

Skill gaps in accounting: contrasting stakeholder expectations with perceived skills

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Abstract

Purpose – Motivated by the growing significance of human capital in organisations operating in dynamic environments, as well as the evolving roles and skill requirements of accounting professionals, this exploratory study aims to examine and compare the skill gaps perceived by accounting practitioners and employers. Based on these identified gaps, the study seeks to assess the need for additional education or training relevant to the accounting profession.

Design/methodology/approach – The study employs online surveys to gather data in Finland. The final dataset consists of 386 responses from accounting practitioners and employers.

Findings – The findings reveal the existence of skill gaps across five broad skill groups. However, the assessments of accounting practitioners and employers exhibit slight discrepancies regarding both the perceived skill levels and the anticipated future importance of skills. Drawing on the findings, this paper presents reflections on the significance of diverse skill sets in future accounting work and organisational human capital. It also discusses potential strategies to address skill gaps.

Originality/value – This study presents a seldom-examined perspective of accounting practitioners, contrasting it with the views of accounting employers. By focusing on skill gaps, the study offers recommendations and insights into necessary training and educational initiatives for organisations, academic institutions, and professional bodies.

Keywords Accounting, Accounting education, Digitalisation, Human capital, Professional training, Skill gap

Paper type Research paper

1. Introduction

Current change forces in the business landscape, such as globalisation, digitalisation, and emerging technologies, have transformed the nature of work as well as current working roles and tasks. In particular, digitalisation and automation are expected to reform knowledge and service work (Coombs *et al.*, 2020; Loebbecke and Picot, 2015; Vuori *et al.*, 2019), implying changes in the roles of knowledge workers and the demand for them in the job market. One example of knowledge work is the accounting profession, which can be characterised by the specialised knowledge it requires (Sutton *et al.*, 2018). Besides being its own industry, accounting is an important supporting function for all organisations across sectors. The traditional roles and tasks of accountants, as well as the skills and knowledge required in accounting work, are expected to change because of the automation of various repetitive tasks (Kokina and Blanchette, 2019; Kokina and Davenport, 2017). According to Frey and Osborne (2017), accounting and auditing occupations are highly susceptible to computerisation and automation. To ensure the employment and relevance of accounting professionals, their role is

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likely to shift to even more intelligence-based tasks. [Yigitbasioglu et al. \(2023\)](#) suggest that as technology advances, accounting firms and accountants are increasingly required to provide advisory services related to various areas, such as strategic and technological issues, in addition to traditional services.

Nevertheless, shifts in roles and skill requirements can contribute to the emergence of skill gaps. Some studies have also referred to these gaps as skill mismatches or expectation–performance gaps (e.g. [Bui and Porter, 2010](#); [Gunarathne et al., 2021](#); [Mori, 2021](#); [Pater et al., 2022](#); [Shevchuk et al., 2019](#)). A “skill gap” is a general term for the mismatch that appears between skill supply and demand in the labour market – that is, the gap between the level of skills possessed by employees and the level of skills required at work ([Cappelli, 2015](#); [Nghia, 2018](#)). More specifically, the expectation–performance gap refers to the mismatch between skills expected by the profession and those perceived in graduates or employees ([Bui and Porter, 2010](#)). These gaps have drawn the attention of business researchers (e.g. [Abbasi et al., 2018](#); [Gunarathne et al., 2021](#); [Jackson and Chapman, 2012](#); [Nghia, 2018](#)) due to concerns that the skills and knowledge possessed by graduates or employees do not align with the demands of their (future) professions. This is a significant issue for organisations, as their employees’ skills and knowledge are resources that form part of the organisations’ human capital and can affect organisational performance and success through competitive advantage ([Ployhart et al., 2014](#); [Sousa and Rocha, 2019](#)), as well as for the workforce in terms of employability. In the field of accounting, the potential shift to consultative or advisory tasks implies an increased importance of knowledge. Accounting scholars have examined skill gaps from the perspectives of employers, educators, students, and recent graduates (e.g. [Dolce et al., 2020](#); [Gunarathne et al., 2021](#); [Hassall et al., 2003](#); [Howcroft, 2017](#); [Kavanagh and Drennan, 2008](#); [Towers-Clark, 2015](#)). However, little is known about the perceptions of current accounting practitioners, such as bookkeepers and accountants, although their perspectives would be valuable due to their firsthand experiences with the requirements of the profession. This study bridges this research gap by exploring the practitioners’ perceptions of skill gaps while contrasting them with those of employers.

In this study, we examine and compare the skill gap perceptions of two accounting stakeholder groups – accounting practitioners and employers – with the aim of identifying skill areas requiring further education or training to better meet evolving demands and sustain competitiveness. Using a survey approach, our research is based on the perceptions of 132 Finnish accounting practitioners and 254 chief financial officers (CFOs), who assessed the expected future importance of specific skills in accounting work (representative of future expectations) as well as their own or their accounting employees’ current skill levels (representative of perceived performance). The study therefore addresses the concept of the (future) expectation–performance gap as a measure of the skill gap. This construct encompasses both a temporal aspect (future versus current situation) and a supply and demand aspect (what is possessed versus what will be required). The analysis of skill gaps is based on five skill groups identified through principal component analysis: technical accounting skills, management accounting skills, IT skills, intellectual skills, and communication and social skills. Through the insights gained from this analysis, the study contributes to the literature by adding a new perspective to the discussion on skill gaps in accounting work and education (e.g. [Abayadeera and Watty, 2014](#); [Bui and Porter, 2010](#); [Gunarathne et al., 2021](#); [Jackling and De Lange, 2009](#)) and provides practical implications by informing organisations, education providers, and professional bodies on necessary skill development initiatives. Addressing the primary objective of identifying skill areas worth further consideration and development, the following research questions (RQs) guide the research:

RQ1. In which skill groups do accounting practitioners and employers encounter skill gaps?

RQ2. What differences exist between accounting practitioners' and accounting employers' perspectives regarding the future importance of skills and skill gaps?

Education +
Training

This paper is organised as follows. First, to support the research objectives and empirical research, we review the literature regarding the importance of human capital, especially employee skills and knowledge, as well as the roles and skill requirements in the accounting profession. We then present the data and the methods used in this study, followed by the results. Finally, we discuss the findings, contributions, and practical implications of the study. We note the limitations and offer suggestions for future research at the end of the paper.

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2. Theory and previous literature

2.1 Theoretical background

The significance of human resources and human capital, which encompasses the relevant knowledge, skills, abilities, experience, training, and intelligence of the individuals working in firms (Barney, 1991; Pennings *et al.*, 1998; Ployhart *et al.*, 2014), can be demonstrated through theoretical frameworks used in the strategic management literature. A firm's internal resources, including human resources, are emphasised as sources of competitive advantage in the resource-based view (RBV) (Wernerfelt, 1984), and these resources can be classified into tangible and intangible forms or into categories such as physical, human, and organisational capital (Barney, 1991; Wernerfelt, 1984). Barney (1991) further specifies that the resources from which a *sustained* competitive advantage can be derived should be valuable, rare, imperfectly imitable, and strategically non-substitutable (VRIN).

