

An investigation of the relevance of IFAC's Competency Framework for practising accountants

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Abstract

In light of (a) the need for professional accountants to possess a defined set of skills, understandings and attributes in order to be employable and successful in today's fast-changing, globalised business environment and (b) an apparent gap between students' knowledge after graduation and the practical application thereof in real-world business, the aims of this study were to:

- Establish, from the literature, how and why a competency framework would be a suitable approach to both narrowing the knowledge-skills gap among graduates and facilitating the adequate development of professionals, in particular professional accountants.
- Identify the competence areas that were required of aspiring professional accountants.
- Determine whether the latter were relevant to practising accountants in a South African environment.

These objectives were pursued by means of a mixed-methods approach, in the form of a literature review and empirical research. The competency standards contained in the IAESB's IES 2 were identified in the literature as being the most suitable focus of this research and were consequently examined. The relevance of these standards to the South African context were evaluated by means of a questionnaire, which was used to gather quantitative data from South African accounting professionals and which was subjected to detailed analysis.

The findings of the study revealed that the competency requirements of IES 2 can be adopted and implemented by any institute or organisation that facilitates the learning and development of aspiring professional accountants because it contains a clear understanding of the technical competence, professional skills, values, ethics and attitudes that an aspiring professional accountant should demonstrate when embarking on a career. In addition, it was found that its competence approach was relevant to practising accountants in a South African environment.

Several recommendations, which were premised on the literature and recommendations made by the respondents to the questionnaire, were made regarding how to improve professional accounting education programmes, while limitations and further research opportunities were noted.

Key words: Competency framework; accounting standards; SAIPA; IFAC; IAESB; IES.

Opsomming

Na aanleiding van (a) die behoefte aan professionele rekenmeesters om 'n bepaalde stel vaardighede, insigte en kenmerke te beklee ten einde in diens geneem te kan word en suksesvol in die hedendaagse snelveranderende, geglobaliseerde sakewêreld te kan wees, en (b) die oënskynlike gaping tussen studente se kennis na afstudering en die praktiese toepassing daarvan in die werklike sakewêreld, beoog hierdie studie om:

- uit die literatuur 'n begrip te bewerkstelling van waarom en hoe 'n vaardigheidsraamwerk 'n gepaste benadering tot beide die vernouing van die gaping in kennisvaardighede onder pas afgestudeerdes asook die fasilitering van 'n voldoende ontwikkeling vir professionele werknemers, en veral professionele rekenmeesters sal wees;
- die vaardigheidsareas te identifiseer wat van gegradueerde professionele rekenmeesters vereis word sodra hulle die praktyk betree;
- te bepaal of die laasgenoemde van toepassing op praktiserende rekenmeesters in die Suid-Afrikaanse milieu is.

'n Benadering van gemengde-metodes in die vorm van 'n literatuur studie en 'n empiriese studie is aangewend om hierdie doelstellings na te streef. Die vaardigheidstandaarde soos in die IAESB se IES 2 saamgevat, is in die literatuur as die mees geskikte fokus van die navorsing geïdentifiseer en is derhalwe bestudeer. Die tersaaklikheid van die rekenkundige standaard tot die Suid-Afrikaanse milieu se waarde is deur middel van 'n vraelys vasgestel, wat aangewend is om kwantitatiewe data van Suid-Afrikaanse professionele praktisyns te versamel, en is in 'n noukeurig beskryfde ontleding behandel.

Die studie se bevindings was dat die vaardigheidsvereistes van IES 2 deur enige instelling of organisasie wat die leer en ontwikkeling van gegradueerde professionele rekenmeesters fasiliteer, aangepas en geïmplimenteer kan word, want dit bevat 'n duidelike insig tot die tegniese bevoegdhede, beroepsvaardighede, waardes, etiek en houdings wat gegradueerde professionele rekenmeesters moet ten toon stel wanneer hulle die praktyk betree. Daar is ook gevind dat IES 2 se vaardigheidsbenadering toepaslik tot professionele rekenmeesters in 'n Suid-Afrikaanse milieu is.

Verskeie aanbevelings, waarvan die vertrekpunt die literatuur en aanbevelings deur respondente in die vraelys is, is gemaak aangaande die professionele akademiese onderrigprogramme, terwyl beperkings en verdere navosingsgeleenthede kortliks aangeraak is.

Sleutelwoorde: Vaardigheidsraamwerk; rekenkundige standaard; SAIPA; IFAC; IAESB; IES.

Abbreviations

AACSB	Association to Advance Collegiate Schools of Business
AAT	Association of Accounting Technicians
ACCA	Association of Chartered Certified Accountants
AHELO	Assessment of Higher Education Learning Outcomes
AICPA	American Institute of Certified Public Accountants
AIS	Accounting Information System
ALL	Adult Literacy and Life Skills
CA IRELAND	Chartered Accountants in Ireland
CEO	Chief Executive Officer
CICA	Canadian Institute of Chartered Accountants
CICPA	Chinese Institute of Certified Public Accountants
CIPFA	Chartered Institute of Public Finance and Accountancy
CNCC	Compagnie Nationale des Commissaires aux Comptes
CPA AUSTRALIA	Certified Practising Accountants in Australia
CPA IRELAND	Certified Public Accountants in Ireland
CPD	Continuing Professional Development
CSOEC	Conseil Supérieur De l'Ordre Des Experts – Comptables
FEE	Federation of European Accountants
HKICPA	Hong Kong Institute of Certified Public Accountants
HRM	Human Resource Manager
IAESB	International Accounting Education Standards Board

