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**PERCEIVED INFORMATION TECHNOLOGY (IT) KNOWLEDGE AND COMPETENCE OF GRADUATING ACCOUNTANCY STUDENTS AND ENTRY-LEVEL ACCOUNTANTS BASED ON INTERNATIONAL EDUCATION STANDARD 2 AND INTERNATIONAL EDUCATION PRACTICE STATEMENT 2**

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**ABSTRACT**

Information technology (IT) plays a vital role in the accounting profession. As IT continues to evolve, accounting professionals need to develop and enhance their IT skills. In turn, accounting education must align students' IT competence with the standards of IES 2 and IEPS 2. This study aims to assess the perceived levels of IT knowledge and competence among graduating accounting students and entry-level accountants based on IES 2 and IEPS 2, specifically evaluating whether the accounting curriculum effectively prepares students for entry-level accounting roles. The study used quantitative data from 100 respondents, including 50 graduating accountancy students from A.Y. 2023-2024 and 50 BSA graduates from A.Y. 2020-2023. The independent t-test was used for data analysis. Results revealed that the perceived level of IT proficiency for graduating accountancy students based on the standards set by IES 2 and IEPS 2 was overall advanced, except for the IT user, manager, evaluator, or designer, which was at an intermediate level. Meanwhile, the perceived level of IT proficiency of entry-level accountants was overall advanced. Therefore, the perceived level of IT knowledge and competence of entry-level accountants is significantly higher than the perceived level of IT knowledge and competence of graduating BSA students across the four variables.

*Keywords:* accounting curriculum IT alignment, entry-level accountant IT skills, IT proficiency standards in accounting, IT skills assessment in accounting graduates, IT in accounting education

**INTRODUCTION**

**Rationale**

Human society is experiencing a period of rapid technological development, also known as the "digital era," which is being driven by digital technologies. Because of the new technologies, economies and society are reshaping. As artificial intelligence (AI) drives a new wave of innovation, individuals might be on the verge of a dramatic deepening and acceleration of the ongoing digital transformation of economies and society. The pandemic further boosted the development of technologies (Qureshi, 2022).

While the digital age offers several benefits, many companies are disrupted by its coming because it has changed the way they communicate with their customers, their operations, and their business models (Schwertner, n.d.). In effect, the traditional way of doing business has been eradicated, transforming businesses to adopt digital technologies to cope with the trends in the market, empower workforce efficiency, and ensure sustainability. Jin and Choi (2019) describe how companies have attempted to dive into investment in new technology, research and development (R&D) activities, and technical and non-technical innovation factors to cope with the changes. To increase their sustainability and secure their success over the long run, both major enterprises and SMEs realized they must focus on technical advancements

Additionally, according to Van Laar et al., (2019), global competitiveness, the internet, and extensive use of technology all point to the workforce facing new challenges in the twenty-first century economy. Because of the rapid digital revolution, most professions, as well

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as participation in society, demand a variety of digital skills. Now that Information Technology (IT) is increasingly available and spreading in businesses, workers must have digital skills that go beyond the basic practical skills required to use IT efficiently.

In the business world, globalization and commercial expansion have led to the emergence of new professions and jobs with accounting as one of the professions that is rapidly evolving. Among many factors, accountants' abilities help meet the needs of users of financial and non-financial information to bring value to the environment (Wirianata, 2017). But today, as the corporate environment changes, professional accountants must continue to learn the abilities required by the organization. Cui (2023) further said that the traditional responsibilities of financial accounting such as voucher completion and documentation, accounts registration and statement generation tasks are now being acquired by financial software or robots in the emerging digital economy.

In the study of Goncalves et al. (2022), they found that according to accounting firms, the use of IT has helped the automation of their routine tasks and the occurrence of potential errors. This has helped the accountants to perform higher value-added services and reduced the use of papers as businesses are focusing more on people with good analytical skills and business knowledge. However, in the midst of the digital economy, where new application scenarios for technology are constantly emerging, incorrect management of the finance and accounting staff can put businesses at great operational and financial risk impacting their legal standing (Cui, 2023).

As such, Cui (2023) indicated that to prepare students, colleges and universities should first evaluate the new knowledge, competence, and accomplishment changes of new finance and accounting talents demanded by the paradigm shift towards digital economy and then adapt or readjust themselves to meet the new needs and demands for finance and accounting talents. They should begin with the analysis of problems occurring due to the progress of the new digital economy to the acquisition of corresponding accounting abilities. One of the skills that graduates utilize when they first enter their profession, hence, they should possess, are IT skills (Ismail et al., 2020).

