

Marching Towards the Disruptive Era: Are the Digital Accountants in Hong Kong Prepared?

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Abstract

The increasing digitalization of the global economy has imposed significant challenges and demands on accounting professionals, requiring them to develop strong digital competencies, particularly in IT control systems. This study aims to assess the level of digital competency among Certified Public Accountants (CPAs) in Hong Kong, with a focus on IT control competencies and managerial roles in managing IT resources. Using a descriptive-correlational research design, a sample of 397 CPAs was surveyed using a structured questionnaire to evaluate their proficiency in key IT competencies. The results indicate that CPAs are generally proficient in applying IT systems and tools to accounting problems, with the highest proficiency noted in financial control over IT (Mean = 3.56). However, challenges were identified in areas requiring strategic IT skills, particularly in systems acquisition, development, and implementation (Mean = 3.38), reflecting a gap in project management and technical oversight. These findings suggest that while CPAs in Hong Kong are well-prepared for daily IT-related tasks, further development in strategic IT governance and project management is necessary. The study concludes by recommending targeted training in IT project management and digital governance to better equip CPAs for the evolving digital landscape.

Keywords

Accounting Professionals, Digital Competency, IT Controls, IT Governance, Project Management

1. Introduction

Technology has always its ways and means to integrate to humanity's daily lives. One of the first thing it will try to reach is the economy. Economy is never complete without the agents that can interpret financial figures most importantly the accounting professionals. The last few years has seen an unprecedented rise of technology-based tools, and that, the pandemic has initiated an accelerated pace of digitalization among institutions both public and private. As such, accounting professionals are facing a disruptive era marked by the integration of advanced information technologies (IT) into their daily operations. The rapid pace of technological evolution has given rise to the need for digital competency, especially for accountants who play critical roles in managing an organization's financial health, ensuring compliance, and safeguarding against risks. The question now arises: are accountants in Hong Kong equipped with the necessary IT control competencies to thrive in this digital age? This study seeks to explore the current state of digital readiness among accountants in Hong Kong, focusing on their ability to manage IT controls and user competencies effectively.

1.1 Background

The transition to a digitally driven economy has placed unprecedented demands on professionals across all sectors, and accounting is no exception. Globally, organizations have shifted towards incorporating cloud-based systems, automated financial reporting, and advanced IT control mechanisms to ensure business continuity and competitiveness. In response, accounting professionals are required to adapt quickly to new technologies and regulatory frameworks that govern data security, risk management, and financial reporting. Internationally, countries such as the United States and the United Kingdom have been at the forefront of integrating IT systems into accounting practices, with their respective professional bodies emphasizing continuous IT training. Sastararugi et al. [1] further clarified that businesses often seek experts such as accounting professionals specializing in ICT to help them to be best informed on making sound data-driven decisions.

In the Asia-Pacific region, accounting firms have increasingly recognized the role of IT in enhancing productivity and ensuring regulatory compliance. However, countries like Hong Kong face unique challenges, including the need to align local accounting practices with international standards while navigating rapid technological changes [2]. While Hong Kong has made strides in fostering a digitally competent workforce, there remains a question of how well its accountants are equipped to manage IT-related risks and controls in their professional roles.

Locally, the demand for accountants with digital competencies is on the rise, particularly in sectors where regulatory requirements for IT controls are stringent, such as financial services. Small and medium-sized enterprises (SMEs) in

Hong Kong, which form a significant portion of the economy, also seek accountants with expertise in using cloud accounting software and managing IT control frameworks. The integration of cloud-based accounting platforms like QuickBooks and Xero has enabled greater flexibility, but it has also introduced new risks in data integrity, cybersecurity, and compliance, necessitating a shift in the skill set of accounting professionals.

The Hong Kong Institute of Certified Public Accountants (HKICPA) has recognized these challenges, advocating for stronger digital competencies among its members. While many accounting professionals in Hong Kong have embraced these changes, there are still gaps in how IT control frameworks are applied, particularly among SMEs and smaller firms that lack access to advanced training and resources [3]. This study addresses the central theme of digital competency within this local and global context, examining whether accountants are ready to face the evolving digital landscape.

1.2 Literature Survey

Numerous studies have explored the role of IT in enhancing accounting practices. For instance, Ayinla et al. [4] highlights the role of cloud accounting systems in improving business flexibility and reducing costs, a trend that has gained traction among SMEs worldwide. Similarly, Krupa et al. [5] discusses the importance of robust IT control systems in safeguarding against risks such as fraud, emphasizing that effective internal controls are critical to meeting compliance goals. In Hong Kong, however, the existing literature is somewhat limited in terms of assessing the specific digital competencies of accountants.