Characterised as an outgrowth of the RBV, the knowledge-based view (KBV) considers knowledge as the most important strategic resource of a firm and views firms as coordinators of knowledge integration so that the specialist knowledge of individuals can be integrated into services or goods (Grant, 1996). Knowledge can in turn be divided into implicit (or tacit) referring to "*knowing how*" and explicit knowledge referring to "*knowing about*" (Grant, 1996). Besides the KBV, the dynamic capabilities framework is a relevant concept to the RBV and firm competitiveness (Wright *et al.*, 2001). It builds on the RBV but highlights organisational and managerial competencies in achieving and maintaining competitive advantage in dynamic, rapidly changing markets (Eisenhardt and Martin, 2000; Teece, 2007). Teece *et al.* (1997, p. 516) define dynamic capabilities as "*the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.*" Organisations need capabilities to sense threats and opportunities, seize them, and transform accordingly (Teece, 2007), and Eisenhardt and Martin (2000) argue that the long-term competitive advantage lies in the use of those capabilities to create resource configurations.

The RBV bridges the strategy and strategic human resource management (SHRM) streams of literature (Wright *et al.*, 2001). SHRM focuses on human resources and their role in supporting organisational goals and strategic needs, thus applying human resource management practices to strategic management processes (Schuler, 1992; Wright and McMahan, 1992; Wright *et al.*, 2001). The RBV provides an applicable approach for human resource researchers to explain the connection between firms' human resources and competitive advantage (Hoskisson *et al.*, 1999; Wright and McMahan, 1992; Wright *et al.*, 2001). SHRM research has examined the ways in which organisations can improve their performance and achieve their goals through human resource systems and practices (Jiang *et al.*, 2012). Lepak *et al.* (2006) argue that human resource systems, including practices such as recruitment, training policies, and performance management, should be targeted at organisations' strategic objectives and aim to affect employees' skills, motivation, and effort. As these dimensions might have different relations with organisational outcomes, Jiang *et al.* (2012) suggest that organisations should focus on investing in appropriate human resource practices depending on their strategic objectives and goals.

2.2 Skills and knowledge in accounting practice

Trends in the global business landscape impact accounting practices. Following the adoption of digital technologies, repetitive, structured routine tasks can easily be automated (Kokina and Davenport, 2017). As traditional accounting practices include various manual or routine tasks, Frey and Osborne (2017) have predicted that the occupation is highly at risk of computerisation and automation. Therefore, the number of traditional accounting tasks performed by humans is likely to decrease. However, technology and automation may also create new opportunities and expand accountants' tasks, for instance, to those related to data and technology (Kokina and Blanchette, 2019; Moll and Yigitbasioglu, 2019). Replacing routine processes with automation also allows accountants to concentrate on value-added analytics – tasks in which their expertise is highly regarded (Kokina et al., 2021). Overall, Yigitbasioglu et al. (2023) anticipate that the effects of technology, especially automation, artificial intelligence (AI), big data, and cloud computing, will shape the future of the accounting profession and the services offered by professional accounting firms.

The transformation and automation of accounting tasks inevitably lead to changes in the roles of accountants. Roughly, the roles can be divided into those of a management accountant or controller (e.g. analysing and reporting information to top management to support decision-making) and those of a financial accountant (e.g. recording and reporting information to stakeholders). Traditionally, when discussing the role of management accountants, scholars have referred to “bean counters” or “scorekeepers” versus “business advisors or partners” (e.g. Byrne and Pierce, 2007; Friedman and Lyne, 1997; Granlund and Lukka, 1998), suggesting that the role is expanding to that of business partners who engage in strategic planning and decision making. In turn, the professional service firms, who often employ financial accountants as well as tax and audit professionals, are anticipated to increasingly move towards the provision of non-traditional accounting services, such as advisory services related to a broad range of issues (Yigitbasioglu et al., 2023). The findings of Leitner-Hanetseder et al. (2021) suggest that in general, accountants' roles are especially affected by AI-based technologies which replace and supplement humans. Therefore, in the future, accountants' roles will likely relate to AI-based technology training, monitoring, and data-driven tasks (Leitner-Hanetseder et al., 2021; Oesterreich et al., 2019).

Overall, prior research has suggested that future accountants need to expand and upgrade their skill sets, for instance, to those related to data science, analytics, and digital technologies, as well as various soft skills, such as cognitive and social ones (Moll and Yigitbasioglu, 2019; Oesterreich et al., 2019; Tsiligiris and Bowyer, 2021). In the current dynamic environment, it is essential for organisations to not only adopt the right digital technologies but also consider employee competencies in applying and exploiting new technologies since technological and digital capabilities are needed from employees beyond IT departments and expected to be requirements for organisations' sustained competitive advantage (Annarelli et al., 2021; Blanka et al., 2022; Spada et al., 2022). Yigitbasioglu et al. (2023) also emphasise the need for accountants to possess human, social, and digital capital to demonstrate VRIN attributes that can lead to competitive advantage.

Skill gaps are likely to emerge from the changing skill requirements. These gaps have been a key concern in discussions about accounting education and accounting graduates' preparedness for professional practice, which have continued for decades (e.g. Bayerlein and Timpson, 2017; Deppe et al., 1991; Jackling and De Lange, 2009; Jackson et al., 2023) and remain relevant due to changing requirements. Prior studies have suggested that in several skill areas, accounting students and recent graduates experience gaps between the skills needed and possessed or taught (De Lange et al., 2006; Dolce et al., 2020; Kavanagh and Drennan, 2008; Towers-Clark, 2015). In addition, gaps between employers' expectations and graduates' skills have been identified (Bui and Porter, 2010; Jackling and De Lange, 2009). Examples of studied skills are summarised in Appendix 1. Based on the recognised gaps, many of those studies have proposed various modifications to accounting curricula, such as a greater inclusion of soft skills (e.g. De Lange et al., 2006; Dolce et al., 2020; Jackling and De Lange, 2009). However, the

issue of skill gaps applies not only to students and university education but also to accounting practitioners and professional training, as the requirements evolve throughout the careers of those working in the accounting field.

3. Data and methods

This study compares skill gaps perceived by accounting practitioners and employers. To identify potential gaps, we used survey data collected from CFOs of various organisations (Dataset 1), representing the employers' perspective, and accounting practitioners who were working in accounting firms (Dataset 2). Both datasets were parts of broader surveys focusing on the future of accounting work and skill requirements and they were collected using self-administered online survey questionnaires (see the [Supplementary materials](#)). The original questionnaires were in Finnish.

Dataset 1 was collected in 2021 (November–December) by targeting the CFOs of various organisations in Finland. The data were collected by a Finnish market research service company that used Bisnode's database on decision-makers. The target group (population) included CFOs and financial managers of Finnish companies, public sector organisations, non-profit associations, and foundations. Given our study's focus on individual employees' skills and knowledge, the CFOs were asked about their organisations' accounting employees. To ensure that the target group represented organisations with sufficient accounting personnel for CFOs to evaluate, we limited it to organisations with at least 10 employees. The CFOs were first contacted by telephone, followed by email with a link to the questionnaire. The sample drawn from the database comprised 3,557 contacts; of these, 1,667 were successfully reached by telephone, and 817 of them agreed to receive the questionnaire link by email. The data collection resulted in 318 responses, with a response rate of 19.1% of those who were successfully reached by telephone, including mainly CFOs, along with some other titles reported as the organisations' decision-makers on financial issues. To ensure that the respondents oversaw finance and accounting personnel and understood their tasks and requirements, the inclusion criteria were limited to titles of CFOs and financial managers. After the exclusion of other titles, 254 valid observations remained, representing 15.2% of those reached.