Currently though, the Philippines placed 51st out of 134 economies in the first Digital Skills Gap Index (DSGI) 2021. The survey aims to evaluate each economy's level of technical expertise and skills regarding the digital skills required for long-term growth, recovery, and prosperity. In relation to this, Jonbekova (2015), identifies a disturbing trend in which an increasing percentage of people receive degrees without demonstrating a basic comprehension of their chosen field of study. This skill gap is influenced by problems in the educational system, an inactive job market, and an economic recession. These issues, taken together, create concerns regarding the effectiveness of student education and training, potentially resulting in a gap between the abilities of graduating BSA students and the growing needs of the accounting profession. Thus, accounting education institutions must respond to developments by updating the curriculum to meet market expectations (Handoyo & Anas, 2019). Graduating accountancy students will have more job prospects if they have applicable IT knowledge and abilities in today's IT-intensive business sector.

But as the accounting field has been significantly impacted by the rapid growth of IT, there is still a significant gap between the perceived IT skills of graduating accountancy students and the IT skills of entry-level accountants. There are several factors that may have contributed to this gap. First, many educational institutions encounter difficulties to implement the newest technological advancement in their curricula due to limited budgets. In that scenario, many students could also leave college without enough exposure to advanced tools like cloud-based accounting software, data analytics, and enterprise resource planning (ERP) systems. Second, there is commonly a gap between students' self-reported competence with IT and their actual preparedness for the workplace. The rapid growth of technology also contributes to this gap.

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Even the most recent accounting curricula might not prepare students for the requirements of modern work.

IT is important because it helps automate and speed up financial tasks, making it a big part of accounting today. This means accountants need to be good with technology (Smith et al., 2019). Hence, it is crucial to close the gap between what students think they know about IT and what they need to know so they are ready to succeed in a technology-focused accounting world.

In this context, the purpose of this study is to describe and identify the perceived IT knowledge and competence of graduating accountancy students and entry-level accountants and compare the perceived level of IT proficiency of graduating accountancy students to entry-level accountants to assess the preparedness of the graduating accountancy students as entry-level accountants. Identifying if a gap exists would lead to recommendations for curriculum enhancements.

### **Statement of the Problem**

The purpose of this study is to identify and describe the perceived level of IT knowledge and competence of graduating accountancy students and entry-level accountants based on IES 2 and IEPS 2 to assess the preparedness of students as entry-level accountants. This study took place during the first semester of S.Y. 2023-2024.

It is specifically aimed at answering the following questions.

1. What is the perceived IT knowledge and competence of the graduating accountancy students in terms of:
  - 1.1. General IT Knowledge;
  - 1.2. IT Control Knowledge;
  - 1.3. IT Control Competence;
  - 1.4. IT User, Manager, Evaluator, or Designer?
2. What is the perceived IT knowledge and competence of entry-level accountants in terms of:
  - 2.1. General IT Knowledge;
  - 2.2. IT Control Knowledge;
  - 2.3. IT Control Competence;
  - 2.4. IT User, Manager, Evaluator, or Designer?
3. Is there a significant difference between the perceived IT knowledge and competence of graduating accountancy students and entry-level accountants?

### **Statement of Null Hypothesis**

There is no significant difference between the perceived IT knowledge and competence of graduating accountancy students and entry-level accountants.

## **METHODOLOGY**

A descriptive approach was used to describe the perceived IT knowledge and competence of graduating accountancy students and entry-level accountants as whether foundation, intermediate, advance, or mastery. Further, a comparative design was used because it aims to compare the perceived IT knowledge and competence of the graduating accountancy students and entry-level accountants which was used to assess the preparedness of the graduating accountancy students as entry-level accountants. This research was carried out during the first semester of the 2023-2024 school year at Saint Mary's University (SMU). The respondents of this study were graduating accountancy students and BSA graduates of Saint

Mary's University. The researchers had a total of 100 respondents, consisting of 50 graduating accountancy students of S.Y. 2023-2024 and 50 BSA graduates from S.Y. 2020-2023 who are working in the accounting industry – commerce and industry, academe, and public practice. The instrument that was used to gather the needed data for this study was a self-administered questionnaire based on the International Education Practice Statement 2 (IEPS 2).