ICAA	Institute of Chartered Accountants Australia
ICAEW	Institute of Chartered Accountants in England and Wales
ICAI	Institute of Chartered Accountants of India
ICPAK	Institute of Certified Public Accountants of Kenya
ICPAS	Institute of Certified Public Accountants of Singapore
ICPAU	Institute of Certified Public Accountants of Uganda
ICT	Information and Communication Technology
IDW	Institut der Wirtschaftsprüfer
IES	International Education Standards
IFAC	International Federation of Accountants
IPD	Initial Professional Development
IPE	Inter Professional Education
IRBA	Independent Regulatory Board for Auditors
JICPA	Japanese Institute of Certified Public Accountants
MLCF	Medical Leadership Competency Framework
NZICA	New Zealand Institute of Chartered Accountants
OECD	Organisation for Economic Co-operation and Development
PISA	Program for International Student Assessment
PwC	PricewaterhouseCoopers
SA	South Africa
SAICA	South African Institute of Chartered Accountants
SAIPA	South African Institute of Professional Accountants

SAQA	South African Qualifications Authority
SBL	Service-Based Learning Project
SME	Small- and Medium-sized Entity
SMMEs	Small, Medium and Micro Enterprises
SPSS	Statistical Package for the Social Sciences
US	United States
YMCA	Young Men's Christian Association

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CHAPTER 1

BACKGROUND, OBJECTIVES, METHODOLOGY AND OVERVIEW

1.1 INTRODUCTION

1.1.1 Background

The economy and business environment is constantly changing as the world continues to become more globalised (Retief, 2012:8). Denis, Morrow and Roger (2006:3) define globalisation as an increasingly integrated world economy and a process underpinned by modifications of policies in various countries towards a more open, market-based system of economic governance. In the wake of the globalisation phenomenon, a sustainable, global business environment depends on a strong financial architecture (IFAC, 2013a). From an accounting perspective, this has inevitably brought with it moves to establish a single set of financial reporting standards and other forms of standardisation across borders (Chan & White, 2007:605). As a result, international standards have been in a steady state of change to support a viable financial architecture (Retief, 2012:8). Focusing on the development of high-quality international standards and encouraging unity among international participants would strengthen the global profession, make it possible for economic growth and stability to be achieved and address the challenge of contribution (Ward, 2005). In addition, the harmonisation of accounting practices would constitute a giant leap towards strengthening the accounting profession and protecting the public interest globally (Pendergast, Partner, Urbach & Werlin, 2006:16).

The International Federation of Accountants (IFAC) was established to address the importance of high-quality accounting standards and to set a benchmark for international participants. The goal was also to serve the public interest by contributing to the development of high-quality accounting standards and facilitating their adoption and implementation (IFAC, 2013b). According to Horstmann (2005:98), IFAC's primary mission is to carry on strengthening the global profession and economies by establishing and promoting unified international accounting standards. In addition to its role in ensuring uniform accounting practices, IFAC facilitates the structures and processes that support the operations of the International Accounting Education Standards Board (IAESB). The main objective of the IAESB is to serve the public interest by setting high-quality accounting educational standards for professional accountants and by contributing to the promotion of national and international

accounting education standards (IFAC, 2012:2). The IAESB develops accounting education standards and provides guidance and information on the pre-qualification education and training of professional accountants, and on professional education development and endurance (IFAC, 2012:2). The challenges and opportunities facing these standard-setting bodies include meeting the increasingly different needs of global users, while addressing concerns about complexity, clarity and relevance (Horstmann, 2005:98) and providing direction to financial architectures worldwide (IFAC, 2013a). Despite the fact that the development and implementation of high-quality accounting education standards is not without any limitations, the need for a single set of international accounting education standards has been recognised (IFAC, 2007:2). It was argued that a single set of accounting education standards would gain the trust of the global audience in financial reporting and therefore increase investments (IFAC, 2007:2).

1.1.2 Rationale for the study

The competencies of professional accountants have been challenged by the ever-changing business environment. The skills, understanding and personal attributes needed to ensure a successful career in the global business environment are becoming increasingly more important (Knight & Yorke, 2004). Success in the working environment depends on the identification and possession of specific skills and competencies required of employees. In this regard, a competency framework is defined as a high level description of competencies (knowledge, skills and attributes) graduates should possess when entering the profession (SAICA, 2010:3). In other words, a competency framework provides the foundation upon which professions are developed and therefore enables a clear understanding of the required competencies a prospective employee should demonstrate when embarking on a career (SAICA, 2010:3).

In an accounting context, the theory and practice of a competency framework was built primarily upon the work of the American pragmatist philosopher John Dewey, who argued that knowledge is gained by combining theory and practice (SAICA, 2010:8). Practising accountants should have theoretical knowledge and the skill to apply this knowledge in practice (Rudman & Terblanche, 2012:60-61). Knowledge (theoretical aspects) can be achieved only through dealing with real-world clients and their specific circumstances (B. Wrenn & J. Wrenn, 2009:262). Up until now, researchers have found that students are unable to reflect on and apply their theoretical knowledge in a business environment (Rudman & Terblanche, 2012:57; Rudman & Terblanche, 2011:63). Therefore, Agarwal and Gupta (2008) argue that a gap exists between the students' knowledge after graduation and the

practical application thereof in real-world business. They found that students needed to reflect on knowledge before they could apply it.