Dataset 2 was collected in 2022 (September–December) by targeting current accounting practitioners in Finland (population). There were approximately 52,000 employed accounting and payroll professionals (Classification of Occupations, 2010: codes 2411, 3313, 4311, 4313; including entrepreneurs) in 2021 ([Statistics Finland, 2024](#)). The unavailability of a comprehensive or definite list of practitioners engaged in accounting tasks led to the decision to utilise the convenience sampling technique, with the sample drawn from employees of professional accounting firms, although only a portion of practitioners works in those companies. The survey link was distributed and promoted in collaboration with *Taloushallintoliitto* (Association of Finnish Accounting Firms) and by directly contacting employees of Finnish accounting firms by email. To reach potential participants, a list of accounting firms was downloaded from the Amadeus database of financial information on European public and private companies. The invitations to participate in the survey were sent to publicly available email addresses of office contact persons and accounting practitioners working in accounting firms with 10 or more employees, as many smaller accounting firms did not publicly list their email addresses on their websites. While the exact outreach figures from *Taloushallintoliitto*'s promotional efforts are indeterminable, the survey link is estimated to have been sent to approximately 1,000 email addresses. The data collection ultimately yielded 149 responses, resulting in a maximum response rate of 14.9%. Of these, 132 valid responses (a maximum rate of 13.2%) were included after excluding those that did not match the target group based on the respondent titles or had missing titles. The inclusion criteria covered typical accounting professions such as bookkeepers, accountants, accounting specialists and assistants, controllers, payroll specialists, and office and service managers in accounting

firms. A small number of accounting practitioners working in companies other than accounting firms were retained because their roles still involved accounting tasks.

Although they were also accounting practitioners, the CFOs in Dataset 1 were separated from the accounting practitioners in Dataset 2. They are referred to as “CFOs” or “employers” in this paper to highlight their representation of the employers’ perspectives since they were asked about their organisations’ accounting staff. The accounting practitioners in Dataset 2 were largely employees of accounting firms, although the dataset included a few accounting entrepreneurs who were also responsible for daily accounting tasks. In contrast to the CFOs, they were asked about their own tasks and skills. Thus, the respondents in Dataset 2 are referred to as “accounting practitioners”. Altogether, the data comprised 386 observations. The sample’s characteristics are presented in Table 1. Most accounting practitioners (91.7%) were working in accounting firms, whereas most of the employers (99.2%) represented other organisations. This difference stems from the distinct targeting strategies of the surveys. The distinction confirms that the subsamples did not overlap and reflects the different contexts in which these stakeholders operate, with practitioners primarily focusing on delivering accounting services (emphasis on financial accounting) and employers assessing accounting practices and employees across diverse organisations. In terms of the gender distribution

Table 1. Sample characteristics

	Accounting practitioners (n = 132) (%)	Accounting employers (n = 254) (%)
<i>Education (highest degree)</i>		
Upper secondary or vocational	36.4	15.4
Bachelor’s level	47.0	25.2
Master’s level	16.7	57.9
Licentiate or doctoral level		0.8
N/A		0.8
<i>Work experience</i>		
≤10 years	37.9	11.0
11–20 years	24.2	29.9
>20 years	37.9	59.1
<i>Working in an accounting firm</i>		
Yes	91.7	0.8
No	8.3	99.2
<i>Age group</i>		
<30 years	7.6	N/A*
30–39	28.8	
40–49	25.0	
50–59	31.8	
≥60 years	6.8	
<i>Gender</i>		
Male	13.6	N/A*
Female	85.6	
Other/N/A	0.8	

Note(s): *Age group and gender were not included in the questionnaire targeted at CFOs since they were primarily seen as representing employers’ perspectives: in terms of skill assessments, the CFOs were asked about their employees instead of themselves

Source(s): Authors’ own work

among accounting practitioners (85.6% women), the sample reflected the Finnish situation rather well, since in Finland, the accounting profession can be characterised as female-dominated (Statistics Finland, 2024). The employers' survey included fewer personal questions than the practitioners' survey, as employers were primarily considered representatives of their organisations.

Following the socio-demographic questions, the questionnaires proceeded to focus on skill perceptions, with lists of skills to be assessed. While this study aimed to identify relevant skills for future accounting practices, the skills featured in the questionnaires were drawn from prior accounting studies (e.g. De Lange *et al.*, 2006; Hassall *et al.*, 2003; Kavanagh and Drennan, 2008; Towers-Clark, 2015) as well as skill frameworks, such as the International Education Standards (IESs) by the International Federation of Accountants (IFAC, 2019), as summarised in Appendix 1. Subjective judgment, informed by evaluation and experience, was also applied to complement the list with skills considered contemporary and potentially relevant in the future (e.g. robotics and AI). For each item on the list, respondents were asked to rate their own current skill level (accounting practitioners) or their employees' current skill level (accounting employers) as well as their perceptions of the future importance of each skill in accounting work. The given time span for future importance was approximately 10 years. Both dimensions were measured on a 5-point Likert scale, ranging from 1 ("very low skill level" or "not at all important") to 5 ("very high skill level" or "very important").

The data were analysed using Stata/SE 17-18 software. First, to reduce the number of skill variables used in further analyses by extracting the most valuable information, we grouped the skills (items) based on an exploratory principal component analysis using orthogonal varimax rotation (Abdi and Williams, 2010; Zikmund *et al.*, 2010, pp. 593–594). Based on the results of this analysis, we created new variables by calculating the arithmetic means of the items included in the factors. Cronbach's alpha values (Cronbach, 1951) were computed for each factor to check the reliability of the new variables.

Second, we conducted parametric independent sample *t*-tests and one-way analysis of variance (ANOVA) to compare the respondent groups of distinct characteristics. The normality requirements were primarily assumed satisfactory based on our large sample size and group variances (Lix *et al.*, 1996). Nonetheless, we conducted further checks on the histograms, which revealed slight skewness on some occasions. To confirm the results regarding group differences, we conducted additional non-parametric tests (Mann-Whitney or Kruskal-Wallis). However, these tests did not reveal any significant differences to the results obtained from the parametric tests, as anticipated. Therefore, the results of the parametric tests are reported. Variance tests were conducted prior to *t*-tests and ANOVA tests (variance ratios and Bartlett's equal-variances tests, respectively) to account for potential unequal variances between the respondent groups. We used the significance level of $p < 0.05$ (5%) for all tests.

Third, to analyse the skill gaps, we tested the statistical significance of the differences between the mean values of current skill levels and the expected future importance of each skill group using paired *t*-test analyses. Finally, we created new gap variables by subtracting the future importance variables from the skill level variables and then conducted independent sample *t*-tests to compare the extents of the skill gaps experienced by practitioners and employers.

