | 3.82* | .794 |
| | SKILL2 | 3.21* | .938 |
| | SKILL3 | 3.39* | .905 |
| IoT | | 3.12* | .831 |
| | SKILL4 | 3.37* | .874 |
| | SKILL5 | 3.03* | .999 |
| | SKILL6 | 2.98 | .970 |
| Data Analytics | | 3.26* | .827 |
| | SKILL7 | 3.53* | .916 |
| | SKILL8 | 3.13* | 1.064 |
| | SKILL9 | 3.14* | .942 |
| Blockchain | | 2.82 | 1.053 |
| | SKILL10 | 2.81 | 1.089 |
| | SKILL11 | 2.72 | 1.200 |
| | SKILL12 | 2.96 | 1.168 |

Note: * The mean value surpasses the average mean value of 3.0

Source: Author Constructed

4.2 Factors Influencing the Emerging Technology Skill Levels of Accounting Undergraduates

4.2.1 Measurement model

To ensure the robustness of the measurement model, the study first assessed the reliability and validity of the latent constructs prior to testing the structural relationships. Internal consistency reliability was evaluated using Cronbach's alpha and composite reliability indicators.

Table 7: Reliability Testing

| | Cronbach's alpha (α) | Composite reliability (rho_a) | Composite reliability (rho_c) |
|---------------|----------------------------------|----------------------------------|----------------------------------|
| <i>ETC</i> | 0.839 | 0.846 | 0.892 |
| <i>Exp</i> | 0.913 | 0.919 | 0.935 |
| <i>PEOU</i> | 0.923 | 0.927 | 0.942 |
| <i>PU</i> | 0.951 | 0.954 | 0.961 |
| <i>SE</i> | 0.842 | 0.846 | 0.887 |
| <i>SKILLS</i> | 0.937 | 0.947 | 0.944 |
| <i>SN</i> | 0.882 | 0.884 | 0.914 |

Note: *ETC*: Emerging technology inclusion in the curriculum, *Exp*: Experience, *PEOU*: Perceived ease of use, *PU*: Perceived usefulness, *SE*: Self-efficacy, *SKILLS*: Emerging technology skills, *SN*: Subjective norms

Source: Author Constructed

Table 7 shows that all constructs exceed the recommended threshold of 0.70 for both Cronbach's alpha and composite reliability. These results indicate satisfactory internal consistency, confirming that the measurement items used for each variable are reliable.

Convergent validity was assessed using standardised factor loadings and Average Variance Extracted (AVE). As reported in Table 8, all constructs recorded AVE values above 0.50, indicating that the measures capture an adequate proportion of variance in their indicators. Further, the indicator loadings were largely above the recommended threshold of 0.70, with a small number of items exceeding the minimum acceptable level of 0.60. Overall, these results support the convergent validity of the measurement model.

Table 8: Average Variance Extracted (AVE)

| Construct | AVE |
|------------------|------------|
| <i>ETC</i> | 0.674 |
| <i>Exp</i> | 0.742 |
| <i>PEOU</i> | 0.766 |
| <i>PU</i> | 0.805 |
| <i>SE</i> | 0.612 |
| <i>SKILLS</i> | 0.584 |
| <i>SN</i> | 0.680 |

Source: Author Constructed

Discriminant validity was assessed using two established approaches: the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio. As summarised in Table 9, the Fornell–Larcker criterion is satisfied, as the square roots of the AVE values (shown on the diagonal in bold) exceed the corresponding inter-construct correlations. This provides evidence of adequate discriminant validity among the study constructs.