In order to respond to recent studies, such as those of Agarwal and Gupta, which indicate a gap between theory and knowledge, a number of accounting governing bodies, including the South African Institute of Professional Accountants (SAIPA), have adopted the competency requirements of the Proposed International Education Standard 2: Initial Professional Development - Technical Competence developed by the IAESB (IFAC, 2012:8). The accountancy institute represents Professional Accountants (SA) practising mainly in the small and medium enterprise business sector in South Africa (IFAC, 2016). SAIPA qualifies as one of only two South African accounting bodies that are full members of IFAC (SAIPA, 2012a) and have reciprocal agreements with national and international bodies (SAIPA, 2013a). SAIPA is recognised as a professional body, as determined by the National Qualifications Framework Act 67 of 2008, by the South African Qualifications Authority (SAQA), which acknowledges the critical role SAIPA plays in quality assurance and standards development within the National Qualifications Framework (SAIPA, 2013b). In addition, two of the most important objectives of the National Qualifications Framework Act 67 of 2008 is to “generate a single integrated national framework for learning achievements” and “enhance the quality of education and training” (SAIPA, 2013b). Therefore, SAIPA must ensure quality experiential training (SAIPA, 2013b) for their learners by being a “truly global voice on issues of standard setting and compliance” (SAIPA, 2012a:11).

Globalisation informs the essence of IFAC and the IAESB’s objective to serve the public interest and contribute to the development, implementation and convergence of high-quality international standards. A competency framework in an accounting context can therefore be expected to address the challenges arising from the rapidly changing complex environment in order to narrow the gap between theory and skills, and to enable students to reflect on and apply their theoretical knowledge in the business environment. In addition, a competency framework lends strong support to tertiary accounting programmes used to prepare students for the real-world working environment and consequently requires accounting courses to be taught using real-world scenarios (SAICA, 2010:12). In other words, a competency framework promises lucrative results and servicing of the public interest by setting one set of uniform high-quality standards, accepted and enforced on a consistent basis among international participants (Pendergast *et al.*, 2006:19).

1.2 PROBLEM STATEMENT AND RESEARCH OBJECTIVES

There is a growing awareness that professional accountants need to possess a defined set of skills, understandings and attributes in order to be employable and successful in practice in light of the fact that their competencies are challenged by the ever-changing business environment. In addition, there exists a gap between the students' knowledge after graduation and the practical application thereof in real-world business, since practical experience is not incorporated into students' three years of undergraduate studies, resulting in them acquiring knowledge that can be applied only when it has been reflected on. In response to this gap and with the intention of setting a benchmark for international participants, theorists have suggested that a competency framework is a suitable approach to gaining a clear understanding of the required competencies that a prospective employee should demonstrate when embarking on a career. Therefore, the first research objective of this study was to establish, from the literature, how and why a competency framework would be a suitable approach to both narrowing the knowledge-skills gap among graduates and to facilitating the adequate development of professionals, in particular professional accountants. In addition, the researcher set out to identify and evaluate the competence areas that were required of aspiring professional accountants in order to determine whether they were relevant to practising accountants in a South African environment (research objectives 2 and 3 respectively).

1.3 RESEARCH METHODOLOGY

To achieve the above objectives, a theoretical study of recent literature, as well as an empirical study, was required. A mixed-methods approach that made use of both qualitative and quantitative research methods was selected. This design was chosen to meet the objectives of the study.

1.3.1 Literature study

Bearing in mind that a knowledge-skills gap exists among graduates and that a competency framework has been suggested as a suitable means of addressing this gap and gaining skilled and work-ready graduates, a theoretical study was conducted during the first qualitative phase of the study. The aim of this study was to examine the purpose of a competency framework in a variety of sectors and to identify the competencies an aspiring professional accountant has to demonstrate when embarking on a career.

First the demands imposed by globalisation and rapid change on today's professional were noted, with particular reference to the necessity for accountants to possess the skills, understandings and

personal attributes needed to be employable and to develop successfully in their field. The researcher then looked at a selection of competency frameworks that had been developed to suit various objectives in a variety of sectors, before honing in on the accounting context in particular. The findings were used to draw conclusions regarding whether a competency framework was a suitable method to both narrow the knowledge-skills gap among graduates and to facilitate adequate development of professionals.

Furthermore, the researcher examined the International Education Standard (IES) 2 with the purpose of identifying the competencies an aspiring professional accountant should demonstrate when entering the profession, in order to determine whether they were relevant to practising accountants in a South African environment.

Before the researcher could determine the aforesaid, an empirical study had to be conducted in order to evaluate the identified set of competencies in a South African environment.

1.3.2 Empirical study

An empirical study was conducted during the second, quantitative phase of the study in order to evaluate the learning outcomes and competence areas that were identified in the literature review. A quantitative research questionnaire was used to gather the respondents' perceptions regarding the importance of the learning outcomes and competence areas. The respondents had to rate each learning outcome with the assistance of a three-point Likert scale. In addition, the survey required the respondents to make useful recommendations about how to overcome the skills shortages in first-year SAIPA trainees when entering a practice. The questionnaire was developed in consultation with the Statistical Consultation Services of the North-West University, Potchefstroom campus to assist with the data analysis thereof. The reliability and validity of the data was confirmed by the Cronbach's alpha coefficient and a pilot study. Conclusions were drawn based on the empirical findings as well as the results obtained from the literature review.

1.4 OVERVIEW

Chapter 1: Introduction

This chapter served as an introduction to the current study. Its main focus was to establish the context that makes it imperative for a professional accountant to possess the knowledge, skills and attributes necessary to be employable and successful when entering a practice, and to emphasise the existing

knowledge-skills gap. Furthermore, it was necessary to note accounting governing bodies' responses to this gap, which will be the subject of the investigation detailed in the chapters that follow. This background constituted the rationale for the study and, in turn, informed the problem statement and research objectives that were outlined in this chapter. Finally, the research methodology was described.

Chapter 2: The purpose of a competency framework in professional practices

The theoretical foundation laid in the previous chapter is expanded in this chapter by examining in more detail how and why a competency framework is a suitable approach to both narrowing the knowledge-skills gap among graduates and to facilitating the adequate development of professionals, in particular professional accountants.

