

Intellectual capital in accounting and auditing: Assessing the alignment of continuous professional development programs with emerging skills

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Abstract: This study aims to investigate the alignment of emerging skills and competencies with Continuous Professional Development (CPD) programs in the accounting and auditing professions. The research focuses on enhancing the intellectual capital within these sectors, as dictated by the demands of the modern knowledge economy. Employing the World Economic Forum's (WEF) framework of emerging skills for professional services, a comprehensive content analysis is conducted. This involves reviewing 1009 learning outcomes across 248 CPD courses offered by the global professional accounting body. The analysis reveals that while the existing courses cover all WEF-identified skills, there is an unaddressed requirement for a specialized focus on specific competencies. The study also notes gaps in clearly articulated learning outcomes, highlighting the need for more explicit statements to facilitate effective skills development and knowledge transfer. This research contributes to the ongoing discourse on intellectual capital management strategies, providing actionable recommendations for professional organizations. It fills a critical gap in understanding how CPD offerings can be optimized to better prepare accounting and auditing professionals for the evolving knowledge economy.

Keywords: intellectual capital; accounting; auditing; skills; continuous professional development; CPD

1. Introduction

Intellectual capital encompasses three dimensions, one of which is human capital (Kufepaksi and Gunawan, 2018). Recognized as a vital catalyst for economic productivity and success, human capital is essentially the aggregate of skills and competencies within individuals and communities (Apergis et al., 2021; Curado et al., 2011; Felício et al., 2012; Gangani et al., 2006; Kryscynski et al., 2021; Kufepaksi and Gunawan, 2018; Mahoney and Kor, 2015; McGregor et al., 2004; Prasetyo and Kistanti, 2020; Vathanophas, 2007). Investing in skill acquisition through education and training contributes to the development of productive human capital (Elkin, 1998). This form of capital serves as a cornerstone for innovation, knowledge creation, and the development of social capital (Apergis et al., 2021). It also plays a significant role in attracting foreign direct investment, particularly in developing countries (Adeli Nik et al., 2013), and is a key ingredient for fostering quality economic growth (Prasetyo and Kistanti, 2020). The evolving nature of employment relationships has put an emphasis on the importance of developing human capital (McGregor et al., 2004). It is instrumental in establishing and bolstering a firm's core competencies (Mahoney and Kor, 2015). Moreover, a firm's entrepreneurial

activities are positively influenced by its human capital (Dempster and Isaacs, 2017). In terms of practical application, firm-specific human capital has both theoretical and pragmatic implications (Kryscynski et al., 2021). Within the realm of human resources, competencies are employed across various functions (Gangani et al., 2006) and are essential elements to include in job descriptions for ensuring success (Vathanophas, 2007).

To foster human capital development, it's crucial to align individual skills and competencies with current labor market needs. Early education lays the foundation for basic cognitive and non-cognitive abilities, but as research indicates, mid-career training is increasingly vital for adapting to technological advancements and evolving job requirements (Camargo et al., 2021). Studies reveal that addressing the challenges posed by Industry 4.0 is essential for enhancing the skills of all workforce generations (Kohnová et al., 2020). Human capital not only contributes to value creation but also serves as a competitive edge for emerging businesses (Baghai et al., 2021). However, the acquisition of such capital is often complicated by inadequate information and the slow development of company-specific skills, which can be challenging to obtain in efficient labor markets (Coff, 2002). The significance of skills in economic development also varies across economies, emphasizing the need to factor them into any developmental strategy (Hanushek et al., 2015).

The accounting profession is not exempt from the need to develop new skills and competencies due to challenges related to globalization, technological innovation, and changing regulatory environments (Ghani et al., 2019). These challenges have necessitated the acquisition of new competences and the formalization of these skills. Financial statements underpin global economic development, underscoring the imperative for accountants to adapt swiftly to these changes (Ghani et al., 2019). Yet, current accounting education often falls short in preparing students for the digital technologies that are becoming integral to the field (Stanciu and Gheorghe, 2020). There is a noticeable gap between the skills taught in accounting education and those needed in today's dynamic global business environments (Mohamed and Lashine, 2003). Moreover, the profession faces challenges beyond just globalization and technology, such as the ramifications of automation and the necessity for accountants to keep pace with rapid changes (Faituša et al., 2020). There is also a need for ongoing adaptation to fluctuating regulations and compliance requirements (Azubuike, 2015). Historically, the development of the accounting profession has been influenced by economic shifts and its evolving relationship with governmental regulation (Abeysekera, 2006; Carnegie and Napier, 1996). In the broader business context, technological innovations like blockchain and artificial intelligence are also reshaping the accounting landscape (Abu Huson et al.; Stein Smith, 2018). However, integrating these new technologies into accounting systems comes with its own set of challenges, particularly when considering the unique attributes of technologies like blockchain (Tan and Low, 2019).

Continuous Professional Development (CPD) programs in accounting and auditing are vital for equipping professionals with the skills needed to adapt to changing industry landscapes. However, the true effectiveness of these programs is contingent upon their alignment with the evolving skill sets and competencies

required for emerging job roles in the field (Halabi and Chowdhury, 2018; Siriwardane et al., 2014). Although considerable research has been done on the competencies essential for entry-level positions and accounting education, there remains a significant research gap concerning career advancement in accounting and auditing (Pincus et al., 2017). Furthermore, existing studies rarely explore the efficacy of CPD programs in accounting, pointing to a need for more focused research (Halabi and Chowdhury, 2018). Questions remain as to whether the courses and resources offered by professional accounting organizations are truly adequate for the skill development of accountants and auditors. While some literature does assert the importance of CPD in maintaining industry competence (Ahmad et al., 2021; Draz and Ahmad, 2017; Paisey et al., 2007), empirical evidence to support the specific effectiveness of these programs is scant.

To address these gaps, this study examines the critical skills and competencies required for accounting and auditing professionals as identified by the World Economic Forum (WEF). WEF's benchmarks for professional occupations include essential skills like analytical thinking, problem-solving, and technology use. These serve as a yardstick for assessing the efficacy of current CPD programs tailored for accountants and auditors. The study delves into the extent to which these CPD programs integrate these essential skills and competencies. By evaluating the courses listed on the Chartered Institute of Management Accountants (CIMA)'s website, this study identifies areas where CPD programs in accounting and auditing may be lacking critical skills. It sheds light on how well these courses have adapted to changing business environments. This research is groundbreaking in assessing the compatibility between emerging skills and current CPD offerings. Its findings can serve as a reference point for educational evaluations by professional accounting and training bodies.

The study's core intent is not to critique the courses offered by CIMA but to use them as illustrative examples for potential improvement in CPD programs. It aims to stress the urgent need for enhancing CPD programs by highlighting the evolving skill requirements in the business landscape and the need for focused, adaptive CPD courses to prepare professionals for emerging roles. Through a comprehensive analysis of 248 CPD courses, the study reveals that 86.7% have specified learning outcomes. While the majority of these courses (55%) focus on imparting a single skill, only one offers six distinct skills. Among courses with learning objectives, complex problem-solving is the most frequently represented competency, followed by attention to detail and trustworthiness, and active learning and learning strategies. The lack of learning outcomes in a significant portion of courses points to areas for improvement in course design and development.

This study makes significant theoretical and practical contributions to the field of accounting and auditing education. Theoretically, it extends the existing literature on professional development by providing a nuanced understanding of how CPD courses align with the evolving global competencies outlined by WEF. This alignment is crucial for understanding the dynamic interplay between professional education and the rapidly changing demands of the global business environment. This addition may also encourage further scholarly exploration in the field of accounting and auditing education, particularly in the context of CPD. Practically,

our analysis offers valuable insights for educational institutions and professional accounting bodies, particularly CIMA. Our findings can be practically applied to improve the design and implementation of CPD courses, contributing to the field of professional accounting education. By identifying gaps and strengths in current CPD offerings, this study serves as a guide for these bodies to refine their curricula, ensuring they equip accounting and auditing professionals with the relevant skills needed in today's digital and globalized economy.

The paper is structured as follows. Section 2 reviews the background and literature. Section 3 presents the data and methodology. The results are described in Section 4. Section 5 provides the discussion. Section 6 offers conclusions and potential avenues for future research.

2. Background and literature review

2.1. Continuous professional development (CPD)

Lifelong learning and CPD have become increasingly important for individuals and organizations to keep up with the rapidly changing world of work. The need for individuals to continuously update their skills and knowledge to remain competitive and adapt to new technologies and work practices has been widely recognized. CPD programs are broadly acknowledged as essential in equipping professionals with the necessary knowledge and skills to efficiently perform their job responsibilities. It is an ongoing process that builds upon initial training and induction, providing development and training opportunities throughout a career. This section explores the concept of lifelong learning and CPD and the benefits they provide to individuals and organizations.

CPD is defined as “the learning activities that develop and maintain capabilities to enable professional accountants to perform competently within their professional environments” (International Federation of Accountants (IFAC), 2004). CPD serves as an essential avenue for lifelong learning aimed at sustaining and enhancing professional skills and knowledge, as indicated by Paisey et al. (2007). Research, such as that by De Lange et al. (2006), has advocated for significant modifications to accounting education and pedagogical methods to more effectively cultivate the skills and competencies essential for accounting graduates. However, a misalignment exists between the competencies dictated by Chartered Professional Accountants (CPA) in Canada and the education offered by universities, illuminating a gap between academic instruction and professional expectations (Elbarrad and Belassi, 2023).

In the UK, roughly 80% of public practice accountants adhere to international professionalism standards and actively engage in skill development initiatives (Draz and Ahmad, 2017). Indeed, CPD remains indispensable for accountants throughout their career for the continual improvement of their professional capabilities (Halabi, 2015; Murphy, 2017). In the realm of auditing education, generic skills like communication, interpersonal abilities, and problem-solving are highly valued (Crawford et al., 2011). Technological proficiency is another crucial area, with IT competencies deemed necessary for accountants to effectively carry out their roles (Wessels, 2005). In terms of management development, it should be grounded in

practical realities to serve as an effective complement to CPD (Jones and Fear, 1994).