Table 9: Fornell-Larcker Criterion Results

| | <i>ETC</i> | <i>Exp</i> | <i>PEOU</i> | <i>PU</i> | <i>SE</i> | <i>SKILLS</i> | <i>SN</i> |
|---------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|
| <i>ETC</i> | 0.821 | | | | | | |
| <i>Exp</i> | 0.199 | 0.861 | | | | | |
| <i>PEOU</i> | 0.398 | 0.441 | 0.875 | | | | |
| <i>PU</i> | 0.435 | 0.360 | 0.635 | 0.897 | | | |
| <i>SE</i> | 0.274 | 0.507 | 0.502 | 0.553 | 0.782 | | |
| <i>SKILLS</i> | 0.235 | 0.492 | 0.438 | 0.393 | 0.514 | 0.764 | |
| <i>SN</i> | 0.366 | 0.434 | 0.595 | 0.655 | 0.489 | 0.393 | 0.825 |

Source: Author Constructed

Recent studies have questioned the sensitivity of the Fornell–Larcker (1981) criterion in detecting a lack of discriminant validity in certain situations (Henseler et al. 2015). Accordingly, this study also applied the HTMT ratio, an alternative assessment grounded in the logic of the multitrait–multimethod matrix, to provide a more rigorous evaluation of discriminant validity. The HTMT results are reported in Table 10.

Table 10: Heterotrait-monotrait (HTMT) Ratio

| | <i>ETC</i> | <i>Exp</i> | <i>PEOU</i> | <i>PU</i> | <i>SE</i> | <i>SKILLS</i> | <i>SN</i> |
|---------------|------------|------------|-------------|-----------|-----------|---------------|-----------|
| <i>ETC</i> | | | | | | | |
| <i>Exp</i> | 0.233 | | | | | | |
| <i>PEOU</i> | 0.452 | 0.477 | | | | | |
| <i>PU</i> | 0.480 | 0.379 | 0.677 | | | | |
| <i>SE</i> | 0.302 | 0.570 | 0.543 | 0.580 | | | |
| <i>SKILLS</i> | 0.261 | 0.554 | 0.445 | 0.361 | 0.582 | | |
| <i>SN</i> | 0.420 | 0.481 | 0.657 | 0.710 | 0.527 | 0.392 | |

Source: Author Constructed

4.2.2 Structural model

Building on the measurement model assessment, the structural model was evaluated using SmartPLS. Following Hair et al. (2017), lateral collinearity was examined using VIF, and overall model fit was assessed using the SRMR and the NFI. Hypotheses were tested through a bootstrapping procedure with 5,000 resamples to estimate the significance of path coefficients, as recommended by Hair et al. (2017). The estimated structural model is presented in Figure 2.