4. Results

4.1 Principal component analysis

We conducted principal component analyses separately for the skill variables representing current skill levels and expected future importance. After removing a few skill items for not having a high loading on any factor, those dimensions showed similar results in terms of item loadings on five factors. Five skill groups were extracted based on eigenvalues greater than 1. The cumulative proportions of the explained variance of the extracted skill groups were 0.68 for current skill levels and 0.64 for skills' future importance, while the overall

Kaiser–Meyer–Olkin (KMO) measures of sampling adequacy were 0.93 and 0.90, respectively, indicating high sampling adequacy or suitability for factor analysis (Kaiser and Rice, 1974). The extracted skill groups are presented in Table 2 with numbers of skill items included in skill groups and key information of the principal component analysis, and the skill items and item loadings are listed in Appendix 2. Each item had a substantial (>0.50) loading on only one factor. All Cronbach’s alpha values were above 0.70, and most exceeded 0.80, indicating an acceptable level of reliability (Nunnally, 1978, pp. 245–246; Peterson, 1994). New variables were formed by calculating the arithmetic means of the items included in each skill group. Overall, 10 new variables were constituted, as there were five skill groups and two dimensions.

4.2 Perceptions of current skill levels and skills’ future importance

We analysed stakeholders’ perceptions of current skill levels and skills’ future importance by comparing the assessments of accounting practitioners and employers (Table 3, Figure 1). It was essential to distinguish between these groups because accounting practitioners assessed their own current skill levels, whereas employers evaluated their accounting employees’ current skill levels. In terms of skill levels, the mean values indicated that accounting practitioners self-rated their intellectual skills ($M = 4.18$) and communication and social skills ($M = 4.10$) the highest and their IT skills the lowest ($M = 2.93$). When assessing the skills possessed by accounting employees, the employers perceived highest levels in technical accounting ($M = 3.79$) and management accounting skills ($M = 3.59$), and the lowest in IT skills ($M = 2.65$). The t -test results showed statistically significant ($p < 0.05$) differences in all skill groups. In all skill groups except management accounting skills, accounting practitioners assessed their current skill levels higher, on average, than employers assessed accounting employees’ skill levels.

Accounting practitioners regarded technical accounting skills as the most important skills in the future ($M = 4.63$), followed by intellectual skills ($M = 4.53$) and communication and social skills ($M = 4.52$), while employers viewed management accounting skills as the most important ($M = 4.24$), followed by intellectual skills ($M = 4.20$) and technical accounting skills ($M = 4.17$). Both groups expected IT skills to be the least important in accounting practice in the future ($M = 3.95$, accounting practitioners; $M = 3.54$, employers), although their mean values were still rather high. The t -test results revealed statistically significant

Table 2. Extracted skill groups based on the principal component analysis

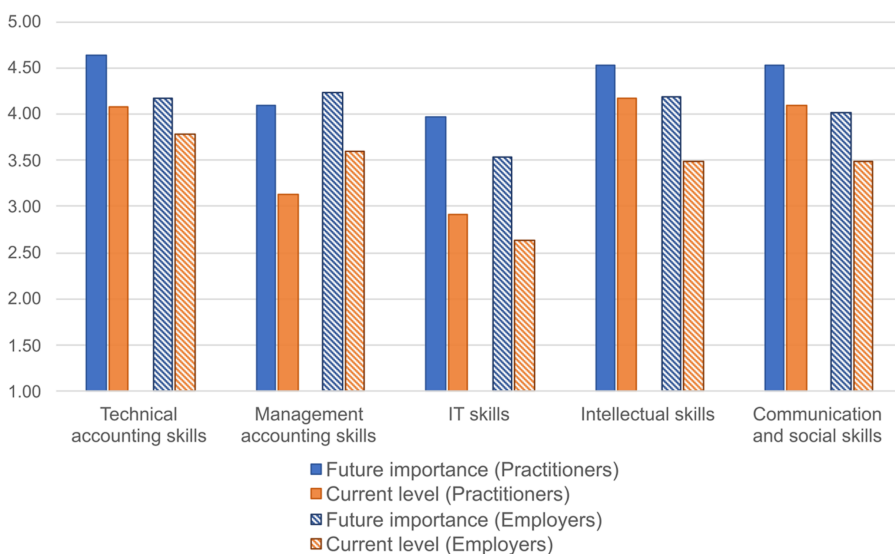
	Number of skill items	Cronbach alpha	Eigenvalue	Proportion	<i>n</i>
<i>Current skill level</i>					
Technical accounting skills	4	0.79	1.09	0.044	344
Management accounting skills	3	0.88	1.87	0.075	344
IT skills	5	0.81	1.14	0.046	344
Intellectual skills	5	0.91	2.99	0.119	344
Communication and social skills	8	0.90	9.86	0.394	344
<i>Future importance</i>					
Technical accounting skills	4	0.74	1.37	0.055	326
Management accounting skills	3	0.81	1.51	0.060	326
IT skills	5	0.78	1.87	0.075	326
Intellectual skills	5	0.85	2.66	0.107	326
Communication and social skills	8	0.90	8.54	0.342	326
Note(s): n = number of observations					
Source(s): Authors’ own work					

Table 3. Comparison of the stakeholder groups' assessments

	Accounting practitioners M $\pm$ SD	n	Accounting employers M $\pm$ SD	n	Mean difference	t-test (independent sample) t(df)	p
<i>Current skill level</i>							
Technical accounting skills	4.09 $\pm$ 0.65	126	3.79 $\pm$ 0.58	244	0.29	t(368) = 4.44	<0.0001**
Management accounting skills	3.17 $\pm$ 0.97	128	3.59 $\pm$ 0.79	243	-0.42	t(217.90) = -4.23	<0.0001**
IT skills	2.93 $\pm$ 0.74	126	2.65 $\pm$ 0.66	237	0.28	t(361) = 3.68	0.0003**
Intellectual skills	4.18 $\pm$ 0.62	123	3.49 $\pm$ 0.73	240	0.69	t(283.40) = 9.46	<0.0001**
Communication and social skills	4.10 $\pm$ 0.55	124	3.48 $\pm$ 0.59	242	0.62	t(364) = 9.67	<0.0001**
<i>Future importance</i>							
Technical accounting skills	4.63 $\pm$ 0.57	126	4.17 $\pm$ 0.53	241	0.46	t(365) = 7.70	<0.0001**
Management accounting skills	4.10 $\pm$ 0.92	124	4.24 $\pm$ 0.58	242	-0.14	t(174.85) = -1.56	0.120
IT skills	3.95 $\pm$ 0.76	123	3.54 $\pm$ 0.66	234	0.42	t(355) = 5.42	<0.0001**
Intellectual skills	4.53 $\pm$ 0.53	122	4.20 $\pm$ 0.56	240	0.33	t(360) = 5.41	<0.0001**
Communication and social skills	4.52 $\pm$ 0.56	121	4.02 $\pm$ 0.57	243	0.50	t(362) = 8.01	<0.0001**

Note(s): ** Significant at the $p < 0.01$ level. The t -tests accounted for the equal/unequal variances tested with variance ratio tests. M = mean value; SD = standard deviation; n = number of observations; df = degrees of freedom

Source(s): Authors' own work

**Figure 1.** Skill gaps perceived by practitioners and employers

differences between the expectations of accounting practitioners and employers in all skill groups except management accounting skills. Accounting practitioners' expectations regarding these skill groups' future importance were higher than those of employers.