Previous research emphasize the need to align CPD programs with the dual objectives of enhancing audit quality and serving the public interest (Siriwardane et al., 2014). This notion complements the view that the success of CPD initiatives hinges on a strategic match between the skills and competencies demanded by evolving job roles and the curricular content of CPD courses. Such a focus calls attention to the critical task of tailoring CPD programs to address specific job roles and requisite competencies. While there is broad consensus that CPD is crucial for professional accountants to remain current and maintain their skill set (Ahmad et al., 2021; Draz and Ahmad, 2017; Halabi and Chowdhury, 2018; Paisey et al., 2007), it is equally acknowledged that upholding competence and knowledge is indispensable for executing their roles with due skill and care (Paisey et al., 2007). Yet, questions remain regarding the adequacy of CPD courses and resources offered by professional accounting organizations in meeting these critical needs.

Rapid technological advancements and shifts in business models are fundamentally altering the landscape of accounting and auditing. Amidst concerns over job redundancy due to automation and other forms of disruptive technology, there's an increasing emphasis on the need for professionals in these fields to acquire new skills for continued relevance in the job market (Adnan Allbabidi, 2021; Nwachukwu et al., 2021). Leading accounting firms are already integrating digital technologies like artificial intelligence to improve audit judgments, despite challenges related to technological adaptation, organizational readiness, and environmental factors (Bonsón and Bednárová, 2019).

Innovations such as blockchain and big data are also making their mark on the industry, offering both opportunities and challenges (Gepp et al., 2018; Schmitz and Leoni, 2019). These developments, coupled with the dynamic business environment and complex organizational systems, raise new hurdles but also enhance existing auditing methods (Abu Huson et al.; Lois et al., 2020; Yusoff et al., 2023). Industrial Revolution 4.0, which is spearheading advancements in artificial intelligence and automation, promises to reshape the future of accounting and auditing in transformative ways (Ferri et al., 2021).

Information technology's role in accounting has also revolutionized data storage, retrieval, and processing, posing new challenges for auditors in maintaining audit trails (Benjamin et al., 2020). The emergence of computerized audit techniques and digital accounting information systems necessitates that auditors stay abreast of new technologies (Handoko et al., 2020). As data protection and privacy gain prominence, auditors are expected to be versed in cybersecurity and evaluate how technological investments affect audit risks (Bao Ngo and Tick, 2021; La Torre et al., 2021). The application of data analytics stands to improve audit quality and functionality, even as auditors must navigate the complexities and potential conflicts introduced by technological integration (Austin et al., 2021).

Professional accounting bodies already require their members to comply with minimum CPD requirements, but the question remains as to what unique set of skills professional accountants and auditors need to possess to prepare for emerging job roles. Moreover, it is necessary to evaluate whether current CPD courses and resources effectively cater to the development of these emerging skills in

professional accountants and auditors. Empirical research further illuminates the significance of CPD for auditors and accountants (Alimbudiono et al., 2022; Barac et al., 2021; Endrawes et al., 2023; Helliari et al., 2009; Martinov-Bennie et al., 2022; Paisey et al., 2007; Septian and Astika, 2019; Siriwardane et al., 2014; Westermann et al., 2015). Research has shown that professional membership in public accounting implies a lengthy and elaborate training experience, the need to meet high societal expectations for technical proficiency, and the necessity to conform behavior to certain ethical standards (Westermann et al., 2015).

In addition to foundational skills, research also highlights the necessity for accountants and auditors to develop higher-order competencies like creativity, innovation, critical thinking, and communication (Chaplin, 2017). This implies a need for a multifaceted skill set that extends beyond just technical expertise. CPD serves as a cornerstone in this developmental process, with extensive participation among professional accounting body members indicating its recognized value (Paisey et al., 2007). These programs enable professionals to stay abreast of new accounting standards and regulations, thereby equipping them with the vital skills needed to excel in their roles (Helliari et al., 2009). Additionally, CPD contributes to enhanced professional competence, a key element in ensuring audit quality (Alimbudiono et al., 2022). However, questions remain about the effectiveness of existing CPD content in fostering the skills necessary for today's rapidly evolving accounting and auditing environments. Research calls for improved accounting skills due to changes in regulatory and auditing standards (DiGabriele, 2009).

Overall, while CPD is undeniably essential for the professional growth of accountants and auditors, it's crucial to scrutinize whether current courses are sufficient in preparing them for emerging roles and challenges. There is a pressing need for research to tailor CPD programs, focusing on equipping professionals with the specific skills and knowledge demanded by an ever-changing accounting and auditing landscape.

2.2. CPD courses offered by professional accounting bodies compared with internal training

The significance of CPD courses offered by professional accounting bodies such as CIMA in enhancing the intellectual capital of accountants and auditors is distinct from the internal annual training provided by professional accounting firms and large organizations in several ways.

In the accounting and auditing professions, standardization and global recognition are of paramount importance, particularly in the context of an increasingly interconnected global business environment. The professional accounting bodies, through its CPD courses, exemplifies this standardization. Designed in accordance with international accounting and auditing standards, these courses ensure both global recognition and relevance (Boolakya and Soobaroyen, 2016). This global standardization is critical for accountants and auditors to maintain proficiency in practices that are universally accepted and recognized. Previous studies highlight the interconnected nature of auditing processes and the need for standardized practices to guarantee conformance and to uphold quality and

consistency (Alzeban, 2015; Carey et al., 2006; Gingrich et al., 2018).

Professional accounting bodies' CPD courses feature a curriculum that is both comprehensive and diverse, encompassing a broad spectrum of topics. These courses go beyond the core technical competencies in accounting and auditing to also focus on vital soft skills. This holistic educational approach is essential in developing multifaceted professionals. Such professionals are not only adept in technical aspects of their field but are also prepared to effectively handle complex challenges and fulfil varied roles throughout their careers. This balance of hard and soft skills is crucial for nurturing adaptable and proficient accountants and auditors, as emphasized by (Paisey et al., 2007).

Accessibility and inclusivity are fundamental in professional development, particularly in the realm of CPD courses. In contrast to organization-specific internal training, CPD courses offered by professional bodies like CIMA cater to a much wider audience. This broad accessibility ensures that professionals such as independent practitioners, accountants from small firms, and those transitioning between jobs can continue their professional development seamlessly. The inclusive nature of these courses is vital, as it allows professionals from various backgrounds to enhance their skills and knowledge, thus contributing significantly to the advancement of the accounting profession (Wilkinson et al., 2018). Furthermore, the relationship between professional bodies, universities, government, and other stakeholders is key to developing professions that are reflective and responsive, meeting the demands of the 21st century (Wilkinson et al., 2018).

In the fast-paced world of accounting and auditing, the role of professional bodies in embracing innovation and current industry trends is indispensable. They are instrumental in weaving the latest industry developments and technological advancements into their curricula, ensuring that the professionals they educate are equipped with the most up-to-date knowledge and skills. This approach contrasts with internal training within organizations, which, while valuable, often focus on immediate operational needs and may not always capture the breadth of these wider industry trends and innovations. These trends are not confined to specific sectors but have broader implications. The importance of integrating these contemporary topics into professional training is underscored by the rapid evolution of various industries. (Asif and Gill, 2022; Huang et al., 2021; Zeng et al., 2021).

Completion of CPD courses from professional bodies plays a pivotal role in enhancing a professional's reputation and career prospects. This is largely attributed to the stringent quality assurance mechanisms and the commitment to regularly updating course content to uphold high standards, as highlighted by Ruiz-Barbadillo and Martínez-Ferrero (2021). The quality assurance processes not only bolster the comparability and credibility of sustainability reports but also increase stakeholder responsiveness, thus enhancing the professional stature of those who complete these courses (Ruiz-Barbadillo and Martínez-Ferrero, 2021). The association of credibility with CPD courses from renowned bodies is a significant factor in boosting a professional's standing and future opportunities. Furthermore, the effectiveness of quality assurance is intrinsically linked to the capabilities and integrity of individuals involved in these processes, as noted by Nguyen (2021). Additionally, the debate around defining quality in online courses and establishing effective quality assurance

practices presents challenges for educational institutions (Teague Hostetter, 2022). The focus of quality audits is not just on evaluating the effectiveness of an institution's quality assurance processes but also on how these processes align with the institution's goals, government requirements, and standards set by external entities like professional bodies (Al-Ghassani et al., 2013).

Regulatory compliance is a fundamental aspect for accountants and auditors, frequently necessitating the completion of CPD courses from accredited bodies. These courses are essential in helping professionals adhere to compliance standards and retain their licenses or certifications (Kamal et al., 2016). Initially, CPD was not mandatory in accountancy but has since become integral to the professional ethic, emphasizing the duty of accountants to perform their roles with adequate skill and diligence (Paisey et al., 2007). The role of CPD in meeting regulatory standards is also evident in the responsibilities of compliance officers, who ensure adherence to both internal and external regulations (Freeman, 2007).

In contrast, internal annual training within firms and organizations, while vital, tends to be more narrowly tailored to meet the specific operational needs and internal processes of the respective organizations. Such training may not always encompass the broad perspective and the formal recognition that CPD courses offered by professional bodies can provide. Montaña et al. (2001) delve into the essential vocational skills within the accounting profession and analyze employers' perspectives. Their findings point to notable gaps in various critical skills, which are deemed highly important in the field. This gap suggests that internal annual training within organizations might not encompass the comprehensive scope and the level of recognized certification that CPD courses offer. In a similar vein, Paisey et al. (2007) illuminate a concerning trend: up to 20% of accountants in public practice risk non-compliance with CPD requirements unless their engagement in these programs increases. This trend underscores the possibility that internal annual trainings may fall short in providing the recognized certification attainable through formal CPD courses. Additionally, Owusu et al. (2018) explore the aspirations of students to attain certified professional accountancy qualifications, shedding light on the significance of formal certification, an aspect that may not be thoroughly addressed by internal training programs.

Overall, previous studies collectively stress the importance of standardized accounting and auditing practices for global recognition and relevance. Adherence to international auditing standards and the impact of adopting these standards are highlighted as crucial in the accounting and auditing profession. CPD courses are essential for professionals to stay current with developments and best practices in their field. The accessibility and inclusivity of CPD courses are key to the ongoing professional growth of practitioners from diverse backgrounds, enabling them to meet the evolving demands of their professions. Professional bodies play a significant role in ensuring their curricula reflect current industry trends and innovations, preparing professionals to effectively navigate and contribute to their rapidly changing industries. Furthermore, completing CPD courses from reputable bodies enhances a professional's reputation and career prospects. This benefit stems from quality assurance mechanisms and the continual updating of courses. For many accountants and auditors, completing CPD courses from recognized bodies is

essential for regulatory compliance and maintaining certifications. In conclusion, while internal annual training is valuable, it may not consistently offer the broad perspective and formal recognition provided by CPD courses from professional bodies.