Previous research in the region has primarily focused on the adoption of IT systems rather than the skill set required to manage these systems. For example, Barna and Ionescu [6] and Coman et al. [7] investigates organizational structures and their impact on IT control activities, but there is little focus on accountants' hands-on ability to apply control frameworks. Furthermore, the HKICPA has acknowledged the need for more targeted training programs that specifically address IT control competencies. This study seeks to fill the gap by providing empirical evidence of accountants' digital readiness in Hong Kong, based on survey data that evaluates IT control and user competencies.

Research gaps also exist in understanding how IT user competencies, such as managing financial controls and IT strategy alignment, translate into practical outcomes for accounting professionals. While studies like that of Maelah et al. [8] emphasize the need for IT competencies in strategic management, there is a lack of localized research that addresses how these skills are applied in the context of Hong Kong's regulatory environment. This study thus contributes to the existing body of knowledge by focusing on the digital competencies of Hong Kong accountants and identifying areas where further development is needed.

1.3 Objectives

The primary objective of this research is to assess the level of digital competency among accountants in Hong Kong, particularly in relation to IT control competencies and user competencies. This study aims to:

- a. Evaluate the readiness of accountants in as a user of IT controls and manager of IT resources; and,
- b. Identify gaps in digital competencies that may affect accountants' ability to perform IT-related tasks efficiently.

2. Methods

This section provides an overview of the research design, population, sampling techniques, data-gathering instrument, procedures for collecting data, and the statistical treatments employed in this study. The research is a pure quantitative study focused on the digital competencies of accountants in Hong Kong.

2.1 Research Design

The study employed a descriptive-correlational research design to investigate the digital competencies of accountants in Hong Kong. Descriptive-correlational research is well-suited for exploring relationships between variables without manipulating them [9]. In this case, the study sought to describe and measure the extent of digital competency among CPAs and identify any potential correlations between these competencies and their performance in the profession. By using this approach, the study aimed to provide a detailed understanding of accountants' ability to manage and utilize digital tools and frameworks that are essential in modern accounting practice.

This design was selected due to its ability to provide an accurate portrayal of existing competencies while exploring relationships between variables in a naturally occurring environment. The primary focus was on digital competencies, specifically the ability of accountants to navigate IT systems and apply relevant control frameworks. Statistical analysis was used to determine the strength of the relationship between these competencies and the overall professional performance of accountants in the digital era.

2.2 Population and Sampling

The population for this study consists of the Certified Public Accountants (CPAs) currently practicing in Hong Kong, with a total membership of 48,100 registered with the Hong Kong Institute of Certified Public Accountants (HKICPA) (INSOL International, n.d.) [10]. These CPAs represent professionals working in various sectors, including government and private industries, all of which are subject to increasing technological demands in the field of accounting. This

study excludes sole practitioners and self-employed accountants to ensure consistency in work environments and access to organizational digital resources.

Given the size of the population, determining an adequate sample size is crucial to ensure that the findings are statistically reliable and generalizable. Using Yamane's formula [11], which is commonly employed in determining sample sizes for large populations, the sample size was calculated with a confidence level of 95% and a margin of error of 5%. The formula is expressed as follows:

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

Where:

- n is the required sample size,
- N is the population size (48,100),
- e is the margin of error (0.05).

Substituting the values into the formula:

$$n = \frac{48,100}{1 + 48,100(0.05)^2} = 397 \quad (2)$$

Therefore, the study aimed to survey 397 Hong Kong CPAs to ensure a reliable sample size that could accurately represent the larger population.

A multistage sampling technique was applied to ensure a representative and systematic selection of respondents. The first stage involved stratifying the population into two groups: CPAs working in the government sector and those in the private sector. Stratified sampling was used to ensure that both sectors were proportionally represented in the study. In the second stage, random sampling was conducted within each stratum to select participants. Finally, systematic sampling was employed to select individuals from the HKICPA's membership list, ensuring geographic and organizational diversity among the respondents.

2.3 Data Gathering Instrument

To collect data on digital competencies, a survey questionnaire was the primary instrument used. The questionnaire was designed specifically to assess the proficiency of CPAs in handling IT control systems, frameworks, and tools relevant to the accounting profession. The questions were based on internationally recognized frameworks, such as the International Federation of Accountants (IFAC) IT Competency Framework for Professional Accountants [12,13] and the review of Damasiotis et al. [14], which outlines the digital skills that modern accountants should possess.

The questionnaire was divided into sections assessing various dimensions of digital competencies, including the ability to implement IT control frameworks, manage IT risk assessment processes, and utilize digital tools to solve accounting problems. Each question was rated on a 5-point Likert scale, ranging from "1" (Strongly Disagree) to "5" (Strongly Agree), allowing respondents to self-assess their level of digital competency in different areas. The instrument underwent a pilot test to ensure its reliability and validity, and adjustments were made based on feedback from the pilot study.