In addition to stakeholder group comparison, we conducted statistical tests to analyse potential associations between the respondents' educational levels or work experience and their assessments of skill levels and skills' future importance. The tests and their results are presented in [Table 4](#) (skill levels) and [Table 5](#) (future importance). In terms of current skill levels, the analyses of educational level and work experience only targeted the group of accounting practitioners since the employers did not assess their own skill levels. Surprisingly, we did not find statistically significant differences in the assessments of current skill levels between practitioners with an upper secondary or vocational degree and those with higher education degrees ([Table 4](#)). However, we found significant differences in the assessments of current technical and management accounting skills among accounting practitioners across work experience subgroups. The mean values of these skill groups increased with work experience and the effect sizes indicated that work experience explained a substantial proportion (0.147 and 0.134, respectively) of the variation in skill levels in these groups. This finding is reasonable assuming that accounting skills are often developed through practical accounting work. In contrast, other types of skills may not accumulate in the same way; no significant differences were observed between work experience subgroups in the remaining three skill groups. For instance, while the level of IT skills might increase with experience, younger practitioners with less work experience may possess relatively higher levels of IT skills due to their familiarity with modern technologies.

In terms of assessments of skills' future importance ([Table 5](#)), we identified significant differences in technical accounting skills and communication and social skills across educational level subgroups. In both skill groups, the mean values were the lowest in the subgroup of respondents with master-level degrees, while the mean values of the subgroups with upper secondary and bachelor-level degrees were rather equal. It therefore seems that the most highly educated individuals are slightly more critical of the relevance of these skills in the future. The effect sizes were moderate: 0.093 in technical accounting skills and 0.087 in social and communication skills. We also found significant differences in all skill groups except management accounting skills among the work experience subgroups. In those skill groups, the mean values of expected importance were the lowest in the subgroup with more than 20 years of experience. However, the effect sizes were relatively low.

4.3 Skill gaps

The skill gaps were measured through (future) expectation–performance gaps, that is, gaps between the expected future importance and perceived current skills. The construct therefore encompassed both a temporal aspect (time gap; current situation versus future) and a supply and demand aspect (what is possessed versus what is required). We analysed these gaps using paired *t*-tests separately for accounting practitioners and employers to determine whether they perceived skill gaps differently. The mean differences were calculated by subtracting the mean value of future importance from that of current skill level. [Table 6](#) presents the calculated gaps and paired *t*-tests' results.

The mean differences (i.e. skill gaps) were all negative, indicating that all mean values of current skill levels were lower than those of expected future importance, which refers to skill deficiencies. The largest absolute differences and *t*-values were observed in IT skill ratings by both groups, while the smallest absolute difference was found in intellectual skills according to accounting practitioners and in technical accounting skills according to employers. Based on the paired *t*-tests' results, all differences were statistically significant at the 1% level. These findings suggest that both accounting practitioners and employers perceive significant gaps in both accounting and IT skills as well as in more generic competencies, such as intellectual and interpersonal skills. The skill gaps for both respondent groups are illustrated in [Figure 1](#) as differences between the bars reflecting the future importance and current skill levels.

The calculated skill gaps were transformed into new gap variables by computing the differences between the skill level and future importance variables to compare the extent of

Table 4. Comparison of subgroup assessments of current skill levels

Skill groups	Educational level				Work experience												Effect size (η^2)
	Upper secondary or vocational		Higher education		<i>t</i> -test (independent)				≤10 years		11–20 years		>20 years		ANOVA		
	M ± SD	<i>n</i>	M ± SD	<i>n</i>	Mean diff.	<i>t</i> (df)	<i>p</i>	M ± SD	<i>n</i>	M ± SD	<i>n</i>	M ± SD	<i>n</i>	<i>F</i> (df)	<i>p</i>		
Technical accounting skills	4.07 ± 0.67	48	4.10 ± 0.65	78	−0.03	<i>t</i> (124) = −0.24	0.813	3.78 ± 0.62	50	4.25 ± 0.51	30	4.31 ± 0.65	46	<i>F</i> (2, 123) = 10.57	0.0001**	0.147	
Management accounting skills	3.16 ± 1.05	48	3.17 ± 0.93	80	−0.01	<i>t</i> (126) = −0.06	0.950	2.84 ± 0.91	49	2.98 ± 0.69	31	3.62 ± 1.03	48	<i>F</i> (2, 125) = 9.63	0.0001**	0.134	
IT skills	2.79 ± 0.68	47	3.01 ± 0.76	79	−0.23	<i>t</i> (124) = −1.67	0.098	3.06 ± 0.70	49	2.85 ± 0.61	30	2.85 ± 0.84	47	<i>F</i> (2, 123) = 1.21	0.300	0.019	
Intellectual skills	4.11 ± 0.71	46	4.21 ± 0.56	77	−0.10	<i>t</i> (121) = −0.87	0.388	4.05 ± 0.68	48	4.14 ± 0.50	28	4.33 ± 0.59	47	<i>F</i> (2, 120) = 2.69	0.072	0.043	
Communication and social skills	4.13 ± 0.52	45	4.08 ± 0.57	79	0.06	<i>t</i> (122) = 0.54	0.589	4.09 ± 0.55	49	4.03 ± 0.61	29	4.14 ± 0.51	46	<i>F</i> (2, 121) = 0.38	0.685	0.006	
Note(s): Only accounting practitioners were included in these tests. In the comparison of educational levels, bachelor- and master-level degrees were combined to represent higher education since the number of master-level graduates was small. * Significant at the <i>p</i> < 0.05 level; ** significant at the <i>p</i> < 0.01 level																	
Source(s): Authors' own work																	

Table 5. Comparison of subgroup assessments of future importance of skills

Skill groups	Educational level								Work experience									
	Upper secondary or vocational		Bachelor level		Master level		ANOVA		Effect size (η^2)	≤ 10 years		11–20 years		> 20 years		ANOVA		Effect size (η^2)
	M $\pm$ SD	<i>n</i>	M $\pm$ SD	<i>n</i>	M $\pm$ SD	<i>n</i>	<i>F</i> (<i>df</i>)	<i>p</i>		M $\pm$ SD	<i>n</i>	M $\pm$ SD	<i>n</i>	M $\pm$ SD	<i>n</i>	<i>F</i> (<i>df</i>)	<i>p</i>	
Technical accounting skills	4.47 $\pm$ 0.66	82	4.52 $\pm$ 0.52	116	4.14 $\pm$ 0.52	165	<i>F</i> (2, 360) = 18.38	<0.0001**	0.093	4.42 $\pm$ 0.64	76	4.40 $\pm$ 0.50	103	4.25 $\pm$ 0.59	188	<i>F</i> (2, 364) = 3.47	0.032*	0.019
Management accounting skills	4.09 $\pm$ 0.84	80	4.26 $\pm$ 0.76	118	4.19 $\pm$ 0.61	164	<i>F</i> (2, 359) = 1.33	0.266	0.007	4.25 $\pm$ 0.77	76	4.21 $\pm$ 0.70	104	4.15 $\pm$ 0.70	186	<i>F</i> (2, 363) = 0.65	0.522	0.004
IT skills	3.67 $\pm$ 0.79	79	3.75 $\pm$ 0.74	117	3.64 $\pm$ 0.67	157	<i>F</i> (2, 350) = 0.85	0.427	0.005	3.96 $\pm$ 0.78	74	3.80 $\pm$ 0.61	99	3.51 $\pm$ 0.71	184	<i>F</i> (2, 354) = 12.99	<0.0001**	0.068
Intellectual skills	4.32 $\pm$ 0.68	78	4.39 $\pm$ 0.53	117	4.25 $\pm$ 0.54	163	<i>F</i> (2, 355) = 2.10	0.124	0.012	4.39 $\pm$ 0.63	75	4.44 $\pm$ 0.46	100	4.20 $\pm$ 0.58	187	<i>F</i> (2, 359) = 6.95	0.001**	0.037
Communication and social skills	4.39 $\pm$ 0.67	77	4.34 $\pm$ 0.54	116	4.00 $\pm$ 0.58	167	<i>F</i> (2, 357) = 17.07	<0.0001**	0.087	4.32 $\pm$ 0.64	76	4.26 $\pm$ 0.58	101	4.09 $\pm$ 0.61	187	<i>F</i> (2, 361) = 4.75	0.009**	0.026
Note(s): These tests included the whole dataset. * Significant at the $p < 0.05$ level, ** significant at the $p < 0.01$ level																		
Source(s): Authors' own work																		