2.3. Emerging skills identified by the WEF

The continuously evolving business environment and workplace have led to a shift in the skill sets required for various job roles, including professional accountants and auditors. This section discusses the skills identified by the WEF as critical for these professionals.

According to the WEF’s Global Competitiveness Report in 2020, the revival and transformation of human capital are critical. Outdated education systems have led to talent shortages becoming more pronounced, particularly in digital skills and other new economy capabilities as technology disrupts labor markets. To address these concerns, integrating learning with mid-career training opportunities that match labor market needs, safety nets for workforce disruption, and merit-based workforce management are essential (World Economic Forum, 2020b). Obstacles to expanding productivity, prosperity, and inclusion include misalignment of incentives and rewards for workers, skills mismatches, and talent shortages. The pandemic has accelerated technology adoption, resulting in permanent and temporary job and income losses and exacerbating these issues. The accounting and auditing professions should increase reskilling and upskilling programs to address these concerns. Universities and accounting regulating bodies should collaborate to update education curricula and invest in the skills needed for accountants and auditors in “future markets,” while utilizing new talent management tools to adapt to changing workforce needs.

The Future of Jobs Report 2020 (World Economic Forum, 2020a), launched in October 2020, is another useful resource for understanding future job roles and skills. The report highlights various important issues, such as skills shortages hindering global organizations’ ability to take advantage of the growth potential of new technology adoption. **Figure 1** demonstrates that one of the most significant impediments to the adoption of new technologies is a lack of skills in the local labor market and the difficulty of attracting the suitable talent.

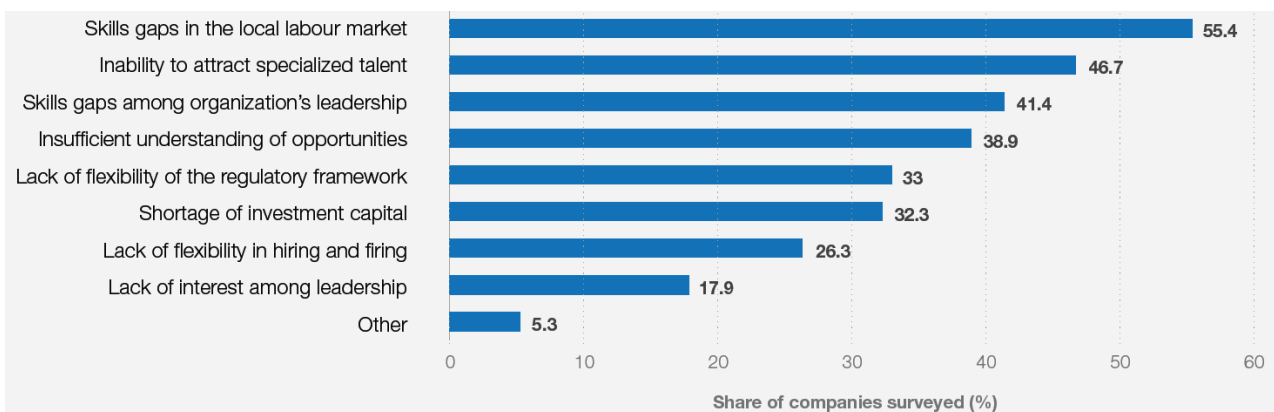


Figure 1. Perceived barriers to the adoption of new technologies.

Sources: Future of Jobs Survey 2020, World Economic Forum.

Mastering essential abilities is crucial for individuals to maintain long-term productivity. According to a recent report, “Accounting, Bookkeeping, and Payroll Clerks” rank third in decreasing demand across industries, while “Accountants and Auditors” rank fourth. For the professional services industry, the report shows that 11.6% of workers are at risk of displacement, with an expected redeployment success rate of 41.3%, and an average skills instability of 48%. Furthermore, this report lists fifteen emerging skills that are in high demand within the professional services industry, ordered by frequency. They are (1) analytical thinking and innovation, (2) complex problem-solving, (3) critical thinking and analysis, (4) creativity, originality and initiative, (5) active learning and learning strategies, (6) reasoning, problem-solving and ideation, (7) emotional intelligence, (8) leadership and social influence, (9) persuasion and negotiation, (10) resilience, stress tolerance and flexibility, (11) technology design and programming, (12) service orientation, (13) technology use, monitoring and control, (14) attention to detail, trustworthiness, and (15) quality control and safety awareness (World Economic Forum, 2020a). **Table 1** provides detailed descriptions and the composition of the WEF competency list.

Table 1. WEF classification of competency for professional services.

Rank	Competency	Description
1	Analytical thinking and innovation	Capacity to analyze information and use logic to address issues and problems, apply alternative thinking to develop new, original ideas and answers. Capacity to solve novel, ill-defined problems in complex, real-world settings.
2	Complex problem-solving	Abilities that influence the acquisition and application of knowledge in problem-solving.
3	Critical thinking and analysis	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems as well as assessing performance of yourself, other individuals or organizations to make improvements or take corrective action.
4	Creativity, originality and initiative	Willingness to take on responsibilities and challenges.
5	Active learning and learning strategies	Understanding the implications of new information for both current and future problem-solving and decision-making.
6	Reasoning, problem-solving and ideation	Abilities that influence the application and manipulation of information in problem-solving.
7	Emotional intelligence	Developed capacities used to work with people to achieve goals and in particular being pleasant, cooperative, sensitive to others, easy to get along with and enjoying work with people.
8	Leadership and social influence	Having an impact on others in the organization, and displaying energy and leadership.
9	Persuasion and negotiation	Persuading others to change their minds or behavior as well as bringing them together and trying to reconcile differences.
10	Resilience, stress tolerance and flexibility	Maturity, poise, flexibility and restraint to cope with pressure, stress, criticism, setbacks, personal and work-related problems.

Table 1. (Continued).

Rank	Competency	Description
11	Technology design and programming	Capacity to use programming to design machines or technological systems which fit user needs. In addition, understanding how others use tools, determine the cause of operating errors and how to fix them. Skills include: - Artificial Intelligence - Computer Hardware & Networking Systems - Cybersecurity and Application Security - Data Science and Analysis - Human Computer Interaction - Scrum/Agile Product Development - Software & Programming - Technical Support and Maintenance - Web Development
12	Service orientation	Actively looking for ways to help others as well as to make them feel attended to and welcome.
13	Technology use, monitoring and control	Capacity to select the right tools needed to perform tasks, use those tools well and set up and operate technology. Skills include: - Accounting and Finance Software - Construction Management Software - Clinical Information Systems - Digital Design - Digital Literacy - Digital Marketing - Geographic Information Systems - Human Resource Management Systems - Productivity Software - Machining & Manufacturing Technologies - Scientific Computing
14	Attention to detail, trustworthiness	Dependability, commitment to doing the job correctly and carefully, being trustworthy, accountable and paying attentive to details.
15	Quality control and safety awareness	Conducting tests and inspections of products, services or processes to evaluate quality and level of performance.

Sources: Future of Jobs Survey 2020, World Economic Forum.

3. Research method

Our methodology harnesses the tool of content analysis to examine CPD courses and their associated learning outcomes offered by CIMA. In this section, we present a detailed description of our data collection, sources, and analysis methods to fully elucidate and maintain transparency in our methodological approach.

3.1. Sample and data collection

In addressing the relevance and utility of our chosen sample for accountants and auditors, it is imperative to note that while CIMA's CPD courses provide a broad perspective on the skill sets required for accountants and auditors, we acknowledge the diversity in CPD participation among these professionals. Our study also aware of the extent to which accountants and auditors may engage with a variety of courses, including but not limited to those offered by CIMA. Nevertheless, our study acknowledges the range of CPD options available, along with the preferences and factors influencing learning decisions of these professionals.

The selection of CPD courses offered by CIMA for our study is based on several key considerations. First, CIMA is one of the most popular professional

bodies for accountants globally, and CIMA's CPD courses are recognized by many organizations worldwide. As a result, evaluating CPD courses of CIMA provides valuable insights into the skills and competencies that are widely applicable for accountants and auditors to thrive in their profession. Additionally, CIMA is committed to ensuring that its CPD courses are designed to meet the evolving needs of accountants and to equip them with the skills and knowledge required to excel in their roles. Therefore, evaluating CPD courses of CIMA can provide valuable information to both the professional body and the members about the effectiveness of their CPD program in meeting these goals. Finally, by selecting CPD courses offered by CIMA, this study can contribute to the existing knowledge on the importance of CPD for accountants and help to identify areas where further research is needed to reduce the expectation-performance gap in accounting education and enhance the effectiveness of CPD programs in supporting the professional development in accounting profession (Bui and Porter, 2010; Webb and Chaffer, 2016).

Data on CPD courses are meticulously extracted from CIMA's website, a publicly accessible and credible source for such information. We specifically choose September 2021 for our data collection, marking one year since the launch of *The Future of Jobs Report 2020* by WEF in October 2020. This period is significant as it allows for an appropriate timeframe within which CIMA could consider and integrate the emerging skills specified in the WEF report into the learning outcomes of its CPD courses. This period is chosen to provide a snapshot and reflective of the courses available, capturing the diversity and range of topics offered within a specific timeframe following the WEF report launch. This allows us to evaluate how promptly and effectively a leading professional body like CIMA responds to global industry trends and integrates them into its professional development offerings. The data collection process involves a comprehensive review of all CPD courses listed on CIMA's website that are actively offered and accessible to professionals during this specific month, which could include both ongoing and newly introduced courses. This study does not intentionally exclude any CPD courses available on the CIMA website during the data collection period. However, it is important to acknowledge that courses not listed or available in September 2021 are not included in this analysis.

The dataset includes each course's title, description, and associated learning outcomes. There is no specific tool used for this data collection; the data extraction is done manually to ensure the integrity and comprehensiveness of our dataset. Regarding data consistency, all data are extracted concurrently, ensuring uniformity in course offerings and descriptions. Since all data are taken from one organization and one source (website), we ensure consistency in terms of their presentation and terminologies.

3.2. Data analysis

Data analysis involves several steps. Following data collection, we conduct a detailed examination of 248 CPD courses and their associated 1009 learning outcomes, which were extracted from the course descriptions. These courses are available and relevant to the accountants and auditors. To evaluate the alignment between the learning outcomes of the CPD courses and the professional

competencies identified by the WEF, the WEF's list of competencies is used as a benchmark for the evaluation process. The evaluation process employs content analysis and a comparative approach to examine each learning outcome and determine if it reflects the descriptions of skills documented by the WEF.