2.4 Data Gathering Procedure

The data collection process followed a structured series of steps, beginning with obtaining formal permission from the heads of the accounting firms and government entities where the CPAs were employed. Once permission was granted, the researcher coordinated with each organization to identify potential participants and schedule the distribution of questionnaires at times that would not disrupt their work.

The questionnaires were distributed both in electronic and physical formats, depending on the preferences of the respondents. A short briefing was provided to ensure that participants understood the purpose of the study and how to complete the survey. After the questionnaires were completed, they were collected personally by the researcher to ensure timely retrieval. This direct approach also allowed for any necessary follow-up questions or clarifications during the data collection process.

Once the surveys were collected, the data were reviewed for completeness before being processed for statistical analysis. The data were entered into statistical software for further examination, and steps were taken to validate the data to ensure accuracy and reliability. This included cross-checking the responses and addressing any inconsistencies that were identified during the initial review.

2.5 Statistical Treatment of Data

The study employed a range of statistical techniques to analyze the data gathered from the survey. First, frequency and percentage were used to describe the distribution of responses across different categories of digital competencies. This helped to categorize and summarize the overall level of digital competency among the respondents. Then, the weighted average mean was calculated to evaluate the self-assessed digital competencies of the CPAs. This provided a clear indication of how proficient the respondents were in various aspects of digital tools and frameworks. The weighted average mean helped to quantify the significance of digital skills in accounting practice and provided insights into areas where CPAs may need further training or development.

2.6 Ethical Considerations

The study adhered to strict ethical standards to protect the rights and privacy of all participants. Informed consent was obtained from each respondent, and they were fully informed of the study's objectives, their right to withdraw at any time, and the confidentiality of their responses. Privacy was maintained by anonymizing the data and using pseudonyms to protect the identities of the participants. All survey data were stored securely, and access was limited to the researcher to prevent unauthorized disclosure.

Furthermore, participation in the study was entirely voluntary, and no incentives or coercion were used to influence participation. The study also ensured non-maleficence by taking care to avoid any potential harm or discomfort to the participants. The data collected were used exclusively for academic purposes, and the results were presented in a way that respected the integrity and professionalism of the participants.

3. Results and Discussion

The table provided outlines the key User Role IT Control Competencies of Certified Public Accountants (CPAs) in Hong Kong. In this analysis, the digital competencies are grouped into seven core areas, each measuring specific aspects of their proficiency in using IT controls within the context of accounting-related work is shown in Table 1.

Table 1. Mean responses of the level of digital competency of accountants in hong kong along with user role it control competencies.

(A) User Role It Control Competencies	Mean	Descriptive Rating
A.1 Select suitable control criteria to analyze and evaluate controls	3.48	Proficient
A.2 Evaluate the internal IT control environment	3.72	Proficient
A.3 Evaluate IT risk assessment	3.57	Proficient
A.4 Evaluate the IT control activities	3.53	Proficient
A.5 Evaluate the information and communication, monitoring process and taken actions in relation to IT	3.54	Proficient
A.6 Apply appropriate IT systems/tools to business / accounting problems	3.87	Proficient
A.7 Demonstrate understanding of business and accounting systems	3.56	Proficient
Overall	3.61	Proficient

The overall mean score of 3.61 reflects a rating of "Proficient," indicating that accountants in Hong Kong are well-versed in using IT systems to support their roles, though there are variations in performance across specific competencies. Among the seven competencies, "*Apply appropriate IT systems/tools to business/accounting problems*", garnered the highest mean score of 3.87. This indicates that accountants are highly proficient in utilizing digital tools like cloud-based accounting software, word processing software, and internet tools to streamline operations and enhance productivity. As widely adopted systems like QuickBooks, Xero, and Sage 50 become integral to daily accounting practices, CPAs are increasingly reliant on these tools to manage tasks such as financial reporting, data management, and client communication [15]. The high proficiency in applying IT systems suggests that accountants are not only comfortable with traditional accounting software but are also adept at leveraging digital tools to improve operational efficiency. This aligns with broader industry trends that emphasize the increasing dependence on IT systems to manage accounting processes. As the global shift toward digitalization continues, proficiency in IT systems is crucial for accountants to stay competitive and deliver value to their organizations.

In contrast, "*Select suitable control criteria to analyze and evaluate controls*", received the lowest mean score at 3.48. While still rated as proficient, this lower score suggests that CPAs may face challenges in determining and applying specific control objectives when analyzing and evaluating internal controls. This reflects a potential gap in higher-level strategic thinking, where accountants may need additional guidance in defining IT control objectives that align with organizational risk profiles. This highlights the need for more focused training in customizing control frameworks to meet the specific needs of an organization. According to Manginte [16], a robust internal control system is crucial for achieving strategic, operational, and compliance objectives. However, accountants may struggle with tailoring controls to address specific risk exposures, particularly in environments where the digital landscape is complex and constantly evolving.