Chapter 3: The development of a competency framework for practising accountants

In this chapter the competency standards contained in the IAESB's IES 2 is examined with a view to identify the competencies needed for professional accountants to be employable and to survive in today's global economy.

Chapter 4: Research methodology and results

Subsequent to the examination of IES 2 to determine the competencies required of aspiring professional accountants, the researcher investigated whether these learning outcomes and competence areas were relevant to practising accountants in a South African environment. In this chapter the methodology used in this investigation and the results thereof are detailed.

Chapter 5: Conclusion and recommendations

This chapter comprises a summary of the study in the light of the research objectives. Conclusions, recommendations and areas for further studies are also briefly discussed.

CHAPTER 2

THE PURPOSE OF A COMPETENCY FRAMEWORK IN PROFESSIONAL PRACTICES

2.1 INTRODUCTION

2.1.1 Background

As noted in the previous chapter, organisations operate in a climate characterised by considerable change, with increasing demands from their stakeholders and capital markets. They are exposed to global demands and are constantly influenced by international trends. The globalisation phenomenon also affects the working environment. According to Kazi (2011), it has also resulted in uncertainty in the workplace, a pervading threat of termination, job losses and a lower degree of job security. Klein (2000:267) claims, moreover, that modern organisations operate in an environment in which profits are placed before people in a consistent and unapologetic manner. Thus, more than ever before, there is a need for professionals at work to make an effective contribution and to continuously improve their performance at work (ACCA, 2009).

2.1.2 Employee skills and attributes

In recent years there has been a growing awareness of the skills, knowledge and personal attributes needed to secure a successful career. Employees are required to not only demonstrate appropriate behaviour, but also technical abilities in order to perform effectively at work. In this regard, individual competencies such as problem-solving and people management skills are considered to be essential elements of effective and sustained performance in the working environment.

The literature suggests that there is a growing demand for employees who are ready and able to take up their responsibilities within organisations in the global world. Knight and Yorke (2004) advocate that the ability to take up employment is defined as possessing a set of skills, understandings and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations. Harvey (2001) divides the concept of employability into two main categories. Firstly, employability is the ability to get, retain and be developed in a job after graduation. Secondly, employability is related to the specific attributes required of employees, namely skills, knowledge, attitudes and abilities. According to Wilson-Medhurst (2005:71), employability relates to not only

technical or subject knowledge, but also to the ‘soft’ skills valued by employers. Ensuring employability can therefore be seen as having the qualities needed to maintain employment and progress in the working environment.

In order to ensure employability, education providers are required to produce graduates who are capable of performing their duties in the workplace. In order to assist academic institutions to achieve this goal, the Organisation for Economic Co-Operation and Development (OECD) developed a conceptual framework of key competencies required of graduates entering the market (OECD, 2003:1-19). The purpose of the conceptual framework was, firstly, to identify the competencies required for finding and holding a job and, secondly, to establish the adaptive qualities required to cope with changing environments (OECD, 2003:1-19). The project commenced in 1997 and the specific challenges that were encountered included technological changes, the fact that societies are becoming more diverse and compartmentalised, and the fact that globalisation has created a new form of interdependence (OECD, 2003:3-4). Despite these challenges, the project was finalised in 2003 and the OECD identified a set of key competencies that are illustrated figure 2.1 below (OECD, 2003:10, 12, 14, 18).