Content analysis, as employed in our study, is a widely used qualitative research tool in the fields of business and education (e.g., Biyik, 2017; Guthrie et al., 2004; Milei and Barajas, 2023; Zhang and Hur, 2022). Content analysis can be applied to various types of data, including research objects, statistical data, communication messages, and curriculum syllabi (Zhang and Hur, 2022). It provides valuable insights into areas such as advertising design, marketing mix implementation, consumer curriculum materials, sustainability, corporate social responsibility reporting and disclosure, business models, educational technology, business ethics education, financial reporting, service marketing, and consumer research (e.g., Biyik, 2017; Day and Woodward, 2009; Kunz and Hogreve, 2011; Louw and Wessels, 2016; Milei and Barajas, 2023; Salvioni et al., 2016; Shahwan, 2008; Yu et al., 2017; Zhang and Hur, 2022). Therefore, this research design allows for in-depth exploration of the collected data and the identification of themes and patterns related to the alignment between CPD courses and WEF professional competencies.

Nonetheless, managing discrepancies between coders during content analysis is of paramount importance. Content analysis is a systematic methodology that involves coding and identifying themes or patterns within textual data (Daradkeh, 2019). De Massis and Kotlar (2014) suggest the use of multiple coders as an effective way to ensure a thorough and comprehensive analysis, further underscoring the importance of intercoder agreement in qualitative research. The dual-author approach in content analysis is well-regarded in qualitative research for enhancing the trustworthiness of findings (Sinkovics et al., 2008). By engaging two independent evaluators, this method effectively reduces the risk of subjective interpretation, leading to more reliable and objective results.

To enhance the reliability of our content analysis, we utilize a dual-author approach. Two authors independently classify the courses, and subsequently, the results are compared. This technique is adopted to mitigate individual bias, fostering a more balanced and thorough evaluation of the data (Singh et al., 2021). Another factor to consider is the reliability associated with the coding instrument. Establishing the reliability of particular coding tools (i.e., ensuring well-specified decision categories with well-specified decision rules) reduces the need for multiple coders. Therefore, we discuss and create clear guidelines with a thorough understanding of the research context that can significantly improve coding consistency and reduce discrepancies. We check that the coding decisions made on a pilot sample reach an acceptable level.

A key aspect of content analysis, particularly when involving multiple coders, is ensuring a high level of intercoder agreement. Intercoder agreement is the degree to which different coders categorize the same data consistently, and it is essential for maintaining the credibility, reliability, and validity of the content analysis process (Wang et al., 2019). This ensures that the coding of data is not significantly influenced by the individual biases or perspectives of the coders. However, some

level of discrepancy between coders is almost inevitable due to the subjective nature of interpreting qualitative data.

The interpretation of Cohen's Kappa score, which measures interrater reliability, is subject to varying perspectives among researchers. Normally, a Cohen's Kappa score above 0.7 is typically considered indicative of acceptable agreement. This suggests a threshold where the level of concordance between raters is regarded as reliable and satisfactory for most research purposes. Cohen's Kappa values falling between 0.61 and 0.80 signify substantial agreement, implying a solid level of concordance among raters. Further, values ranging from 0.81 to 1.00 reflect almost perfect agreement, indicating an even stronger consensus. This gradation in the interpretation of Cohen's Kappa scores highlights that while higher values are universally recognized as signifying stronger agreement, there is a nuanced understanding of what constitutes acceptable or substantial agreement, with values above 0.8 representing a particularly high level of rater consensus (Wang et al., 2019).

In our study, the comparison between the authors' classifications reveals a Cohen's Kappa value exceeding 0.80, indicating a notably high degree of concordance. This level of agreement, as per Wang et al. (2019), is considered highly satisfactory in qualitative research, demonstrating the robust reliability of our classification process. The presence of such a low discrepancy rate in our findings reinforces the strength of our approach. It reflects a considerable degree of agreement and reliability in how we categorize the CPD courses and their learning outcomes. This methodological decision is pivotal in bolstering the validity of our analysis. It ensures that our conclusions are grounded in a thorough and impartial examination of the data.

4. Results

This section describes the evaluation of CPD courses offered by CIMA. Out of the 248 CPD courses evaluated, 215 courses (86.7%) have learning outcomes provided, while the remaining 33 (13.3%) do not have any learning outcomes specified. These results show that a majority of the CPD courses have specified learning outcomes, indicating that the courses are designed with clear learning objectives in mind.

Among 215 CPD courses that have specified learning outcomes, the distribution of the number of skills provided by the CPD courses is as follows: 118 courses (55%) provided one skill, 64 courses (30%) provided two skills, 20 courses (9%) provided three skills, 7 courses (3%) provided four skills, 5 courses (2%) provided five skills, and 1 course (0.5%) provided six skills. The bar chart illustrating this distribution is shown in **Figure 2**.

Table 2 and the bar chart included in **Figure 3** show the distribution of courses and learning outcomes by WEF competency for professional services. Multiple competencies are assigned to some courses due to the presence of several learning outcomes in each course. As a result, the total number of courses in **Table 2** is 365 instead of 215.

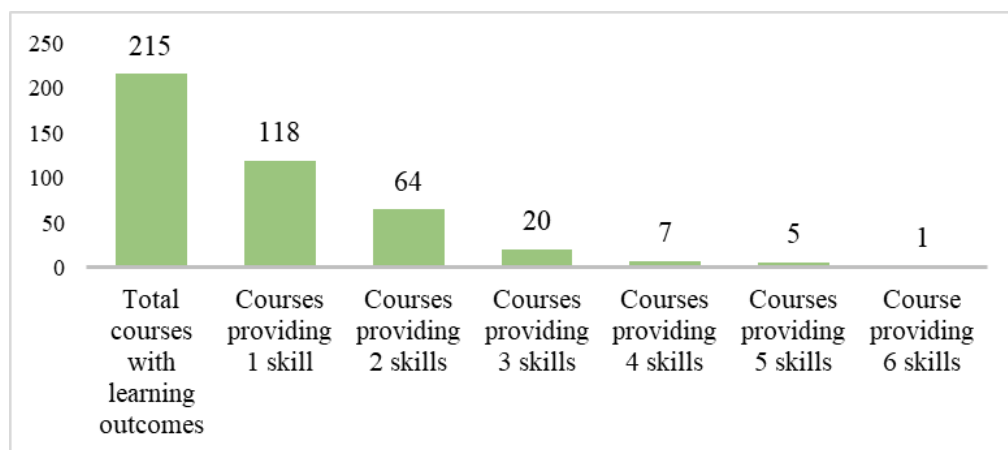


Figure 2. The distribution of courses by number of skills.

Table 2. WEF competency for professional services and CPD courses with learning outcomes.

Rank	Competency	Number of courses	Number of learning outcomes	Percentage of learning outcomes
1	Analytical thinking and innovation	24	42	4.16
2	Complex problem-solving	114	420	41.63
3	Critical thinking and analysis	30	53	5.25
4	Creativity, originality and initiative	5	11	1.09
5	Active learning and learning strategies	35	68	6.74
6	Reasoning, problem-solving and ideation	10	14	1.39
7	Emotional intelligence	14	35	3.47
8	Leadership and social influence	12	24	2.38
9	Persuasion and negotiation	11	26	2.58
10	Resilience, stress tolerance and flexibility	3	7	0.69
11	Technology design and programming	22	102	10.11
12	Service orientation	2	2	0.20
13	Technology use, monitoring and control	24	102	10.11
14	Attention to detail, trustworthiness	45	80	7.93
15	Quality control and safety awareness	14	23	2.28
	Total	365	1009	100.00

The analyses of the CPD courses reveal that out of the total courses with specified learning outcomes, “complex problem-solving” is the competency with the highest representation with 114 courses, followed by “attention to detail, trustworthiness” with 45 courses. “Active learning and learning strategies” has the third-highest number of courses with 35. The competencies with the lowest number of courses are “service orientation” with only 2 courses, followed by “resilience, stress tolerance, and flexibility” with 3 courses.

In terms of the learning outcomes, the total number of learning outcomes analyzed in this study is 1009. The highest number of learning outcomes is also related to “complex problem-solving” with 420 learning outcomes (41.63%). The competencies with the second-highest number of learning outcomes are “technology design and programming” and “technology use, monitoring and control”, each with 102 learning outcomes (10.11%). The lowest percentage of learning outcomes is

related to service orientation with only 2 learning outcomes (0.20%), followed by resilience, stress tolerance, and flexibility with 7 learning outcomes (0.69%).