Table 6. Skill gaps perceived by accounting practitioners and employers

Skill groups	<i>n</i>	Current level M ± SD	Future importance M ± SD	Mean diff.	<i>t</i> -test (paired) <i>t</i> (df)	<i>p</i>
<i>Accounting practitioners</i>						
Technical accounting skills	125	4.08 ± 0.65	4.63 ± 0.57	−0.55	<i>t</i> (124) = −10.69	<0.0001**
Management accounting skills	124	3.13 ± 0.96	4.10 ± 0.92	−0.96	<i>t</i> (123) = −11.99	<0.0001**
IT skills	122	2.91 ± 0.71	3.96 ± 0.76	−1.05	<i>t</i> (121) = −15.40	<0.0001**
Intellectual skills	122	4.18 ± 0.62	4.53 ± 0.53	−0.35	<i>t</i> (121) = −6.18	<0.0001**
Communication and social skills	120	4.10 ± 0.56	4.52 ± 0.56	−0.42	<i>t</i> (119) = −8.63	<0.0001**
<i>Accounting employers</i>						
Technical accounting skills	240	3.79 ± 0.58	4.18 ± 0.53	−0.39	<i>t</i> (239) = −11.20	<0.0001**
Management accounting skills	241	3.59 ± 0.79	4.24 ± 0.58	−0.65	<i>t</i> (240) = −13.52	<0.0001**
IT skills	233	2.64 ± 0.66	3.54 ± 0.66	−0.90	<i>t</i> (232) = −18.64	<0.0001**
Intellectual skills	238	3.49 ± 0.73	4.19 ± 0.56	−0.71	<i>t</i> (237) = −14.49	<0.0001**
Communication and social skills	241	3.49 ± 0.59	4.01 ± 0.57	−0.53	<i>t</i> (240) = −13.43	<0.0001**

Note(s): M = mean value; SD = standard deviation; *n* = number of observations; df = degrees of freedom; ** Significant at the *p* < 0.01 level

Source(s): Authors' own work

skill gaps between accounting practitioners and employers. The statistical significance of the differences between these stakeholders was evaluated using independent sample *t*-tests. The results (Table 7) show that accounting practitioners experienced, on average, wider skill gaps in technical accounting and management accounting skills than employers (lower mean values and negative mean differences). In contrast, employers perceived wider skill gaps, on average, in intellectual skills than accounting practitioners (positive mean difference). In IT skills and communication and social skills, the differences between the average skill gaps were not

Table 7. Comparison of skill gaps perceived by stakeholder groups

Skill gap variables	Accounting practitioners		Accounting employers		<i>t</i> -test (independent)		
	M ± SD	<i>n</i>	M ± SD	<i>n</i>	Mean diff.	<i>t</i> (df)	<i>p</i>
Gap, technical accounting skills	−0.55 ± 0.57	125	−0.39 ± 0.54	240	−0.16	<i>t</i> (363) = −2.63	0.009**
Gap, management accounting skills	−0.96 ± 0.89	124	−0.65 ± 0.74	241	−0.31	<i>t</i> (212.68) = −3.35	0.001**
Gap, IT skills	−1.05 ± 0.75	122	−0.90 ± 0.74	233	−0.15	<i>t</i> (353) = −1.80	0.073
Gap, intellectual skills	−0.35 ± 0.62	122	−0.71 ± 0.75	238	0.36	<i>t</i> (286.62) = 4.77	<0.0001**
Gap, communication and social skills	−0.42 ± 0.54	120	−0.53 ± 0.61	241	0.10	<i>t</i> (359) = 1.58	0.115

Note(s): M = mean value; SD = standard deviation; *n* = number of observations; df = degrees of freedom; ** Significant at the *p* < 0.01 level

Source(s): Authors' own work

statistically significant. In conclusion, these two groups perceived the gaps in the same way – future importance as higher than the current level – but to different extents in some skill groups.

5. Discussion and research implications

5.1 Discussion of the findings

The findings of this study suggested that accounting stakeholders perceive skill gaps across several skill areas. In addition to differing between the two stakeholder groups, many assessments of current skill levels and future importance appear to be associated with personal characteristics such as the respondent's level of education or work experience. Based on these findings, we can address and discuss the research questions posed in the introduction.

In response to [RQ1](#), we identified gaps across all five skill groups extracted from the principal component analysis: technical accounting, management accounting, IT, intellectual, as well as social and communication skills. These skill gaps reflected deficiencies in accounting practitioners' current skill levels compared to the expected future importance of these skills. The presence of skill gaps in accounting practice was unsurprising, as multiple earlier studies have identified disparities between current skill levels and skill demands or expectations from various stakeholder perspectives (e.g. [Dolce et al., 2020](#); [Kavanagh and Drennan, 2008](#); [Towers-Clark, 2015](#)). For instance, [Dolce et al. \(2020\)](#) found that graduates experience gaps between skill possession and importance in many soft skill areas such as problem-solving and decision-making, communication, and teamwork, while the findings of a student survey by [Kavanagh and Drennan \(2008\)](#) indicated gaps between the expected importance of skills and their extent of development across almost all studied skills. However, this study provided empirical evidence that accounting practitioners' perceptions appear to follow a similar pattern to those of students and recent graduates – the stakeholder groups predominantly examined in prior studies. The findings of this study align with these earlier observations, as skill gaps were identified in both technical and soft skill areas. Additionally, our findings regarding the skill gaps perceived by employers also align with the prior suggestions that employers perceive several deficiencies in graduates' skills ([Abayadeera and Watty, 2014](#); [Bui and Porter, 2010](#)). We also compared the perspectives of practitioners with those of employers, which leads us to [RQ2](#).