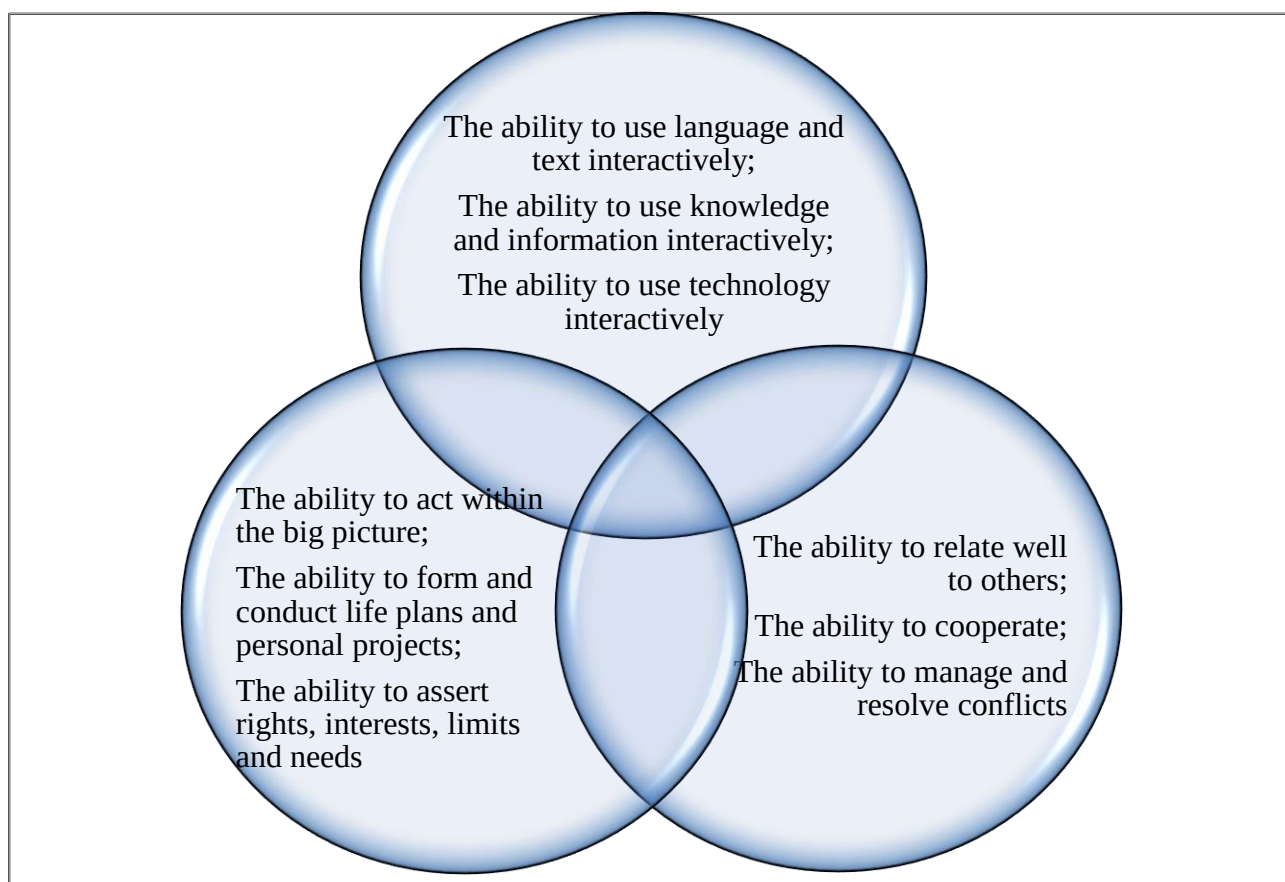


Figure 2.1: OECD key competencies

This conceptual framework identifies key competencies as a set of specific skills bound together in an integrated approach, as illustrated above, in which the three clusters overlap (OECD, 2003:8). The key competencies are classified into three broad categories (OECD, 2003:5). Firstly, individuals must be able to use a variety of tools to interact efficiently with their environment (OECD, 2003:5). Secondly, it is important that individuals are able to engage with others in diverse groups and, finally, individuals need to be able to act autonomously (OECD, 2003:5). These interconnected categories illustrate the starting point for identifying and mapping the key competencies as set out in the conceptual framework (OECD, 2003:5).

The key competencies were specifically identified to contribute to societies' and individual's valued outcomes, to help individuals to meet essential demands in differing contexts and to be important for both specialists and individuals (OECD, 2003:4). Most importantly, these key competencies were identified with the purpose of clarifying and improving collective goals and bringing about lifelong learning (OECD, 2003:4-7).

According to the OECD (2003:4, 8), competencies are more than just a set of narrowly defined skills and knowledge; they involve the careful consideration of values, attitudes and motivations, as well as the ability to reflect. Competencies are also determined by the nature of both the individual's and the society's goals (OECD, 2003:6). Individuals' competencies and societies' challenges have become more complex due to the interrelated world's challenging demands (OECD, 2003:4-5). Therefore, in order for individuals to be successful and function well in society they have no choice but to operate and think in a more integrated way (OECD, 2003:6, 9).

The OECD's conceptual framework provides a single frame of reference because it applies equally to the scholar and the professional adult (OECD, 2003:17). Due to the fact that competencies and demands develop and change throughout an individual's lifespan, and their ability to reflect grows with maturity, initial education cannot provide all the competencies that are relevant to lifelong learning (OECD, 2003:17). In other words, a universal assessment strategy cannot be designed without any limitations. Nevertheless, the OECD's framework constitutes a useful example of the fundamental competencies required in the business environment in an international setting.

The research done by the OECD and its partner organisations also sheds light on the gap between skills and knowledge among graduates. The OECD carries out its research in collaboration with two large international assessment bodies, namely the Program for International Student Assessment (PISA) and the Adult Literacy and Life Skills (ALL) survey (OECD, 2003:10). PISA and ALL enable learning outcomes to be compared across national cultures (OECD, 2003:16). PISA strives to identify

the level of the individual's approach to education by considering whether students can discover and understand information and are capable of reflecting on it (OECD, 2003:16). Furthermore, PISA also measures students' attitudes and motivations to learning in order to examine the degree of their learning curve in relation to their objectives (OECD, 2003:16), while the ALL survey investigated individuals' ability to collaborate and work in teams (OECD, 2003:17).

The OECD likewise started planning for the Assessment of Higher Education Learning Outcomes (AHELO) during 2007 and conducted a study in 2012 that evaluates students in 17 countries, with the purpose of assessing the graduates' knowledge and abilities (Ewell, 2012:35-38). This assessment was task-based, involved testing in three areas (economics, engineering and generic skills) and focused on the students' ability to think "out of the box" (Ewell, 2012:37). The education authorities of member countries were intrigued by this project due to the possibility that their educational attainment levels might be standardised to international standards (Ewell, 2012:39). These assessments did not come without any significant challenges, because it was difficult to conduct them in different languages, geographical and cultural contexts (Ewell, 2012:40). The findings revealed interesting contrasts across cultures with respect to how the graduates interacted with these tests (Ewell, 2012:40). Furthermore, the generic-skills assessment was questioned by communities with undergraduate programmes in which students entered directly into in-depth study, while, in general, the importance of generic skills was highlighted (Ewell, 2012:42). However, the OECD's assessments did support the view that there was a gap between learnt knowledge and the ability to creatively apply this knowledge in the workplace, which in turn highlighted the necessity to address the pressing need for graduates to think about more than the content of their study topics in order to be able to adapt to changing demands and requirements (Ewell, 2012:42).

To summarise, one of the reasons for which the OECD's three groups of interrelated competencies were identified was to pinpoint the skills graduates would need to adapt their learnt knowledge to different contexts. However, further research done by the OECD and partner organisations seems to support the view that there is a gap between the students' knowledge after graduation and the practical application thereof in real-world business situations. This, in turn, implies that students are not being adequately enabled to develop the competencies that will enable them to adapt their learnt knowledge to real life situations.