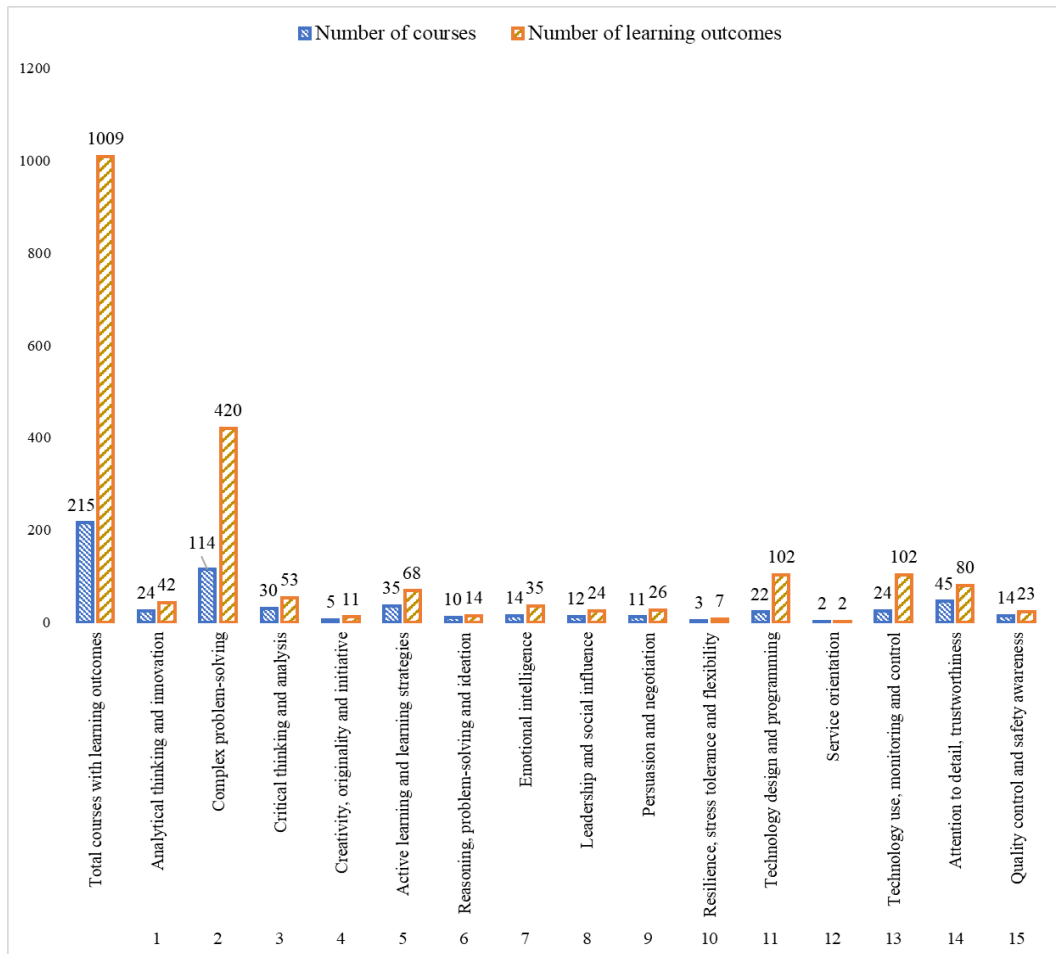


Figure 3. The distribution of courses and learning outcomes by WEF competency for professional services.

5. Discussion

CPD plays a crucial role in ensuring that accountants and auditors maintain and enhance their skills and competencies. It is increasingly recognized that CPD programs need to incorporate emerging skills to keep up with the rapidly evolving accounting profession (Draz and Ahmad, 2017; Halabi and Chowdhury, 2018; Muhamad and Sulaiman, 2013; Paisey et al., 2007). In this context, our study provides valuable insights into the alignment of learning outcomes and WEF competencies in CPD courses.

While the majority of CPD courses in this study possess well-defined learning outcomes, our findings corroborate those of prior research. The absence of learning outcomes in some of the courses analyzed is a significant observation that raises concerns about the design and development of continuing professional education courses. It also suggests that the lack of clear and measurable learning goals may hinder educators from offering comprehensive courses (Warhuus et al., 2018). The measurement of learning outcomes is crucial for evaluating the effectiveness of the course learning process and ensuring continuous improvement and quality assurance in education. Without clear learning outcomes, it becomes challenging to assess the

attainment of desired competencies and skills (Shepherd, 2010). This lack of clarity in learning goals may have adverse effects on the quality and outcomes of learning relationships at all levels of professional development (Cross, 2013). Furthermore, the absence of learning outcomes may indicate a lack of alignment between the course content and the desired educational objectives. Learning outcomes serve as a guide for educators to design instructional activities and assessments that align with the intended goals of the course (Blenker et al., 2011). Without clear learning outcomes, it becomes difficult to ensure that the course content and assessments are effectively addressing the intended learning objectives.

The distribution of the number of skills provided by the CPD courses also merits attention. Previous studies have reported a similar tendency for CPD courses to focus on providing specific skills (Durdyev and Hosseini, 2020). Our results, therefore, build on this body of evidence regarding skill development. We find that “complex problem-solving” is the competency with the highest representation in the CPD courses. This aligns with the demands of the contemporary dynamic business environment, where the ability to solve complex problems has become a crucial demand (Gremler et al., 2000). Recent studies have consistently highlighted the increasing demand for problem-solving skills among accountants (Hakim, 2016; Ilias et al., 2014; Kavanagh and Drennan, 2008; Lim et al., 2019). However, our findings suggest that there is room for improvement. In particular, we find that “service orientation” and “resilience, stress tolerance, and flexibility” are the competencies least represented. These findings echo the concern that these crucial skills often receive less attention in CPD courses (Alfrijat, 2020).

The implications of our study are significant for the design and development of future CPD courses, particularly in the context of accountants and auditors’ intellectual capital. Our results suggest that it is necessary to incorporate more learning outcomes related to service orientation and resilience, stress tolerance, and flexibility into CPD courses. This integration is crucial as the evolving landscape of the accounting profession demands not only technical expertise but also a diverse set of skills. This recommendation aligns with the findings of Ismail (2013), who emphasize the importance of incorporating soft skills in accounting courses, highlighting the need for a broader focus on soft skills in both accounting and CPD courses.

In the modern accounting landscape, skills like service orientation and resilience, stress tolerance, and flexibility have become increasingly vital. Service orientation, focusing on delivering quality service to clients and stakeholders, is fundamental. Davidescu et al. (2020) underscore the importance of developing functional flexibility in employees to acquire future-relevant skills and capacities. For accountants, this means being attuned to client needs, thereby ensuring their satisfaction and building trust in the services provided. Resilience, stress tolerance, and flexibility are also utmost in accounting. Zobel et al. (2021) highlight the critical role of resilience in decision-making, emphasizing the need for adaptability in various contexts. Stankevičiūtė and Savanevičienė (2018) point out the significance of work activities in mitigating stress, especially pertinent in the demanding environment of accounting. Additionally, Kober and Thambar (2021) show how accounting practices like budgeting and forecasting are instrumental in fostering

financial resilience, enabling organizations to withstand crises such as the COVID-19 pandemic. The accounting profession also demands proficiency in navigating complex regulations and standards, where flexibility is a key competency. Chiang et al. (2020) discuss the flexibility needed in cash flow reporting under IFRS, illustrating the necessity for accountants to be adaptable in applying accounting standards across varied business scenarios. Hence, accounting environment requires professionals to be adept in service orientation, resilient under stress, and flexible in adapting to changing circumstances and standards. These competencies are not just essential for delivering top-quality service but are also crucial in maintaining financial resilience and reliability in an ever-evolving business world.

Our study also underscores the need for professional accounting bodies to invest more heavily in CPD programs. Moreover, given that a significant proportion of accountants and auditors engage in CPD programs offered by their professional firms or organizations, which might not be publicly accessible, our study suggests that these internal CPD programs should also align with the identified skill requirements. The role of professional accounting bodies becomes pivotal in this scenario. We argue that such bodies should not only explore emerging skills for professional services but also proactively design learning activities of CPD programs, whether internal or external, that enable accountants and auditors to develop these skills. This will require ongoing collaboration and dialogue among professional bodies to create resources and discussions that enhance skill development among accountants and auditors, thereby bridging any potential gaps between CPD offerings and the actual needs of accountants and auditors.

Overall, the absence of learning outcomes in some of the analyzed courses raises concerns about the design and development of continuing professional education courses. Clear and measurable learning outcomes are essential for evaluating the effectiveness of educational programs, ensuring alignment between course content and educational objectives, and guiding instructional activities and assessments. Moreover, the findings suggest that CPD courses may prioritize certain skills over others, potentially leading to a limited range of skills being offered. It is crucial for organizations and policymakers to consider these factors when designing and implementing CPD programs to ensure that they meet the diverse needs of professionals and facilitate continuous learning and growth.

It is vital to clarify that our intention is to highlight potential areas for improvement in CPD curricula. However, CPD courses may not fully represent the entirety of learning experiences for accountants and auditors. In addition, this study does not suggest that alignment with WEF benchmarks is the only avenue for enhancing the value of the profession. Global accounting bodies in a given country, such as CPA Canada, design their CPD based on their specific competency maps. These maps outline a range of competencies, both soft and technical, that are deemed essential for their members. These competencies may not always align with WEF benchmarks for professional services.

6. Conclusions

The objective of this study is to analyze the quality of CPD courses in terms of the learning outcomes and WEF competencies covered in the courses. The findings of this study shed light on the extent to which the 248 CPD courses offered by CIMA, comprising of 1009 learning outcomes, are aligned with the professional competencies identified by the WEF. The results show that a majority of the courses have specified learning outcomes, indicating that the courses are designed with clear learning objectives in mind. However, the absence of learning outcomes in a significant minority of the courses is noteworthy and may indicate a need for improvement in the development and design of those courses. In addition, the results present that a large proportion of CPD courses provided only one skill. This indicates that although these courses effectively offer targeted training in certain areas, they might not encompass the breadth of skills required for professional development. The analyses also reveal that “complex problem-solving” is the competency with the highest representation in the CPD courses, followed by “attention to detail, trustworthiness” and “active learning and learning strategies”. The competencies with the lowest representation are “service orientation” and “resilience, stress tolerance, and flexibility”. The results of this study can be used to improve the quality of the CPD courses, ensuring that all courses have clear learning objectives and are designed to develop a broad range of competencies. Furthermore, this paper emphasizes the need for greater efforts to implement the aforementioned recommendations.

It is important to note that this study has some limitations and further research is needed to validate and extend our findings, with a particular focus on designing and delivering CPD courses that effectively develop a broad range of competencies among accounting professionals. Firstly, the primary limitation of content analysis is its susceptibility to human bias, as the classification of courses and learning outcomes is subject to the interpretations of the authors. While our analysis employing content analysis provided valuable insights into the alignment between CIMA’s CPD courses and WEF competencies, the recognition of its limitations opens avenues for further research using more advanced analytical methods. Machine-learning methods, such as Latent Dirichlet Allocation (Blei et al., 2003), can offer systematic depth and facilitate extensive identification of common themes and patterns within available CPD courses.

Secondly, this study only analyzes the CPD courses, and the results may not be generalizable to other professional development courses. The methodology presented in this study offers a framework that can be adopted by other programs to assess whether their course learning objectives provide learners with opportunities to acquire the abilities outlined within the essential competencies.

Thirdly, this study only analyzes the courses’ learning outcomes and competencies. Future research can examine the effectiveness of these courses in enhancing learners’ skills and competencies. Specifically, future research can focus on evaluating the effectiveness of the CPD courses in achieving their learning outcomes and developing the competencies required for success in the accounting profession.

Fourthly, this study does not delve into the internal training programs provided by professional accounting firms and large organizations. Future research can conduct surveys and interviews with practicing accountants and auditors to understand the actual usage and perceived value of CPD courses among the target population. Also, future research can compare these internal programs with CIMA's offerings to identify any gaps or overlaps in CPD content and structure. This comparative analysis provides additional comprehensive view of CPD's role in the professional development of accountants and auditors, addressing the concern raised regarding the direct link between the intellectual capital of these professionals and the CPD courses evaluated.