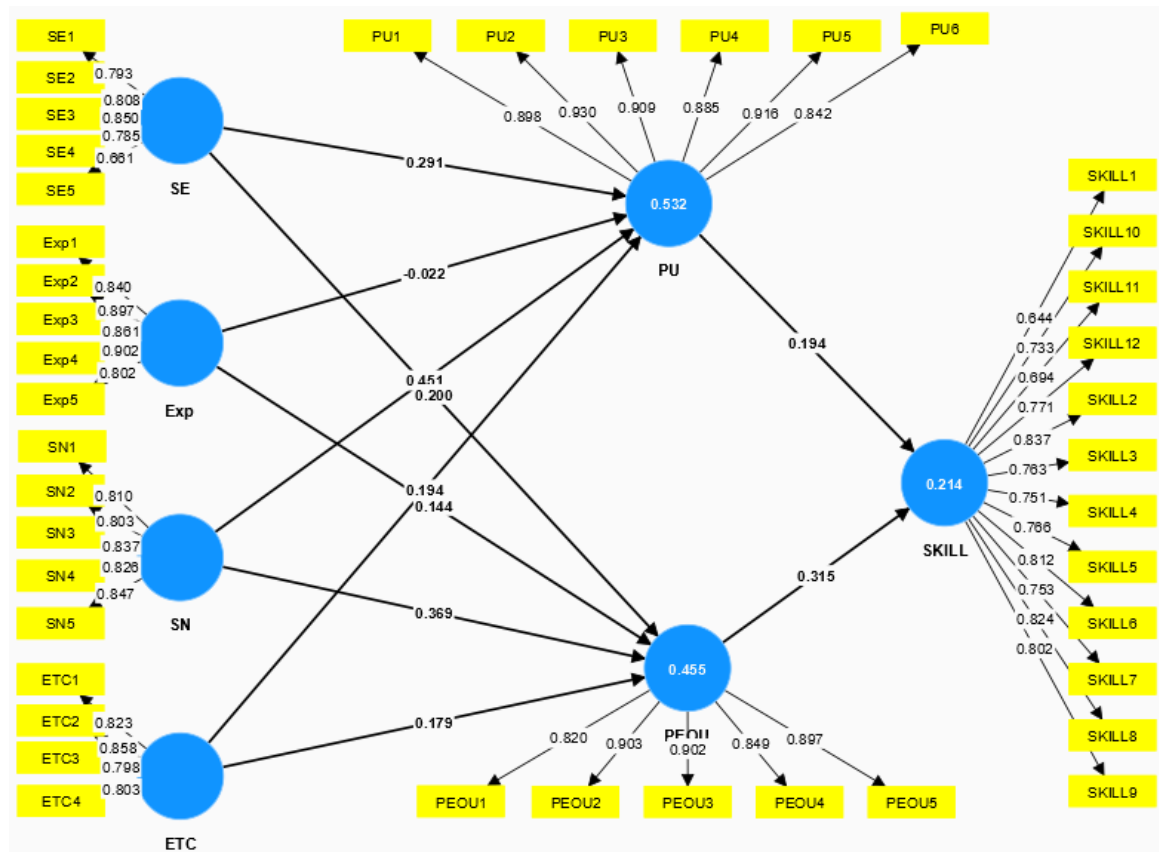


Figure 2: Structural Model

Source: Author Constructed

Multicollinearity was assessed using the VIF. As shown in Table 11, all VIF values fall below the recommended threshold of 5, suggesting that multicollinearity is not a concern in the present study.

Table 11: Variance Inflation Factor (VIF)

| | VIF |
|----------------------------|-------|
| <i>ETC</i> → <i>PEOU</i> | 1.171 |
| <i>ETC</i> → <i>PU</i> | 1.171 |
| <i>Exp</i> → <i>PEOU</i> | 1.434 |
| <i>Exp</i> → <i>PU</i> | 1.434 |
| <i>PEOU</i> → <i>SKILL</i> | 1.674 |
| <i>PU</i> → <i>SKILL</i> | 1.674 |
| <i>SE</i> → <i>PEOU</i> | 1.547 |
| <i>SE</i> → <i>PU</i> | 1.547 |
| <i>SN</i> → <i>PEOU</i> | 1.508 |
| <i>SN</i> → <i>PU</i> | 1.508 |

Source: Author Constructed

Model fit was assessed using SRMR and NFI. The SRMR value was 0.051, which is below the recommended threshold of 0.08, and the NFI was 0.982, exceeding the commonly used benchmark of 0.90, indicating a satisfactory model fit (Hu & Bentler 1999). Explanatory power and predictive relevance were evaluated using R^2 and Q^2 values. The model explained 45.5% of the variance in perceived ease of use ($R^2 = 0.455$), 53.2% in perceived usefulness ($R^2 = 0.532$), and 21.4% in emerging technology skills ($R^2 = 0.214$). Predictive relevance was supported by positive Q^2 values for all endogenous constructs (*PEOU* = 0.428; *PU* = 0.514; *SKILLS* = 0.235).

4.2.3 Testing of Hypotheses

Hypotheses were tested by estimating the structural model using the bootstrapping procedure in SmartPLS. The procedure generated path coefficients (β), standard errors, t-values, and p-values for each hypothesised relationship. The results are reported in Table 12.

Table 12: Hypotheses Testing Results

| Structural Path | Coeff (β) | t-statistics | p-values | Decision |
|----------------------------|----------------------|--------------|----------|------------------|
| <i>ETC</i> → <i>PEOU</i> | 0.179 ^{***} | 2.847 | 0.002 | H8 Supported |
| <i>ETC</i> → <i>PU</i> | 0.194 ^{***} | 4.058 | 0.000 | H7 Supported |
| <i>Exp</i> → <i>PEOU</i> | 0.144 ^{**} | 2.105 | 0.018 | H4 Supported |
| <i>Exp</i> → <i>PU</i> | -0.022 | 0.341 | 0.366 | H3 Not Supported |
| <i>PEOU</i> → <i>SKILL</i> | 0.315 ^{***} | 3.394 | 0.000 | H10 Supported |
| <i>PU</i> → <i>SKILL</i> | 0.194 ^{**} | 2.124 | 0.017 | H9 Supported |
| <i>SE</i> → <i>PEOU</i> | 0.200 ^{***} | 3.139 | 0.001 | H2 Supported |
| <i>SE</i> → <i>PU</i> | 0.291 ^{***} | 4.854 | 0.000 | H1 Supported |
| <i>SN</i> → <i>PEOU</i> | 0.369 ^{***} | 5.513 | 0.000 | H6 Supported |
| <i>SN</i> → <i>PU</i> | 0.451 ^{***} | 6.900 | 0.000 | H5 Supported |