With this in mind, the researcher shall now examine how and why the competency framework informed selected models, with a view to demonstrating that this model is a suitable approach to both

narrowing the knowledge-skills gap among graduates and to facilitating the adequate development of professionals in various sectors, before honing in on the accounting context in particular.

2.2 THE WORK ENVIRONMENT

In order to function in this climate of considerable change, a wide assortment of competency frameworks have been developed, highlighting the urgent need for key competencies (Salas-Pilco, 2013:12). Although it would be ideal to consider the purpose and significance of competencies in relation to an extensive list of frameworks, this study takes into account only a selection of those that include aspects that are relevant to what it takes to be a successful professional accountant.

In the literature that was reviewed, the various frameworks were categorised according to the nature of the working environment in which they were formulated. In the following, the competency frameworks that will be cited will be ordered in the same manner.

2.2.1 General working environment

It should be said at the outset that, as the literature indicates, a competency or a competency-based approach is understood variously by different theorists, with the result that competency frameworks are used variously by different stakeholders. To some, the primary focus of this approach is the ability to apply knowledge and skills in the real world (Frank, 2007), while others believe a competency is simply a point of reference and measurement of outcomes (Braithwaite & Travaglia, 2005). Ten Cate (2006) suggests that gaining promising results involves more than achieving competencies, while Baker, Balderson, Carmichael, Herzog, Merkel, Reid, Robinson, Rowitx, Weber and Wright (2000) argue that the knowledge, skills and attitudes underpinning each competency provide a foundation for effectively implementing teaching objectives in practice.

All of these views appear to be significant reasons for formulating competency frameworks, bearing in mind that the way in which a competency framework is used is dependent on context. For example, Bagshaw and Measures (2009:356-358) define the purpose of competency frameworks in the context of commenting on one developed by The National Trust to respond to the rapid transformations of the world economy and refined with the aim of ensuring transparency in terms of the behavioural skills expected from management. In this context, these authors concluded that a competency framework was not a remedy but a useful baseline to check performance and determine what is required, although the developing process did not focus on the skills and behaviours needed in the future (Bagshaw & Measures, 2009:355, 361-362). They consequently argued that a competency

framework was a model to both check performance and determine what is required. In other words, the development of a competency framework can define the skills and behaviours a person needs to possess in order to work effectively (Bagshaw & Measures, 2009:355).

Similarly, the purpose of Buschbom & Hurd's (2010:96) paper was to set out the job competencies required of chief executive officers (CEOs) in the Young Men's Christian Associations (YMCAs) through the development of a competency framework. The paper concluded that having an understanding of what competencies CEOs need to possess would contribute to a stronger profession and help entities to ensure that CEOs employed in the future would be skilled professionals (Buschbom & Hurd, 2010:109). It is in this context that they argued that competencies could contribute to an organisation's efficiency and effectiveness, bearing in mind that a competency framework was only a promising starting point to obtain skilled professionals (Buschbom & Hurd, 2010:108).

Over and above the context of sector, Chapman & Young (2010) found that different countries focused on different sets of competencies. For example, while the UK focused on a conventional set of competencies due to frameworks that were more practical in nature, the US developed a more universal set of competencies that were more consistent with global economic changes (Chapman & Young, 2010:20). Chapman and Young (2010:20) concluded that no single set of generic competencies had been recognised and nor had international agreement been reached regarding the skills that are required to produce successful employees in the workplace.

Chapman and Young (2010:1) argued that employees in global labour markets needed to possess advanced generic competencies in order to adapt to the changing environment and be successful in the workplace. The term "generic competencies" in this context referred to "core skills, employability skills, life skills, soft skills, transferable skills, workplace competencies and key competencies" (Chapman & Young, 2010:3), in other words, competencies that could be applied in different contexts (Chapman & Young, 2010:2). These authors consequently attempted to identify the generic competencies found in previously developed frameworks and implemented in different countries that were required of employees in global labour markets (Chapman & Young, 2010:2). While Chapman and Young attributed the intensifying demand for generic competencies to globalisation (Chapman & Young, 2010:1-2), Buschbom and Hurd (2010:96) cited the fact that "Generation X" (born 1965-1980) employees were not staying with the same entity throughout their careers, as generations had done in the past, due to their objective to progress in their careers at a faster pace. These professionals

therefore needed to possess a generic set of competencies that were applicable across a wide range of business scenarios.

With specific reference to the accounting profession Bots, Groenland and Swagerman (2009:2) argue that the competency-based approach should strengthen the connection between the requirements of the accounting curricula and the workplace. They argue that information about the relevant knowledge and skills expected of accounting practitioners can be provided in education and training systems through a competency-based approach (Bots *et al.*, 2009:2). The requirements during an accounting professional's career are often defined in terms of competencies in order to express the characteristics of a successful professional more adequately instead of using the more narrow concept of knowledge (Bots *et al.*, 2009:2).