Lastly, while our findings do indicate potential areas for refinement in CPD curricula, CPD courses may not be the primary source of knowledge for accountants or auditors in each country. A comparative analysis of CPD courses from different countries to explore the alignment or lack thereof of various countries' stated competencies with those identified by WEF is a significant line of inquiry. This analysis would include a comparison of each country's competency map (or equivalent) with the WEF's benchmarks. Such an analysis would enhance the significance of our findings by providing a broader perspective on how different countries' CPD courses align with global competency benchmarks and could offer valuable insights into the global standards of professional accounting and auditing education.

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References

- Abeysekera, I. (2006). Accounting Meets Politics: Theoretical Interpretation of Key Events (1940–2003) of the Accounting Profession in Australia. *Australian Accounting Review*, 16(38), 66–74. <https://doi.org/10.1111/j.1835-2561.2006.tb00327.x>
- Abu Huson, Y., Sierra-García, L., & Garcia-Benau, M. A. (2023). A bibliometric review of information technology, artificial intelligence, and blockchain on auditing. *Total Quality Management & Business Excellence*, 35(1–2), 91–113. <https://doi.org/10.1080/14783363.2023.2256260>
- Adeli Nik, H., Sattari Nasab, Z., Salmani, Y., & Shahriari, N. (2013). The relationship between financial development indicators and human capital in Iran. *Management Science Letters*, 3(4), 1261–1272. <https://doi.org/10.5267/j.msl.2013.02.020>
- Adnan Allbabidi, M. H. (2021). Hype or Hope: Digital Technologies in Auditing Process. *Asian Journal of Business and Accounting*, 14(1), 59–86. <https://doi.org/10.22452/ajba.vol14no1.3>
- Ahmad, S., Ahmad, S., & Ameen, K. (2021). A qualitative study of soft skills development opportunities: perceptions of university information professionals. *Global Knowledge, Memory and Communication*, 70(6/7), 489–503. <https://doi.org/10.1108/gkmc-06-2020-0073>

- ALfrijat, Y. S. (2020). Compliance with Continuing Professional Development (IES7) of Internal Auditor and Quality of Internal Audit Function. *Accounting and Finance Research*, 9(1), 28. <https://doi.org/10.5430/afr.v9n1p28>
- Al-Ghassani, A., & Al-Saidi, O. (2013). Towards Quality Higher Education in Oman. *The Journal of Quality in Education*, 4(4), 9. <https://doi.org/10.37870/joqie.v4i4.67>
- Alimbudiono, R. S., Tania, P., Hastuti, M. E., & Dewi, G. C. (2022). Exploration of Emotional Intelligent to do Difficult Auditing Service. *International Journal of Professional Business Review*, 7(4), e0571. <https://doi.org/10.26668/businessreview/2022.v7i3.e571>
- Alzeban, A. (2015). Influence of audit committees on internal audit conformance with internal audit standards. *Managerial Auditing Journal*, 30(6/7), 539–559. <https://doi.org/10.1108/maj-12-2014-1132>
- Apergis, N., Mustafa, G., & Khan, M. (2021). Governance thresholds and the human capital–growth nexus. *Journal of Economic Studies*, 49(7), 1181–1196. <https://doi.org/10.1108/jes-03-2021-0150>
- Asif, M. S., & Gill, H. (2022). Blockchain Technology and Green Supply Chain Management (GSCM) – Improving Environmental and Energy Performance in Multi-echelon Supply Chains. *IOP Conference Series: Earth and Environmental Science*, 952(1), 012006. <https://doi.org/10.1088/1755-1315/952/1/012006>
- Austin, A. A., Carpenter, T. D., Christ, M. H., & Nielson, C. S. (2021). The Data Analytics Journey: Interactions Among Auditors, Managers, Regulation, and Technology*. *Contemporary Accounting Research*, 38(3), 1888–1924. <https://doi.org/10.1111/1911-3846.12680>
- Azubuie O., O. (2015). Changes in Global Financial Regulatory Framework: Implications for Accountancy Profession in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 5(4). <https://doi.org/10.6007/ijarbss/v5-i4/1569>
- Baghai, R. P., Silva, R. C., Thell, V., & Vig, V. (2021). Talent in Distressed Firms: Investigating the Labor Costs of Financial Distress. *The Journal of Finance*, 76(6), 2907–2961. <https://doi.org/10.1111/jofi.13077>
- Bao Ngo, T. N., & Tick, A. (2021). Cyber-security Risks Assessments by External Auditors. *Interdisciplinary Description of Complex Systems*, 19(3), 375–390. <https://doi.org/10.7906/indecs.19.3.3>
- Barac, K., Plant, K., Kunz, R., & Kirstein, M. (2021). Generic skill profiles of future accountants and auditors – moving beyond attributes. *Higher Education, Skills and Work-Based Learning*, 11(4), 908–928. <https://doi.org/10.1108/heswbl-08-2020-0180>
- Benjamin, R. D., Adegbite, S. A., Nwaobia, A. N., & Adekunle, I. J. (2020). An Assessment of Electronic-Auditing and Economic Value of the Nigerian Listed Companies. *Indian-Pacific Journal of Accounting and Finance*, 4(2), 34–45. <https://doi.org/10.52962/ipjaf.2020.4.2.104>
- Biyik C A. (2017). Services marketing within business-to-business context: A content analysis of 1996 – 2014 period. *Eurasian Journal of Business and Management*, 5(2), 49–59. <https://doi.org/10.15604/ejbm.2017.05.02.006>
- Blei D M, Ng A Y, Jordan M I. (2003). Latent dirichlet allocation. *Journal of Machine Learning Research*, 3(Jan), 993–1022.
- Blenker, P., Korsgaard, S., Neergaard, H., & Thrane, C. (2011). The Questions We Care About: Paradigms and Progression in Entrepreneurship Education. *Industry and Higher Education*, 25(6), 417–427. <https://doi.org/10.5367/ihe.2011.0065>
- Bonsón, E., & Bednárová, M. (2019). Blockchain and its implications for accounting and auditing. *Meditari Accountancy Research*, 27(5), 725–740. <https://doi.org/10.1108/medar-11-2018-0406>
- Boolaky, P. K., & Soobaroyen, T. (2016). Adoption of International Standards on Auditing (ISA): Do Institutional Factors Matter? *International Journal of Auditing*, 21(1), 59–81. <https://doi.org/10.1111/ijau.12081>
- Bui, B., & Porter, B. (2010). The Expectation-Performance Gap in Accounting Education: An Exploratory Study. *Accounting Education*, 19(1–2), 23–50. <https://doi.org/10.1080/09639280902875556>
- Camargo, J., Lima, L., Riva, F., & Souza, A. P. (2021). Technical Education, Non-cognitive Skills and Labor Market Outcomes: Experimental Evidence from Brazil. *IZA Journal of Labor Economics*, 10(1). <https://doi.org/10.2478/izajole-2021-0002>
- Carey, P., Subramaniam, N., & Ching, K. C. W. (2006). Internal audit outsourcing in Australia. *Accounting and Finance*, 46(1), 11–30. <https://doi.org/10.1111/j.1467-629x.2006.00159.x>
- Carnegie, G. D., & Napier, C. J. (1996). Critical and interpretive histories: insights into accounting’s present and future through its past. *Accounting, Auditing & Accountability Journal*, 9(3), 7–39. <https://doi.org/10.1108/09513579610121956>
- Chaplin, S. (2017). Accounting Education and the Prerequisite Skills of Accounting Graduates: Are Accounting Firms’ Moving the Boundaries? *Australian Accounting Review*, 27(1), 61–70. <https://doi.org/10.1111/auar.12146>