These findings indicate that CPAs in Hong Kong are generally proficient in User Role IT control competencies, particularly in applying IT systems to accounting problems, which reflects strong practical skills in using digital tools to improve workflows. However, the lower score in selecting suitable control criteria highlights inadequate competencies relative to strategic decision-making areas, such as defining control objectives and IT risk management. This gap is

consistent with research by Deloitte [17], emphasizing the importance of competencies within areas in IT governance for accountants in operative roles, especially given the fast-paced evolution of digital threats.

Table 2 below summarizes the Manager Role Competencies of Certified Public Accountants (CPAs) in Hong Kong, showing how they assess their digital competency in various managerial tasks. These competencies include managing IT strategy, financial control over IT, systems acquisition and implementation, and systems change and problem management.

Table 2. Mean responses of the level of digital competency of CPAs in hong kong along with manager role competencies.

(B) Manager Role Competencies	Mean	Descriptive Rating
B.1 Manage entity's IT strategy	3.39	Competent
B.2 Maintain financial control over IT	3.56	Proficient
B.3 Manage systems acquisition, development and implementation	3.38	Competent
B.4 Manage systems change and problem management	3.4	Competent
Overall	3.43	Proficient

With an overall mean score of 3.43 (rated as Proficient), Table 2 suggests that CPAs are generally proficient in managing IT-related responsibilities, although there are some variations across the different competencies. The highest mean score of 3.56, under "*Maintain Financial Control over IT*," reflects that CPAs are highly proficient in tasks related to evaluating major projects and investments, such as capital budgeting. This competency is critical in managing fixed assets and determining capital expenditures, particularly in IT-related financial decisions. The proficiency in this area indicates that CPAs are adept at ensuring that financial resources are allocated efficiently and are capable of controlling costs, which is aligned with findings from Imjai et al. [18], which emphasize that strong financial controls are essential for resource management and operational efficiency. Given the importance of capital investment analysis in IT, particularly in assessing long-term financial impacts, the high score shows that CPAs are confident in managing the financial aspects of IT systems.

On the other hand, the lowest mean score of 3.38 was recorded in "*Manage Systems Acquisition, Development, and Implementation*," which, while still competent, suggests that CPAs may face challenges in overseeing the entire lifecycle of IT systems—from selecting systems to managing project teams and budgets. The lower score could indicate a gap in project management skills, particularly in IT contexts where systems acquisition requires a more technical understanding. This finding resonates with research by Jackson *et al.* [19], which indicates that while CPAs excel in financial matters, certain gaps exist in areas of IT systems management and project execution.

This shows that CPAs in Hong Kong are generally proficient in managing financial aspects of IT, as evidenced by the high score in "*Maintain Financial Control over IT*." However, certain gaps remain in managing the acquisition [20] and implementation of IT systems. The proficiency in financial control reflects CPAs' strong foundation in capital budgeting [21] and cost management, which are essential in ensuring the financial viability of IT investments. Meanwhile, the competence in systems acquisition and project management suggests that while CPAs can manage financial and team resources, they may lack the technical skills or experience required to lead IT projects from start to finish.

4. Conclusion

This study assessed the digital competency of Certified Public Accountants (CPAs) in Hong Kong, particularly focusing on their IT control competencies and manager role competencies. Based on the analysis of the survey data, the findings provide insights into the strengths and gaps in CPAs' digital competencies, with implications for improving their ability to manage IT-related tasks.

1. The findings indicate that CPAs in Hong Kong are generally proficient in using IT systems and tools, particularly in applying IT systems to accounting problems. However, in managerial roles, CPAs demonstrate only competence in managing IT strategy and overseeing systems acquisition and implementation. This suggests that while accountants are prepared to handle daily IT-related tasks, they may require further development in more strategic and technical areas, such as IT project management and strategic IT planning.

2. The study identified specific areas where CPAs show competency but require further development, particularly in managing IT systems acquisition, development, and implementation. While CPAs are proficient in managing financial control over IT, their competence in overseeing the entire lifecycle of IT systems imposes challenges in project management and technical oversight. Addressing these gaps will be essential for improving their effectiveness in managing complex IT-centered accounting projects.

5. Suggestions

For future studies, the focus should shift towards exploring strategic IT competencies among Certified Public Accountants (CPAs) in Hong Kong, particularly in areas like IT governance, decision-making, and the management of emerging technologies such as AI and blockchain. The new objectives could include assessing CPAs' strategic IT skills, evaluating the effectiveness of current professional development programs, and identifying barriers to adopting advanced digital solutions. A mixed-methods approach combining large-scale quantitative surveys with qualitative interviews of CPAs in leadership roles would provide a comprehensive view of these challenges. Additionally,

incorporating a longitudinal study to track the progress of CPAs undergoing IT training would offer valuable insights into the long-term impact of digital education on strategic IT management.

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