In short, while there are a wide variety of views in the global business world regarding the significance of competencies and an equally wide variety of frameworks, a few common purposes are recognised, such as the fact that established competency frameworks enable us to both determine what skills are needed to be employable and to survive in today's global economy, and to measure performance. The fact of globalisation, the integrated nature of business today and the fact of job migration all point to the fact that a generic framework of standardised competencies for each sector needs to be recognised globally. However, before this can be achieved for the accounting profession, which is the primary focus of this study, the researcher shall have a look at how competency frameworks have been used to date with a view to both establishing their purpose in various contexts and noting their effectiveness in addressing some of the objectives that are shared by the accounting profession. In this regard, an example from the human resources sector offers a good example of how a competency framework can successfully assist companies to shift their orientation from a task-based to a competency-based people management system.

i Human resource management

In response to a number of evolutions in the business environment, Ioannou, Papelexandris, Prastacos and Soderquist (2010:325) sought to develop a competency typology in order to propose a methodology that would enable human resource managers (HRMs) to recognise the ability to convert from a task-based to a competency-based perspective. These authors note that HRMs have already meaningfully expanded their use of competency frameworks and competency-based HRMs globally to focus on individuals and their competencies, marking a shift away from the traditional approach, which is to identify sets of job-related tasks and job analysis techniques (Ioannou *et al.*, 2010:327). However, the undertaking of this shift is complex. These theorists therefore attempted to develop a

competency typology to enable HRMs to evolve on a continuous basis in the organisation in order to comply with the new requirements imposed by the environment and competition (Ioannou *et al.*, 2010:341). Firstly, the paper reviewed different types of competencies from recent literature in order to synthesise them into a characteristic set of abilities formulated along three critical extensions/ranges that were integrated to develop a competency typology (Ioannou *et al.*, 2010:341). The goal of the typology was to provide an all-inclusive and extensive tool to support the conversion from a task-based to a competency-based approach in HRMs (Ioannou *et al.*, 2010:341). The typology was based on the assumption that individuals' capabilities should be the primary focus (Ioannou *et al.*, 2010:341-342). The applicability of the typology was empirically demonstrated in two case companies in differing business environments (Ioannou *et al.*, 2010:342). The findings were that a comprehensive competency model could achieve a balance between organisation-specific and strategically valid competencies (Ioannou *et al.*, 2010:342) that could enable a company to successfully implement a competency-based approach and also enable superior performers who possess the required competencies to effectively execute a range of activities (Ioannou *et al.*, 2010:327).

Some examples from the health sector, on the other hand, indicate how competency frameworks can assist in the development of leadership and managerial skills, define the skills needed to operate flexibly in a context characterised by inter-specialised teams, and assist in the realm of education, training and development. These skills are relevant to the accounting profession due to the demand in the increasingly complex business environment for professional accountants to develop a broader range of skills in order to be successful and adapt to the changing environment (Andone, 2007:15-21; Banham & He, 2013:44-49).

ii The health sector

According to Auld, Hann, Lancaster, Matulionis, Mc Leroy, Steckler, Weber and Wright (2003:300), integrated health education, health promotion services and interventions can be achieved by the Public Health Education Leadership Institute by transforming health education leaders by equipping them with the skills needed to aid in the reorganising and improving of the system. The fast-changing environment, and the development and teaching of the public health workforce called for urgent attention to be paid to leadership development (Auld *et al.*, 2003:293). Health education in the United States (US) had various frameworks for preparation and training, because the intermediate public health discipline required tutors to ensure high quality leadership in differing, complex sectors in order to assure the preparedness and provision of vital public health education and health support

services (Auld *et al.*, 2003:293). Thus, the national Public Health Education Leadership Institute (PHELI) was established to improve leadership, knowledge and skills in the field, and the PHELI in turn developed a theoretical model and competency framework to improve the competence and performance of health education leaders (Auld *et al.*, 2003:294). The programme model involves practice-based applications, case studies and self-assessment methods to deal with the specific education and training needs of future health education (Auld *et al.*, 2003:294). In this model, health promotion and the health workforce are be used for academic and professional preparation, and other professional development programmes (Auld *et al.*, 2003:294). In short, the PHELI model is used as a collective approach to improving leadership competence and therefore exclusive competence for future public health leaders can be developed that will enable health educators to comply with the growing demands in the field within all the sectors (Auld *et al.*, 2003:300).

The second example from the health sector illustrates how a competency framework can be used to train professionals to adopt an inter-professional competency approach. According to Bainbridge, Flavell, Nasmith, Vanstolk and Wood (2009:621), health professionals must be able to work in inter-specialised teams in order to guarantee consistent, constant and trustworthy care, because the health environment is faced with increasingly complex needs and issues. Frank (2007:3) argues that curricula, standards and assessment in health education are therefore being reoriented to become frameworks of applied professional abilities. In order for students and practitioners to work efficiently in the healthcare system, inter professional education (IPE) is of vital importance because it develops the knowledge, skills and attitudes needed (Bainbridge *et al.*, 2009:621). Due to the nonexistence of an inter-professional competency framework in Canada and for IPE to be included in modern health professional curricula, the College of Health Disciplines at the University of British Columbia developed a competency framework to inform curriculum development for health and human service professionals throughout the continuum of learning, from pre-licensure to continuing professional development (CPD), to address the need for an overall agreed upon set of an inter-professional competencies (Bainbridge *et al.*, 2009:621-622). The competency framework identified the knowledge, skills, and professional/personal values a graduate should have in order to be ready for practice (Bainbridge *et al.*, 2009:627). Furthermore, subsequent phases of the framework could be recognised during learning experiences, which would empower students to obtain these competencies (Bainbridge *et al.*, 2009:627). In short, an inter-professional competency approach comprehends the initiation, development, implementation and evaluation of the process and outcomes of IPE because it contributes to the development of learners and practitioners in the acquisition of the required knowledge and skills to work effectively in the health environment, lays a foundation for future

curricula and practice changes, and, most importantly, contributes to a national framework in Canada (Bainbridge *et al.*, 2009:627).