## RESULTS AND DISCUSSION

### Section 1. Perceived IT Knowledge and Competence of Graduating Accountancy Students

**Table 1**

*Perceived Level of Information Technology (IT) Knowledge and Competence of Graduating Accountancy Students*

Categories of IT Knowledge and Competence	N	Mean	Std. Deviation	Qualitative Description
General IT Knowledge	50	2.87	.478	Advanced
IT Control Knowledge	50	2.73	.514	Advanced
IT Control Competence	50	2.57	.587	Advanced
IT User, Manager, Evaluator, or Designer	50	2.40	.497	Intermediate

*Mean Range Description: 3.50-4.00 (Mastery); 2.50-3.49 (Advanced); 1.50-2.49 (Intermediate); 1.00-1.49 (Foundation)*

In terms of the level of IT knowledge and competence of graduating accountancy students, the indicated means scores are computed out of 4-point Likert scale. The variation in each score of standard deviation per category is low and nearly identical. This suggests that, on average, there is less variability and more consistent level of perceived IT knowledge and competence among graduating accountancy students. Furthermore, the qualitative description in IT users, manager, evaluator, or designer competence is intermediate level compared to the other three categories which is in advanced level.

On average, graduating accountancy students have an advanced level of IT knowledge and competence which surpasses the minimum requirement of intermediate level as indicated by IFAC member body, International Education Standard (IES 2). This indicates that they have a high level of experience with IT and can perform with minimal guidance from superiors. This is supported by the study of Stumke (2023) about the lecturers of accounting curriculum needs or expectations of ICT competencies to graduating accountancy students. It was identified that 3rd and 4th year accountancy students should have a high level of ICT competence or equivalent to advanced level of IES 2 level of IT proficiency which means they should acquire all the IT competencies identified in accounting curriculum.

Overall, the respondents have an advanced level of IT proficiency in terms of general IT knowledge, IT control knowledge, and IT control competence. This means that the accounting curriculum is aligned with the requirements of IES 2 and IEPS 2. Based on the results, the school is able to provide an advanced level of knowledge and competence in these areas. One contributing factor may be the internship program which affected their knowledge and competence in IT. This gave the students practical experience which has a direct exposure to their real-world application of IT. Diokno and Peprah (2021) said that the IT skills acquired by the students on the internship program have a positive relationship with the first-job experience of the graduates. The more the students are exposed to real world IT applications, the more it increases their awareness, confidence, and readiness of IT use. Hence, they are more likely to be motivated to learn and gain more knowledge and competence about IT in accounting.

On the other hand, it was observed that the competencies by role – IT user, manager, designer, or evaluator - have an intermediate level. This means that the accounting curriculum is able to meet the standards. However, while the university is designed to do this, it does exceed the standards. The curriculum covers introductory accounting software but does not delve into advanced or specialized software which might limit the students' level of IT to reach an advanced level. Further, the accounting program focuses on the core accounting skills over IT. This means that they prioritize accounting principles and technical skills that are important for CPA licensure examination over advanced IT training. Additionally, the accounting program still emphasizes the use of manual accounting processes rather than technological applications. As a result, students are not able to reach an advanced level over these competencies because of the lack of practical experiences on the IT roles provided by IEPS 2. IT knowledge and competence have the highest influence in work readiness; hence, students need to be skill-ready for the workplace (Lestari & Santoso, 2019) and the school has a lot of work to do in this matter.

## Section 2. Perceived IT Knowledge and Competence of Entry-Level Accountants

**Table 2**

### *Perceived Level of IT Knowledge and Competence of Entry-Level Accountants*

Categories of IT Knowledge and Competence	N	Mean	Std. Deviation	Qualitative Description
General IT Knowledge	50	3.20	.408	Advanced
IT Control Knowledge	50	3.15	.534	Advanced
IT Control Competence	50	2.91	.541	Advanced
IT User, Manager, Evaluator, or Designer	50	2.83	.520	Advanced

*Mean Range Description: 3.50-4.00 (Mastery); 2.50-3.49 (Advanced); 1.50-2.49 (Intermediate); 1.00-1.49 (Foundation)*

The stated means scores are calculated using a 4-point Likert scale to represent the entry-level accountants' IT knowledge and competency as experienced BSA graduates. The low and virtually similar variation in each category's standard deviation score indicates that graduating accountancy students' levels of IT knowledge and competency are more consistent and less variable. Moreover, the mean scores for all categories of IT knowledge and competence among entry-level accountants indicate an advanced level. Overall, BSA graduates possess an advanced level of IT knowledge and competence. As defined by the IFAC member body, International Education Standard 2 (IES 2), being in the advanced level means the participant has a high level of experience with the IT skill and can perform the task proficiently with minimal guidance or supervision. The results then suggest that the BSA graduates are highly proficient and competent in Information Technology.