Notes: ^{***}, ^{**}, ^{*} The coefficient is significant where, ^{***} $p < 0.01$, ^{**} $p < 0.05$, ^{*} $p < 0.10$.

Source: Author Constructed

Table 12 presents the bootstrapping results for the structural model. Overall, nine of the ten hypothesised relationships are supported. Consistent with the extended TAM, both perceived ease of use and perceived usefulness exhibit significant positive effects on the

possession of emerging technology skills, with perceived ease of use showing the stronger effect ($\beta = 0.315, p < .001$) compared with perceived usefulness ($\beta = 0.194, p = .017$). Regarding the antecedents of perceived ease of use, emerging technologies in the curriculum ($\beta = 0.179, p = .002$), experience ($\beta = 0.144, p = .018$), self-efficacy ($\beta = 0.200, p = .001$), and subjective norms ($\beta = 0.369, p < .001$) all exert significant positive effects, supporting H₈, H₄, H₂, and H₆, respectively. Similarly, perceived usefulness is significantly influenced by emerging technologies in the curriculum ($\beta = 0.194, p < .001$), self-efficacy ($\beta = 0.291, p < .001$), and subjective norms ($\beta = 0.451, p < .001$), supporting H₇, H₁, and H₅. In contrast, experience does not significantly predict perceived usefulness ($\beta = -0.022, p = .366$), and thus H₃ is not supported. Collectively, these findings highlight subjective norms and self-efficacy as key drivers of technology acceptance beliefs, while curricular integration also plays a meaningful role in shaping both perceived usefulness and perceived ease of use.

4.3 Discussion of Results

The objective of this section is to discuss the study's key findings in relation to the research objectives and relevant prior literature.

4.3.1 The level of emerging technology skills possessed by accounting undergraduates

The first objective of this study was to assess the level of emerging technology skills among accounting undergraduates in Sri Lanka. The descriptive results indicate that students generally report low to moderate skill levels across the assessed technologies. Skills linked to AI recorded comparatively higher mean scores, with advanced Microsoft Excel emerging as the strongest area, consistent with evidence that accounting undergraduates tend to demonstrate intermediate proficiency level in common productivity tools (Ogrady et al. 2015) and only modest readiness for more *advanced* AI-related applications (Tudor et al. 2025). In contrast, blockchain-related skills recorded the lowest mean scores. This pattern aligns with prior studies reporting that many accounting students have minimal exposure to blockchain and limited knowledge despite expressed interest (Felski & Empey 2020). Overall, the findings reinforce the broader conclusion in the accounting education literature that students' technology skills often lag behind the requirements of a technology-driven profession (Ahmed 2003, Cory & Pruske 2012, Sithole 2015, Stoner 2009), highlighting the need for more structured and explicit development of emerging technology skills within accounting programmes.

4.3.2 Factors influencing the emerging technology skill level of accounting undergraduates

The second objective of the study was to identify factors influencing undergraduates' emerging technology skill levels using an extended TAM framework. The structural results show that both perceived usefulness and perceived ease of use significantly predict the possession of emerging technology skills, with perceived ease of use exerting the stronger effect. This suggests that students are more likely to develop technology skills when they perceive emerging technologies as manageable and less complex, alongside perceiving them as beneficial for performance.