- Chiang, S., Kleinman, G., & Lee, P. (2020). The effect of auditor industry specialization and board independence on the cash flow reporting classification choices under IFRS: evidence from Taiwan. *International Journal of Accounting & Information Management*, 29(1), 147–168. <https://doi.org/10.1108/ijaim-07-2019-0084>
- Coff, R. W. (2002). Human Capital, Shared Expertise, and the Likelihood of Impasse in Corporate Acquisitions. *Journal of Management*, 28(1), 107–128. <https://doi.org/10.1177/014920630202800107>
- Crawford, L., Helliard, C., & Monk, E. A. (2011). Generic Skills in Audit Education. *Accounting Education*, 20(2), 115–131. <https://doi.org/10.1080/09639284.2011.557487>
- Cross, V. (2013). Practice Educators in an Uncertain World: Still Too Much to Ask? *International Journal of Practice-Based Learning in Health and Social Care*, 1(1), 29–36. <https://doi.org/10.11120/pblh.2013.00002>
- Curado, C., Henriques, L., & Bontis, N. (2011). Intellectual capital disclosure payback. *Management Decision*, 49(7), 1080–1098. <https://doi.org/10.1108/00251741111151154>
- Daradkeh, M. K. (2019). Determinants of visual analytics adoption in organizations. *Information Technology & People*, 32(3), 668–695. <https://doi.org/10.1108/itp-10-2017-0359>
- Davidescu, A. A., Apostu, S.-A., Paul, A., & Casuneanu, I. (2020). Work Flexibility, Job Satisfaction, and Job Performance among Romanian Employees—Implications for Sustainable Human Resource Management. *Sustainability*, 12(15), 6086. <https://doi.org/10.3390/su12156086>
- Day, R., & Woodward, T. (2009). CSR reporting and the UK financial services sector. *Journal of Applied Accounting Research*, 10(3), 159–175. <https://doi.org/10.1108/09675420911006398>
- De Lange, P., Jackling, B., & Gut, A.-M. (2006). Accounting graduates' perceptions of skills emphasis in undergraduate courses: an investigation from two Victorian universities. *Accounting and Finance*, 46(3), 365–386. <https://doi.org/10.1111/j.1467-629x.2006.00173.x>
- De Massis, A., & Kotlar, J. (2014). The case study method in family business research: Guidelines for qualitative scholarship. *Journal of Family Business Strategy*, 5(1), 15–29. <https://doi.org/10.1016/j.jfbs.2014.01.007>
- Dempster, G., & Isaacs, J. (2017). Entrepreneurship, corruption and economic freedom. *Journal of Entrepreneurship and Public Policy*, 6(2), 181–192. <https://doi.org/10.1108/jep-08-2016-0030>
- DiGabriele, J. A. (2009). Implications of regulatory prescriptions and audit standards on the evolution of forensic accounting in the audit process. *Journal of Applied Accounting Research*, 10(2), 109–121. <https://doi.org/10.1108/09675420910984673>
- Draz, M. U., & Ahmad, F. (2017). Continuing Professional Development and Accounting Academics: A Literature Review. *International Journal of Learning and Development*, 7(4), 44. <https://doi.org/10.5296/ijld.v7i4.12089>
- Durdyev, S., & Hosseini, M. R. (2020). Causes of delays on construction projects: a comprehensive list. *International Journal of Managing Projects in Business*, 13(1), 20–46. <https://doi.org/10.1108/ijmpb-09-2018-0178>
- Elbarrad, S., & Belassi, W. (2023). Chartered professional accountant's competencies: the synergy between accounting education and employers' needs—evidence from Alberta. *Higher Education, Skills and Work-Based Learning*, 13(2), 423–442. <https://doi.org/10.1108/heswbl-09-2022-0183>
- Elkin, G. (1998). New Zealand Human Capital Development and Structural Reform. *International Journal of Training and Development*, 2(1), 42–60. <https://doi.org/10.1111/1468-2419.00034>
- Endrawes, M., Leong, S., & Matawie, K. M. (2023). The moderating effect of culture on the relationship between accountability and professional scepticism. *Meditari Accountancy Research*, 31(2), 381–399. <https://doi.org/10.1108/medar-08-2020-0986>
- Faituša, I., Subačienė, R., & Mačerinskienė, A. (2020). Challenges of outsourcing accounting in Latvia and Lithuania. *Entrepreneurship and Sustainability Issues*, 7(4), 2883–2896. [https://doi.org/10.9770/jesi.2020.7.4\(20\)](https://doi.org/10.9770/jesi.2020.7.4(20))
- Felício J A, Couto E, Caiado J. (2012). Human capital and social capital in entrepreneurs and managers of small and medium enterprises. *Journal of Business Economics and Management*, 13(3), 395–420. <https://doi.org/10.3846/16111699.2011.620139>
- Ferri, L., Spanò, R., Ginesti, G., & Theodosopoulos, G. (2021). Ascertaining auditors' intentions to use blockchain technology: evidence from the Big 4 accountancy firms in Italy. *Meditari Accountancy Research*, 29(5), 1063–1087. <https://doi.org/10.1108/medar-03-2020-0829>
- Freeman, E. H. (2007). Regulatory Compliance and the Chief Compliance Officer. *Information Systems Security*, 16(6), 357–361. <https://doi.org/10.1080/10658980701805050>
- Gangani, N., McLean, G. N., & Braden, R. A. (2006). A Competency-Based Human Resource Development Strategy. *Performance Improvement Quarterly*, 19(1), 127–139. <https://doi.org/10.1111/j.1937-8327.2006.tb00361.x>

- Gepp, A., Linnenluecke, M. K., O'Neill, T. J., & Smith, T. (2018). Big data techniques in auditing research and practice: Current trends and future opportunities. *Journal of Accounting Literature*, 40(1), 102–115. <https://doi.org/10.1016/j.acclit.2017.05.003>
- Ghani E K, Muhammad K, Tarmezi N A M, et al. (2019). Accounting graduates: Are they still accountants? *Management and Accounting Review*, 18(1), 101. <https://doi.org/10.24191/mar.v18i1.769>
- Gingrich, C. D., Kratz, L., & Faraci, R. (2018). IFRS Adoption in Developing Countries: What Is the Impact? *International Journal of Accounting and Financial Reporting*, 8(2), 278. <https://doi.org/10.5296/ijafr.v8i2.13262>
- Gremler, D. D., Hoffman, K. D., Keaveney, S. M., & Wright, L. K. (2000). Experiential Learning Exercises in Services Marketing Courses. *Journal of Marketing Education*, 22(1), 35–44. <https://doi.org/10.1177/0273475300221005>
- Guthrie, J., Petty, R., Yongvanich, K., & Ricceri, F. (2004). Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital*, 5(2), 282–293. <https://doi.org/10.1108/14691930410533704>
- Hakim, R. (2016). Are Accounting Graduates Prepared For Their Careers? A Comparison of Employees' and Employers' Perceptions. *Global Review of Accounting and Finance*, 7(2), 140–156. <https://doi.org/10.21102/graf.2016.09.72.11>
- Halabi, A. K. (2015). Australian Rural Accountants' Views on How Locally Provided CPD Compares with City-based Provision. *Accounting Education*, 24(6), 539–554. <https://doi.org/10.1080/09639284.2015.1087321>
- Halabi, A. K., & Chowdhury, M. S. (2018). Bangladesh accountants and Continuing Professional Development. *Journal of Accounting in Emerging Economies*, 8(4), 514–526. <https://doi.org/10.1108/jaee-12-2017-0123>
- Handoko, B. L., Ayuanda, N., & Marpaung, A. T. (2020). Organizational, Social and Individual Aspect on Acceptance of Computerized Audit in Financial Audit Work. *Advances in Science, Technology and Engineering Systems Journal*, 5(3), 55–61. <https://doi.org/10.25046/aj050308>
- Hanushek, E. A., Schwerdt, G., Wiederhold, S., & Woessmann, L. (2015). Returns to skills around the world: Evidence from PIAAC. *European Economic Review*, 73, 103–130. <https://doi.org/10.1016/j.euroecorev.2014.10.006>
- Helliar, C. V., Monk, E. A., & Stevenson, L. A. (2009). The Development of Trainee Auditors' Skills in Tertiary Education. *International Journal of Auditing*, 13(3), 185–202. <https://doi.org/10.1111/j.1099-1123.2009.00385.x>
- Huang, R., Yan, P., & Yang, X. (2021). Knowledge map visualization of technology hotspots and development trends in China's textile manufacturing industry. *IET Collaborative Intelligent Manufacturing*, 3(3), 243–251. <https://doi.org/10.1049/cim2.12024>
- Ilias, A., Abd Razak, M. Z., Shakina, S., & Rosman, S. R. (2014). The Expectation Of Accountant General's Department Of Malaysia Towards Future Accountants' Skills. *IPN Journal of Research and Practice in Public Sector Accounting and Management*, 4(01), 51–68. <https://doi.org/10.58458/ipnj.v04.01.04.0035>
- International Federation of Accountants (IFAC). (2004). Continuing professional development: A programme of lifelong and continuing development of professional competence.
- Ismail, S. (2013). The Importance of Soft Skills for Accounting Students in Malaysia. *Asian Journal of Accounting Perspectives*, 6(1), 1–11. <https://doi.org/10.22452/ajap.vol6no1.1>
- Jones, N., & Fear, N. (1994). Continuing Professional Development: Perspectives from Human Resource Professionals. *Personnel Review*, 23(8), 49–60. <https://doi.org/10.1108/00483489410072280>
- Kamal, D., Hassan, N., Hany, M., & Talaat, W. (2016). Needs Assessment of the Residents at the Suez Canal University Hospital Regarding Continuing Professional De-velopment. *Suez Canal University Medical Journal*, 19(2), 143–151. <https://doi.org/10.21608/scumj.2016.44183>
- Kavanagh, M. H., & Drennan, L. (2008). What skills and attributes does an accounting graduate need? Evidence from student perceptions and employer expectations. *Accounting & Finance*, 48(2), 279–300. <https://doi.org/10.1111/j.1467-629x.2007.00245.x>
- Kober, R., & Thambar, P. J. (2021). Coping with COVID-19: the role of accounting in shaping charities' financial resilience. *Accounting, Auditing & Accountability Journal*, 34(6), 1416–1429. <https://doi.org/10.1108/aaaj-09-2020-4919>
- Kohnová, L., Papula, J., Papulová, Z., et al. (2020). Job mismatch: the phenomenon of overskilled employees as a result of poor managerial competences. *Entrepreneurship and Sustainability Issues*, 8(1), 83–102. [https://doi.org/10.9770/jesi.2020.8.1\(6\)](https://doi.org/10.9770/jesi.2020.8.1(6))
- Krscynski, D., Coff, R., & Campbell, B. (2021). Charting a path between firm-specific incentives and human capital-based competitive advantage. *Strategic Management Journal*, 42(2), 386–412. <https://doi.org/10.1002/smj.3226>
- Kufepaksi, M., & -, G. (2018). The Role of Intellectual Capital in Overcoming the Slowing Economic Growth in Indonesia. *International Journal of Economics and Finance*, 10(10), 97. <https://doi.org/10.5539/ijef.v10n10p97>