The current trend indicates that employers prioritize specific information technology (IT) skills, which were identified through a content analysis of the competencies required by local Bachelor of Science in Accountancy (BSA) graduates upon entering the profession. The survey on perceived employability skills indicates that employers in the Philippines are looking for BSA graduates with good IT abilities (Ismail et al., 2020). This is supported by Daff (2021) who stated that recent graduates in accounting must possess the necessary abilities to use accounting software and do effective online research, including refining search terms to find appropriate material. Furthermore, employers in the Philippines demand that recent BSA graduates have technical skills that align with business needs for a smooth entry into the workforce (Diokno & Peprah, 2021)

The study conducted by Ahmad et al. (2022) also revealed that information technology is considered an important professional skill for BSA graduates entering the accounting profession. This implies that IT proficiency is highly valued and expected of new accounting professionals. The results of the above table indicate that the BSA graduates are considered adequately prepared technically. This finding is supported by Sithole (2015) who said that BSA graduates are generally equipped technologically.

Abong et al. (2023) likewise found that BSA graduates are said to have higher value in IT competencies that are necessary in the accounting industry than the IT competencies developed by accounting students. This implies that substantial changes that have been taking place in the accounting curricula with respect to technology have enhanced students' computer skills. Thus, changes to the curriculum over time have had favorable outcomes.

Overall, it is essential for BSA graduates to possess a solid foundation of IT knowledge and competence to bridge the skills gap that exists across various technological domains. This means that they need to be proficient in a wide range of IT applications and have a deep understanding of different IT concepts and technologies. By having a strong IT skill set, BSA graduates can better meet the increasing demand for IT professionals in all areas of technology and contribute effectively to the digital transformation of the accounting profession

### Section 3. Comparison of the Perceived Level of IT Knowledge and Competence of Graduating Accountancy Students and Entry-Level Accountants

**Table 3**

*Comparison of the Perceived Level of IT Knowledge and Competence of Graduating Accountancy students and Entry-Level Accountants*

Categories of IT Knowledge and Competence	Levene's Test		T-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
General IT Knowledge	.686	.410	-3.78	98	.0001
IT Control Knowledge	.146	.703	-3.97	98	.0001
IT Control Competence	1.324	.253	-3.01	98	.003
IT User, Manager, Evaluator, or Designer	.052	.820	-4.20	98	.0001

Table 3 reveals that the variances in the mean scores in four categories of IT knowledge and competence are statistically the same as shown in the Levene's test ( $p > 0.05$ ). After conducting an independent t-test, it was found that there is a significant difference between the mean scores of graduating BSA students and entry-level accountants in terms of general IT knowledge ( $t_{98}=-3.78$ ,  $p=0.0001$ ), IT control knowledge ( $t_{98}=-3.97$ ,  $p=0.0001$ ), IT control competence ( $t_{98}=-3.01$ ,  $p=0.003$ ), and IT user, manager, evaluator or designer ( $t_{98}=-4.20$ ,  $p=0.0001$ ). Hence, the perceived IT knowledge and competence of entry-level accountants is significantly higher than the perceived IT knowledge and competence of graduating BSA students across the four categories.

Results indicate that the entry-level accountants are more knowledgeable and competent in using IT in the accounting field compared to the graduating accountancy students. Under general IT knowledge, the result of the study is supported by Kwarteng and Mensah (2022) who found that only two-thirds of eighteen accounting skills needed in the workplace were possessed by the graduating accountancy students in which the underdevelopment was found to be related to technical skills. This means that graduating accountancy students have a limited IT skill since they have minimal practical experiences. The accounting curriculum still emphasizes the use of manual accounting processes which reduce the focus of students on IT application and may limit their motivation to acquire a higher IT level of proficiency. This may serve as the reason why they find it difficult to transition from classroom dealing to the real accounting workplace.

The study of Abong et al. (2023) also arrived with the same result indicating that the IT skills perceived to be necessary by the entry-level accountants in the accounting workplace are significantly higher than those acquired and developed by the graduating accountancy students. This creates an expectation-performance gap between the IT knowledge and competence of

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graduating accounting students and the IT knowledge and competence of entry-level accountants. This is because the graduating accountancy students have a strong theoretical understanding and minimal practical experiences and are often limited to academic settings compared to entry-level accountants that apply their IT skills in a dynamic environment creating a wider knowledge and competence gap. Further, entry-level accountants are more exposed to advanced IT tools and real-world data which the students do not typically encounter. They also attend workshops, seek IT certification, and participate in professional development opportunities to keep up with the changes in IT.