In response to [RQ2](#), we found notable differences in perceptions between the stakeholder groups. Accounting practitioners assessed their current skill levels higher than employers' assessments of accounting employees' skills across most skill groups. Moreover, practitioners held higher expectations of the future importance of most skill groups. A few factors may contribute to these differences. First, distinct work settings may lead specific stakeholder groups to express varying expectations. Although the respondents were asked about the future importance of skills in general, the expectations of practitioners and employers may be influenced by the specific roles and tasks within the organisations they represent. For instance, employers from diverse organisations may place greater emphasis on management accounting skills due to the inclusion of such tasks within their accounting staff's responsibilities. In contrast, practitioners from accounting firms, whose roles may not involve management accounting, may not view these skills as essential as employers do. Second, the phenomenon of social desirability bias might partly explain practitioners' higher assessments of their current skill levels, as this bias refers to the tendency to make self-assessments in ways that are perceived as socially desirable and favourable ([Paulhus, 1984](#)). Despite the differences in assessments, both stakeholder groups encountered skill gaps in all skill areas. The comparison of skill gaps revealed that accounting practitioners perceived wider gaps (i.e. greater deficiencies) in technical and management accounting skills than employers, while employers perceived a wider gap in intellectual skills. These differences can, in turn, be traced back to distinct assessments of skill levels and future importance. In the case of technical accounting skills, this difference stems from a relatively larger discrepancy in the future importance

assessment, whereas for management accounting and intellectual skills, the differences stem from relatively larger discrepancies in current skill level assessments.

The identified skill gaps prompt consideration of how they could be mitigated, and which skill areas should specifically be considered by organisations, educational institutions, and other training providers. Employers' expectations of future importance might reflect their views on which skills could be relevant in terms of organisations' competitive advantage. Employers rated management accounting skills and intellectual skills as the highest in future importance, implying that along with accounting-specific skills, cognitive abilities such as problem-solving and reasoning are valued. This seems reasonable given that tasks requiring greater cognitive skills and intelligence are less susceptible to computerisation than routine tasks (Frey and Osborne, 2017). However, the increasing use of AI in automation could challenge this assumption. Tacit knowledge, which is harder to codify and automate, is likely to become increasingly important in accounting work. The suggested shift in accountants' roles towards more consultative and strategic, business decision-support functions highlights the relevance of intellectual skills, such as problem-solving and decision-making skills, for organisations' competitiveness. Accountants who possess strong intellectual skills may exhibit VRIN attributes, distinguishing themselves as valuable human capital resources that even advanced technology, including AI, cannot fully replace. Considering the employment of accounting practitioners and the relevance of human capital, investment in the development of these skills appears worthwhile. However, organisations have diverse strategic goals, so the objectives of human resource practices, such as the provision of training opportunities, should align with and adapt to these goals (Jiang *et al.*, 2012; Lepak *et al.*, 2006).

Considering the ongoing digital transformation and the anticipated importance of digital skills and competencies in various job tasks (Blanka *et al.*, 2022), it was surprising that IT skills received the lowest rating for future importance from both accounting practitioners and employers. This skill group included versatile IT skills, such as programming, which have not traditionally been associated with the accounting profession. However, considering the growing reliance on automation and modern technologies (Kokina and Blanchette, 2019; Moll and Yigitbasioğlu, 2019), as well as the proposed expansion of accountants' roles towards advisory service provision (Yigitbasioğlu *et al.*, 2023), it would not be far-fetched to require accounting professionals to possess such an understanding. As AI becomes more accessible and widely adopted by organisations (Johnson *et al.*, 2022), the demand for accounting professionals who can understand and exploit these technologies cannot be overlooked.

5.2 Contributions and practical implications

The key contributions of this study lie in its insights into the training and educational programmes that organisations, academic institutions, and even professional bodies could offer to accounting practitioners and students. By identifying skill gaps as perceived by practitioners and employers, the study adds knowledge and provides ideas that are beneficial for organisational human resource practices and accounting education. Furthermore, it informs current practitioners and graduates transitioning from education to employment about stakeholders' expectations, enabling them to reflect on and address their own skill development needs accordingly.

Overall, the study extends the literature on skill gaps arising from evolving business environments. Its novelty lies in its comprehensive coverage and comparison of perspectives among key stakeholders in accounting work. While much of the prior research has focused on students, graduates, or employers (e.g. De Lange *et al.*, 2006; Dolce *et al.*, 2020; Kavanagh and Drennan, 2008), this study provides the unique viewpoint of accounting practitioners, enriched by their firsthand experience and tacit knowledge. Their perceptions significantly contribute to our understanding of skill gaps perceived in the accounting profession and extend the skill development discussion from university education to professional training and development. Moreover, comparing their assessments with those of accounting employers provides valuable

insights into narrowing skill gaps. Addressing these gaps might be challenging if practitioners and employers do not share aligned perceptions of needs or if one group lacks the motivation to develop skills deemed important by the other.

As practical implications, several suggestions can be offered to accounting stakeholders based on the findings. To keep up with the pace of change and ensure their employability and success in future accounting practice, we suggest that accounting practitioners reflect on their long-term employability and skill development needs. It would be valuable for them to assess their needs for further education or training if they experience skill gaps. In a dynamic, evolving environment, education before entering the workforce will not suffice in the long run; practitioners need flexibility and awareness of the evolving landscape to react to changing demands.

We also propose that other stakeholders consider their role in mitigating skill gaps. [Jackson et al. \(2023\)](#) argue that no single stakeholder group can fully oversee the education of individuals to meet today's technological skill demands. Supporting this view, we recommend that organisations, educational institutions, as well as professional bodies offer opportunities for further learning, training, or education not only in technological skills but also in other types of skills deemed vital for future work. Assuming that organisations strive to maintain competitiveness and achieve long-term success, we suggest that they pay attention to the skills and knowledge of their employees, helping them develop and update their areas of expertise through various human resource practices (e.g. by offering further training), since according to [Ployhart and Moliterno \(2011\)](#), unit-level human capital resources originate from individuals' knowledge, skills, abilities, and other characteristics. In pursuit of sustained competitive advantage, organisations can seek VRIN resources through human capital resources, such as skills and knowledge. To identify specific skill areas where human resource practices could provide solutions, organisations need to assess their employees' skill gaps, and evaluate the impact of such deficiencies on operations. Skill gaps could be viewed as threats to organisational success. From a dynamic capabilities' perspective, organisations require capabilities to identify and address these threats and transform accordingly in order to operate more flexibly in a dynamic environment.

Moreover, as demands evolve, formal education must also adapt. When preparing future professionals, educational institutions should aim to develop students' tacit knowledge and cognitive skills alongside the basic skills necessary to understand and oversee automated processes. Given the anticipated shift in accounting practice towards strategic decision-making support, consulting, and advisory services, there may be an increased demand for higher education. Students should be brought closer to managers and exposed to actual problem-solving and decision-making processes to acquire relevant skills. These suggestions extend to professional bodies, which can play a crucial role in training practitioners who are already working in the field. Many practitioners already hold an official accounting degree and may not find it feasible to pursue a new degree programme. Therefore, the training offered by professional bodies, rather than formal education providers such as universities, provides value in fostering and advancing the skills and knowledge of current practitioners. With a forward-looking mission, these bodies can substantially contribute to coaching accounting professionals to successfully meet emerging demands. Overall, by adopting a future-oriented approach, education and training providers can ensure that current practitioners and students (as future practitioners) are better equipped with relevant knowledge and skills.