- Kunz, W. H., & Hogreve, J. (2011). Toward a deeper understanding of service marketing: The past, the present, and the future. *International Journal of Research in Marketing*, 28(3), 231–247. <https://doi.org/10.1016/j.ijresmar.2011.03.002>
- La Torre, M., Botes, V. L., Dumay, J., & Odendaal, E. (2021). Protecting a new Achilles heel: the role of auditors within the practice of data protection. *Managerial Auditing Journal*, 36(2), 218–239. <https://doi.org/10.1108/maj-03-2018-1836>
- Lim, Y. M., Cham, T. H., Lee, T. H., & Ramalingam, T. @ C. L. (2019). Employer-Employee Perceptual Differences in Job Competency: A Study of Generic Skills, Knowledge Required, and Personal Qualities for Accounting-Related Entry-Level Job Positions. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 9(4). <https://doi.org/10.6007/ijarafms/v9-i4/6660>
- Lois, P., Drogalas, G., Karagiorgos, A., & Tsikalakis, K. (2020). Internal audits in the digital era: opportunities risks and challenges. *EuroMed Journal of Business*, 15(2), 205–217. <https://doi.org/10.1108/emjb-07-2019-0097>
- Louw, T., & Wessels, J. S. (2016). Three snapshots of business ethics education at South African business schools: Sharp or still blurred? *Southern African Business Review*, 20, 557–576. <https://doi.org/10.25159/1998-8125/6063>
- Mahoney, J. T., & Kor, Y. Y. (2015). Advancing the Human Capital Perspective on Value Creation by Joining Capabilities and Governance Approaches. *Academy of Management Perspectives*, 29(3), 296–308. <https://doi.org/10.5465/amp.2014.0151>
- Martinov-Bennie, N., Dyball, M. C., & Tweedie, D. (2022). Professional skepticism through audit praxis: An Aristotelian perspective. *International Journal of Auditing*, 26(2), 193–211. <https://doi.org/10.1111/ijau.12258>
- McGregor, J., Tweed, D., & Pech, R. (2004). Human capital in the new economy: devil’s bargain? *Journal of Intellectual Capital*, 5(1), 153–164. <https://doi.org/10.1108/14691930410512978>
- Milei, P., & Barajas, A. (2023). Towards semantic operationalisation of the business model: a step forward. *Management Research: Journal of the Iberoamerican Academy of Management*, 21(3), 305–326. <https://doi.org/10.1108/mrjiam-11-2022-1362>
- Mohamed, E. K. A., & Lashine, S. H. (2003). Accounting knowledge and skills and the challenges of a global business environment. *Managerial Finance*, 29(7), 3–16. <https://doi.org/10.1108/03074350310768319>
- Montano, J. L. A., Donoso, J. A., Hassall, T., & Joyce, J. (2001). Vocational skills in the accounting professional profile: the Chartered Institute of Management Accountants (CIMA) employers’ opinion. *Accounting Education*, 10(3), 299–313. <https://doi.org/10.1080/09639280210122339>
- Muhamad, R., & Sulaiman, N. A. (2013). Higher-Order or Critical Thinking Skills: Does Accounting Education Need Reforms? *Asian Journal of Accounting Perspectives*, 6(1), 12–20. <https://doi.org/10.22452/ajap.vol6no1.2>
- Murphy, B. (2017). Professional competence and continuing professional development in accounting: professional practice vs. non-practice. *Accounting Education*, 26(5–6), 482–500. <https://doi.org/10.1080/09639284.2016.1218780>
- Nguyen, C. H. (2021). Exploring internal challenges for quality assurance staff in Vietnam: voice of insiders. *Quality Assurance in Education*, 29(2/3), 70–83. <https://doi.org/10.1108/qaе-07-2020-0080>
- Nwachukwu, C. E., Usman, T. O., Akhor, S. O., & Oladipupo, A. O. (2021). Auditing in the New Age of Industry 4.0. *International Journal of Business Strategy and Automation*, 2(1), 17–28. <https://doi.org/10.4018/ijbsa.20210101.0a2>
- Owusu, G. M. Y., Obeng, V. A., Ofori, C. G., et al. (2018). What explains student’s intentions to pursue a certified professional accountancy qualification? *Meditari Accountancy Research*, 26(2), 284–304. <https://doi.org/10.1108/medar-06-2016-0065>
- Paisey, C., Paisey, N. J., & Tarbert, H. (2007). Continuing Professional Development Activities of UK Accountants in Public Practice. *Accounting Education*, 16(4), 379–403. <https://doi.org/10.1080/09639280701646554>
- Pincus, K. V., Stout, D. E., Sorensen, J. E., et al. (2017). Forces for change in higher education and implications for the accounting academy. *Journal of Accounting Education*, 40, 1–18. <https://doi.org/10.1016/j.jaccedu.2017.06.001>
- Prasetyo, P. E., & Kistanti, N. R. (2020). Human capital, institutional economics and entrepreneurship as a driver for quality & sustainable economic growth. *Entrepreneurship and Sustainability Issues*, 7(4), 2575–2589. [https://doi.org/10.9770/jesi.2020.7.4\(1\)](https://doi.org/10.9770/jesi.2020.7.4(1))
- Ruiz-Barbadillo, E., & Martínez-Ferrero, J. (2021). The choice of incumbent financial auditors to provide sustainability assurance and audit services from a legitimacy perspective. *Sustainability Accounting, Management and Policy Journal*, 13(2), 459–493. <https://doi.org/10.1108/sampj-04-2021-0121>
- Salvioni, D., Gennari, F., & Bosetti, L. (2016). Sustainability and Convergence: The Future of Corporate Governance Systems? *Sustainability*, 8(11), 1203. <https://doi.org/10.3390/su8111203>
- Schmitz, J., & Leoni, G. (2019). Accounting and Auditing at the Time of Blockchain Technology: A Research Agenda. *Australian Accounting Review*, 29(2), 331–342. <https://doi.org/10.1111/auar.12286>

- Septian, I., & Astika, I. B. P. (2019). Halo effect moderating: impact of professional skepticism on auditor performance. *International Research Journal of Management, IT and Social Sciences*, 6(4), 189–196. <https://doi.org/10.21744/irjmis.v6n4.680>
- Shahwan, Y. (2008). Qualitative characteristics of financial reporting: a historical perspective. *Journal of Applied Accounting Research*, 9(3), 192–202. <https://doi.org/10.1108/09675420810919748>
- Shepherd, E. (2010). In-service training for academic librarians: a pilot programme for staff. *The Electronic Library*, 28(4), 507–524. <https://doi.org/10.1108/02640471011065346>
- Singh, N., Benmamoun, M., Meyr, E., & Arikan, R. H. (2021). Verifying rigor: analyzing qualitative research in international marketing. *International Marketing Review*, 38(6), 1289–1307. <https://doi.org/10.1108/imr-03-2020-0040>
- Sinkovics, R. R., Penz, E., & Ghauri, P. N. (2008). Enhancing the Trustworthiness of Qualitative Research in International Business. *Management International Review*, 48(6), 689–714. <https://doi.org/10.1007/s11575-008-0103-z>
- Siriwardane, H. P., Kin Hoi Hu, B., & Low, K. Y. (2014). Skills, Knowledge, and Attitudes Important for Present-Day Auditors. *International Journal of Auditing*, 18(3), 193–205. <https://doi.org/10.1111/ijau.12023>
- Stanciu, V., Pugna, I. B., & Gheorghe, M. (2020). New coordinates of accounting academic education. A Romanian insight. *Journal of Accounting and Management Information Systems*, 19(1). <https://doi.org/10.24818/jamis.2020.01007>
- Stankevičiūtė, Ž., & Savanevičienė, A. (2018). Designing Sustainable HRM: The Core Characteristics of Emerging Field. *Sustainability*, 10(12), 4798. <https://doi.org/10.3390/su10124798>
- Stein Smith, S. (2018). Digitization and Financial Reporting – How Technology Innovation May Drive the Shift toward Continuous Accounting. *Accounting and Finance Research*, 7(3), 240. <https://doi.org/10.5430/afr.v7n3p240>
- Tan, B. S., & Low, K. Y. (2019). Blockchain as the Database Engine in the Accounting System. *Australian Accounting Review*, 29(2), 312–318. <https://doi.org/10.1111/auar.12278>
- Teague Hostetter, S. (2022). Developing a Quality Assurance Approach for an Online Professional Military Education Institution. *Journal of Applied Instructional Design*, 11(2). <https://doi.org/10.51869/112/sth>
- Vathanophas, V. (2007). Competency Requirements for Effective Job Performance in Thai Public Sector. *Contemporary Management Research*, 3(1), 45. <https://doi.org/10.7903/cmr.49>
- Wang, J., Yang, Y., & Xia, B. (2019). A Simplified Cohen’s Kappa for Use in Binary Classification Data Annotation Tasks. *IEEE Access*, 7, 164386–164397. <https://doi.org/10.1109/access.2019.2953104>
- Warhuus, J. P., Blenker, P., & Elmholdt, S. T. (2018). Feedback and assessment in higher-education, practice-based entrepreneurship courses. *Industry and Higher Education*, 32(1), 23–32. <https://doi.org/10.1177/0950422217750795>
- Webb, J., & Chaffer, C. (2016). The expectation performance gap in accounting education: a review of generic skills development in UK accounting degrees. *Accounting Education*, 25(4), 349–367. <https://doi.org/10.1080/09639284.2016.1191274>
- Wessels, P. L. (2005). Critical information and communication technology (ICT) skills for professional accountants. *Meditari Accountancy Research*, 13(1), 87–103. <https://doi.org/10.1108/10222529200500006>
- Westermann, K. D., Bedard, J. C., & Earley, C. E. (2015). Learning the “Craft” of Auditing: A Dynamic View of Auditors’ On-the-Job Learning. *Contemporary Accounting Research*, 32(3), 864–896. <https://doi.org/10.1111/1911-3846.12107>
- Wilkinson, S., Halvitigala, D., & Antoniadis, H. (2018). Educators, professional bodies and the future of the valuation profession. *Property Management*, 36(4), 389–399. <https://doi.org/10.1108/pm-04-2017-0027>
- World Economic Forum. (2020a). The future of jobs report 2020. Available online: <https://www.weforum.org/reports/the-future-of-jobs-report-2020> (accessed on 21 October 2020).
- World Economic Forum. (2020b). The global competitiveness report special edition 2020: How countries are performing on the road to recovery. Available online: https://www.weforum.org/reports/the-global-competitiveness-report-2020/?DAG=3&gclid=CjwKCAiAu5agBhBzEiwAdiR5tGbb30hfXUebBC__3DnFTUnreDPKKbyj7PCnXbyu6VFs0HV4ebjx9BoC2bIQAvD_BwE (accessed on 18 December 2020).
- Yu, H.-C., Kuo, L., & Kao, M.-F. (2017). The relationship between CSR disclosure and competitive advantage. *Sustainability Accounting, Management and Policy Journal*, 8(5), 547–570. <https://doi.org/10.1108/sampj-11-2016-0086>
- Yusoff, Y. H., Johari, A. S., Mohd Rahmatullah, D. A., et al. (2023). Industry Revolution 4.0: Rapid Growth of Technology May Affect Job Security in Auditing Profession: A Concept Paper. *International Journal of Academic Research in Business and Social Sciences*, 13(3). <https://doi.org/10.6007/ijarbss/v13-i3/16546>
- Zeng, F., Lo, C., & Lee, S. (2021). Will Communication of Job Creation Facilitate Diffusion of Innovations in the Automobile Industry? *Sustainability*, 14(1), 36. <https://doi.org/10.3390/su14010036>

Zhang, R., & Hur, J. (2022). Sustainable Development Trend of Chinese Advertising Design from 1992 to 2020: A Bibliometric and Content Analysis. *SAGE Open*, 12(4), 215824402211340. <https://doi.org/10.1177/21582440221134066>

Zobel, C. W., MacKenzie, C. A., Baghersad, M., & Li, Y. (2021). Establishing a frame of reference for measuring disaster resilience. *Decision Support Systems*, 140, 113406. <https://doi.org/10.1016/j.dss.2020.113406>