The findings suggest a significant gap between the IT proficiency of graduating accounting students and entry-level accountants. This discrepancy can be attributed to several factors, including curriculum limitations, insufficient practical training, inadequate emphasis on soft skills, and the rapid pace of technological advancement in the accounting industry. To bridge this gap, accounting programs should prioritize practical experience, industry partnerships, and continuous learning to equip graduates with the necessary skills to succeed in the modern accounting workplace. As Tan and Laswad (2018) stated, the need for knowledge and competence requirements in the field of accounting must be taken into consideration by the accounting education for them to improve and advance the accounting curriculum that will help in preparing the students as entry-level accountants.

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

1. The perceived level of IT knowledge and competence of graduating accountancy students is at an advanced level which means that they have met the minimum level of IT proficiency of intermediate level according to IES 2. This means that the accounting curriculum is aligned with the IEPS 2 standard and that the internship program may have given them direct exposure to the real-world application of IT tools in accounting. Based on the four categories of IT, the only intermediate level is the category for IT users, managers, evaluators, or designer competence because the IT related courses may not have different aspects of IT knowledge and competence based on the specific field that students may choose in the future. The accounting curriculum focuses more on foundational accounting principles which are important for the preparation of students in CPA licensure examination. Further, the limited exposure to advanced technology hinders the students from having a higher level of IT proficiency since they may only have general access or foundational IT tools rather than advanced technologies like ACL, ERP, or automation tools which limit their ability to reach an advanced level of IT proficiency.
2. BSA graduates possess an advanced level of perceived IT knowledge and competency which indicates a high-level experience with the IT skill allowing them to perform the task proficiently with minimal guidance or supervision. It was found out that the BSA graduates are highly proficient and competent in IT.
3. There is a significant difference between the perceived IT knowledge and competence of graduating accountancy students and that of entry-level accountants, with the latter demonstrating higher levels of both. This disparity arises from the rapid advancement of information technology, which greatly impacts the corporate sector.

### Recommendations

**For Saint Mary's University.** The university can use the findings to ensure that accounting graduates have the fundamental IT competencies needed for their future careers while creating and implementing accounting programs. It can also establish partnerships with professional bodies, accounting firms, and IT experts to gain insights into industry trends and requirements.

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Moreover, the IT syllabus should include more practical, hands-on activities and programs that involve real-world accounting scenarios that are commonly used in the industry, such as the use of advanced Excel in making payroll systems and other accounting software like Audit Command Language (ACL). The syllabi should incorporate the use of IT in major accounting subjects, particularly management accounting, financial accounting and reporting, and auditing, rather than treating them as separate subjects, specifically the use of IT in teaching topics that use IT systems or tools like management decision-making, strategic planning, forecasting future performance, budgeting, and more. The accounting curriculum may provide more hours of computer laboratory for accounting students for more time of learning and practicing their IT knowledge and competence. To better equip students for the dynamic landscape of IT budgeting, it is imperative to integrate advanced tools and technologies into the learning process. By providing opportunities for students to utilize specialized IT budgeting software and platforms, they can gain hands-on experience in forecasting, planning, and analyzing IT expenses. To guarantee the accounting students about their IT skills, the institution should conduct a certification program which will be used by the students in their future job application. The university may invest in targeted professional development programs for their accounting staff that focus on the principles and practices of IT system re-engineering, as well as the design and evaluation of IT controls. They can also encourage accountants to pursue industry-recognized certifications such as CISA, CISM, and ITIL that can significantly enhance an accountant's career prospects and professional credibility. These certifications validate expertise in areas like information systems auditing, information security, and IT service management, which are increasingly important in today's digital age.

**For Future Researchers.** Future researchers must include a qualitative type of study in gathering respondents' data to determine other IT software that entry-level accountants are using and for graduating accountancy students to determine why their perception on the usefulness and ease of use of a certain IT skill is high or low. They are also encouraged to include comparative analysis between educational institutions, continuous student and accounting practitioners feedback mechanisms, and analysis of emerging technologies. Lastly, they must use the updated version of IES 2 which comprises the three levels of proficiency since the IAESB removed the mastery level.

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