Among the external factors, self-efficacy significantly strengthens both perceived usefulness and perceived ease of use, indicating that confidence in one's capability to work

with technology enhances positive beliefs about technology use consistent with prior TAM-based evidence (Bandura 1982, Chahal & Rani 2022, Chen & Tseng 2012, Fatima et al. 2017, Thongsri et al. 2020). Subjective norms show the largest positive effects on perceived usefulness and perceived ease of use, implying that encouragement or expectations from peers, lecturers, and other influential referents meaningfully shape students' technology-related beliefs (Ahmed 2003, Farahat 2012, Ursava et al. 2019). Notably, experience positively predicts perceived ease of use but does not significantly predict perceived usefulness. This pattern suggests that prior exposure may make technologies feel easier to use, yet may not necessarily translate into stronger beliefs about usefulness, an outcome that aligns with some prior studies while differing from others, potentially reflecting limited or uneven technology exposure among undergraduates. Finally, the added construct; emerging technologies in the curriculum has significant positive effects on both perceived usefulness and perceived ease of use, indicating that curricular integration (content, resources, software access, and instructional support) is a meaningful enabler of favourable technology beliefs, consistent with studies incorporating facilitating conditions into technology acceptance models (Chen & Aklikokou 2019, Teo 2010).

Taken together, these findings suggest that improving emerging technology skills among accounting undergraduates requires attention not only to curricular content but also to student confidence and social influences that shape perceptions of usefulness and ease of use.

5 CONCLUSION

This study examined the level of emerging technology skills among accounting undergraduates in Sri Lanka and identified the factors influencing the possession of these skills. Drawing on an extended TAM with theory-informed external variables, the study adopted a quantitative approach and surveyed final-year accounting undergraduates from three Sri Lankan state universities in the Western Province. The findings suggest that accounting undergraduates' emerging technology skill levels range from low to moderate. It also revealed that both perceived usefulness and perceived ease of use have a significant positive impact on the possession of emerging technology skills of the accounting undergraduates, while self-efficacy, subjective norms, and emerging technologies in the curriculum also have a significant positive impact on perceived usefulness and perceived ease of use. Further, it revealed that experience significantly impacts perceived ease of use; however, it does not significantly impact perceived usefulness.

The study offers several implications for accounting education and professional development. First, the skill gaps identified highlight the urgency of embedding emerging technologies more explicitly within the accounting curriculum, beyond basic information and communication content. Curricular designers should integrate applied learning opportunities (e.g., technology-enabled accounting labs, case-based applications, and assessments aligned with emerging roles) that demonstrate both the relevance and practical use of these technologies. Second, given the strong role of self-efficacy and subjective norms, universities and PABs can strengthen skill development by creating supportive learning environments, mentoring, and peer-learning structures that normalise technology engagement and build confidence. Through partnerships with industry and PABs, universities can further enhance exposure through internships, workshops, and micro-credentials that link emerging technologies to real accounting tasks and career outcomes.

Despite the insights gained, the study is characterised by certain limitations that must be acknowledged. The study employed a sample drawn from final-year accounting undergraduates in the Western Province, which may limit the generalisability of the findings to other regions, private institutions, or earlier-year cohorts. Moreover, the model focused on two TAM beliefs (perceived usefulness and perceived ease of use) and examined only four external factors, although other determinants may also shape these beliefs and skill acquisition. In addition, emerging technology skills were measured using self-reported perceptions, which may be subject to response bias and may not fully reflect actual skill levels. Finally, the skill assessment concentrated on four technologies (blockchain, IoT, AI, and data analytics), while other technologies relevant to the profession were not examined.

Future research can extend this work in several ways. Studies could include a broader and more diverse sample across provinces, institution types, and year levels, and employ longitudinal designs to examine how skills and technology beliefs evolve over time. Researchers may also expand the model by incorporating additional predictors (e.g., facilitating resources, teaching quality, learning orientation, technology anxiety, or organisational support during internships) and testing alternative mechanisms through which skills are developed. Importantly, future studies could combine self-reported measures with objective assessments (e.g., skill tests, simulations, or portfolio-based evaluation) to capture actual skills. Finally, research can widen the scope of technologies investigated and incorporate perspectives from employers, educators, and PABs to triangulate expectations, curriculum alignment, and labour market readiness.

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