6. Conclusion

In conclusion, this study aimed to identify skill areas where accounting stakeholders perceive skill gaps and to examine differences in these perceptions between two stakeholder groups: practitioners and employers. The findings indicated the presence of skill gaps in several skill

areas, showing that stakeholders' expectations of the future importance of skills were higher than the current skill levels possessed by accounting practitioners. Compared to employers, practitioners expressed higher expectations regarding the future importance of most skills and rated their own current skill levels higher across most skill areas. Therefore, they perceived skill gaps to slightly varying extents. The results also suggested that, among practitioners, work experience was positively associated with assessed levels of technical and management accounting skills. However, individuals with the most work experience (across both stakeholder groups) tended to have the lowest expectations of the future importance of most skills. Moreover, individuals with master's degrees expressed lower expectations of the future importance of technical accounting skills and social and communication skills compared to those with lower educational degrees.

This study provides valuable insights into skill gaps in accounting, highlighting differences in perceptions between two key stakeholder groups. It extends the literature and deepens the understanding of the skill gaps and skill development needs by aligning the unique perspective of accounting practitioners with those of employers and students from prior research. The study also offers practical recommendations for accounting stakeholders and encourages organisations, educational institutions, and other training providers to proactively adapt their practices, programmes, and training to evolving demands, fostering a future-oriented approach to individuals' skill development.

7. Limitations and future research

A few limitations regarding the study should be noted. The number of respondents, particularly among accounting practitioners, could have been higher to yield more generalisable results. Moreover, the sampling techniques employed may have restricted the generalisability of the findings. There is potential for sampling error or bias, which is common in surveys when sampling from a population (Nulty, 2008). For instance, the fact that most practitioners in accounting firms primarily focus on financial accounting and providing services to client companies, whereas the employees assessed by the employers are likely more concentrated on internal or management accounting tasks, may have influenced the results. We addressed this by analysing the respondent groups separately and accounting for this distinction in the analysis, as it likely explains the weaker emphasis practitioners placed on management accounting skills. It is also important to note that the surveys were conducted in different years, prior to the wider spread or accessibility of AI tools. As more individuals gain access to such tools, they may become more acquainted with these recent technologies, potentially increasing their levels of knowledge and expectations of future importance. This aspect should be considered in future studies.

Further research is required to gain more and deeper insights into the issues surrounding the changing business environment and its impacts on accounting practices and practitioners. First, we suggest a closer examination of what changes have already occurred in accounting work due to contemporary trends and what the prospects are in the field, according to experienced accounting professionals. Second, it would be valuable to examine the contents of universities' accounting curricula and professional bodies' training programmes to determine whether there have been recent revisions aimed at responding to the dynamic environment and changing needs. Third, although we have highlighted skill development as a necessity, we have not explored how to ensure such development or motivate practitioners to acquire new skills. This aspect presents a viable avenue for future research that could draw on established theories of human resource management and development. Finally, as other professions and practices undergo transformations similar to those experienced in the accounting field, skill gaps should be investigated in other contexts as well, as it would help gain an overall picture across industries and identify further educational or training needs to ensure a skilled workforce and valuable human capital resources.

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(The Appendix follows overleaf)

Appendix 1

Table A1. Skills studied in prior accounting research

Skill group and example skills	Examples of prior research studying the skills or frameworks referring to the skills
<i>Technical accounting skills</i> (e.g. bookkeeping, financial reporting, key accounting skills, knowledge about sector, taxation) <i>Management accounting skills</i> (e.g. budgeting, cost accounting/management, forecasting, internal reporting, planning) <i>IT skills</i> (e.g. ability to use information technology, accounting information systems, computer skills, data processing software, IT skills, relevant software)	De Lange <i>et al.</i> (2006), Dolce <i>et al.</i> (2020), IES 2 by IFAC (2019, pp. 120–124), Jackling and De Lange (2009), Uwizeyemungu <i>et al.</i> (2020) IES 2 by IFAC (2019, p. 120), Uwizeyemungu <i>et al.</i> (2020) Dolce <i>et al.</i> (2020), Hassall <i>et al.</i> (2003), Howcroft (2017), IES 2 by IFAC (2019, p. 123), Jackling and De Lange (2009), Kavanagh and Drennan (2008), Spraakman <i>et al.</i> (2015), Towers-Clark (2015), Uwizeyemungu <i>et al.</i> (2020)
<i>Intellectual skills</i> (e.g. analysis, analytical, critical analysis and thinking, decision-making, problem-solving) <i>Communication and social skills</i> (e.g. collaboration, customer service, interpersonal skills, listening, negotiation, teamwork, written and verbal communication) <i>Other skills included in the questionnaires</i> (e.g. flexibility, foreign language, interdisciplinarity, leadership, continuous/life-long learning, practical research, statistical skills, time management)	Dolce <i>et al.</i> (2020), Hassall <i>et al.</i> (2003), Howcroft (2017), IES 3 by IFAC (2019, p. 132), Kavanagh and Drennan (2008), Towers-Clark (2015) De Lange <i>et al.</i> (2006), Dolce <i>et al.</i> (2020), Hassall <i>et al.</i> (2003), Howcroft (2017), IES 3 by IFAC (2019, pp. 132–133), Jackling and De Lange (2009), Kavanagh and Drennan (2008), Towers-Clark (2015) De Lange <i>et al.</i> (2006), Dolce <i>et al.</i> (2020), Hassall <i>et al.</i> (2003), Howcroft (2017), Kavanagh and Drennan (2008), Towers-Clark (2015)
Note(s): For clarity, this table employs the same categorisation of skills as the empirical section of this study, which is based on the conducted principal component analysis Source(s): Authors' own work	

Table A2. Skill items and item loadings on factors

Skill group	Current level Loading	Future importance Loading
<i>Technical accounting skills</i>	–	–
General accounting knowledge and theoretical understanding	0.68	0.69
Bookkeeping and financial statements	0.74	0.81
Taxes	0.62	0.66
Accounting software	0.66	0.59
<i>Management accounting skills</i>	–	–
Internal financial reporting (creation and analysis)	0.79	0.81
Budgeting	0.85	0.78
Cost accounting	0.83	0.86
<i>IT skills</i>	–	–
General technological knowledge	0.55	0.64
Different IT systems	0.54	0.66
Programming	0.83	0.73
Data processing	0.73	0.67
Robotics and AI	0.75	0.76
<i>Intellectual skills</i>	–	–
Problem solving	0.72	0.78
Decision making	0.59	0.64
Analytical reasoning	0.75	0.73
Critical thinking	0.76	0.72
Logical and mathematical reasoning	0.73	0.69
<i>Communication and social skills</i>	–	–
Customer service	0.76	0.74
Active listening	0.77	0.80
Written communication and interaction	0.76	0.78
Verbal communication and interaction	0.82	0.83
Teamworking and interaction	0.73	0.70
Networking	0.60	0.64
Negotiating	0.62	0.73
Emotional intelligence (EI)	0.70	0.71

Note(s): The table covers the skills that were retained and grouped for further analyses

Source(s): Authors' own work

Supplementary material

The supplementary material for this article can be found online.

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