The third example from the health sector relates to the development of management skills. Gillam and Khanchandani (2013:3) argue that many doctors do not make natural managers and that it is naïve to assume that all doctors can manage, because their formal training does not always require the achievement of the relevant skills. The advent of clinical commissioning groups stressed the importance of management and leadership training for general practitioner specialist trainees because leadership skills help doctors to improve the planning and delivery of health services and to contribute to research, education and health politics (Gillam & Khanchandani, 2013:3). Management competencies are also important to health professionals because they often need to make the best use of limited resources as they seek to monitor and maintain quality and efficient care, embrace organisational change and deal with the constant progress and development of health services (Gillam & Khanchandani, 2013:3). Therefore the Medical Leadership Competency Framework (MLCF) was developed to describe the competencies doctors needed in order to participate effectively and be active in the process of planning and executing health services (Gillam & Khanchandani, 2013:4). Moreover, due to the fact that it is important that all doctors understand the science of quality improvement, the MLCF attempts to guide development throughout a professional career (Gillam & Khanchandani, 2013:5). This underscores the fact that individual needs have to be addressed at different stages of training and advanced learning needs to take place across all domains of speciality training (Gillam & Khanchandani, 2013:5).

The final example from the health sector is illustrative of the significance of using a competency framework in the education domain. Due to the fast-changing environment and stakeholders demands, a National Competency Framework for Critical Care Nurses was developed in Great Britain in response to a need that was expressed for national standards in the syllabi for the training of critical care nurses (Anon., 2013:103). The goal was to improve the critical care education, and training, and competency development of registered nurses, as well as competency development (Anon., 2013:103). This was to be achieved by providing critical care nurses with a core set of skills in order to set a standard of competence that had to be attained in any critical care area (Anon., 2013:103). The National Critical Care Competency Working Group undertook the task of developing the competency framework alongside the British Association of Critical Care Nurses, as well as other professional nursing bodies (Anon., 2013:103). The framework was subsequently successfully endorsed by various institutes to improve education, training and competency development (Anon., 2013:104).

In short, the health sector offers concrete examples of how competency frameworks can be used to define and develop leadership, managerial and interactive/inter-professional skills, as well as to inform curricula development, serve as a standard of competencies in the education and training sectors, among others, and facilitate lifelong learning. An example from the security sector, in turn, indicates that competency frameworks can also be used as a measure when hiring staff, as well as a guideline of fair and appropriate monitoring of practices.

iii Security officers

Barnard and Lubbe (2013:80) conducted a study with the aim of exploring the critical competency differences between effective and ineffective security officers due to the development of an intense need for crime prevention in South Africa, rapid growth in the private security industry and the consequent need for competent security officers. Therefore, a qualitative interpretative study was done and a competency framework was subsequently designed to identify high-performing security officers (Barnard & Lubbe, 2013:79). Data was gathered through repertory grid and behavioural event interviews, disciplinary records were scrutinised and, finally, a grounded-theory data analysis identified essential competencies in order for a security officer to be successful and sufficient (Barnard & Lubbe, 2013:79). Although the validation of the proposed competency framework was outside the exploratory and descriptive scope of the research conducted and the findings could not be generalised to all security sectors, and the need for future research was highlighted, the study made a contribution to the human resources field in the small to medium private security industries. Furthermore, the designed competency framework contributed a useful guideline for the selection of potentially efficient security officers (Barnard & Lubbe, 2013:91). Moreover, the study indicated that if a competency-based approach was initiated to standardise the assessment of security officers in accordance with labour legislation, then, as Potgieter and Van der Merwe (2002) argue, procedures would give guidance to the fair, practical and relevant selection of methods. In other words, this study indicates the potential for standardised competency frameworks to be used as a guide to ensure the fair and appropriate monitoring of practices.

Next the researcher shall turn to the IT sector, which offers rich examples of how basic competency frameworks can be used to define the key abilities that will enable continuous development in this fast-changing technological world, as well as how they can facilitate the ability to creatively align the use of specialised skills to the needs and objective of a particular business, and help managers to select the appropriate specialised staff.

2.2.2 Information technology

Salas-Pilco's (2013:10) article contains an outline of the continuous changes and development of frameworks of 21st century competencies and a review of the competencies that are required in this century, with a focus on information and communication technology (ICT) competencies. Salas-Pilco (2013:12) chronologically introduced 10 frameworks that are aimed at developing competencies in elementary and secondary school settings, keeping in mind the continuous development of new technology and its impact in the field of ICT in education, and a need to gain a better understanding of its evolution over time. In addition, these frameworks were compared according to general competency categories in order to provide some insight into the trends and clarify the understanding of the key competencies required of the youth in order to become lifelong learners (Salas-Pilco, 2013:12, 21). The general competencies were then analysed and discussed: firstly, the continuous changes and development of the frameworks across time highlighted the tendency to move from key competencies to a broader range, in which some competencies were stated clearly to emphasise more actual needs (Salas-Pilco, 2013:21). Secondly, the private sector was also concerned with the kind of preparation that the youth needed in order to be successful in their careers and capable of overcoming challenging demands due to the fast-changing environment (Salas-Pilco, 2013:21). The author concluded that a sustainable framework would reflect the core needs and competencies in a particular context if the framework was developed with the co-participation of society at large (Salas-Pilco, 2013:21-22). In other words, the society as a whole has to nurture the youths' future (Salas-Pilco, 2013:22) to enable them to become more knowledgeable, communicate effectively and, most importantly, contribute to sustained development (Dunning, 2000; Kozma, 2008; Pigozzi, 2006).

Mitrovic (2010), on the other hand, formulated a competency framework to address the challenge of bringing ever-changing technology into line with business strategy and selecting competent (e-competent) and skilled (e-skilled) employees to adequately carry out this task (Mitrovic, 2010:1). Mitrovic (2010:1), observes that the way in which e-skills and e-competence are shaped is important, because the ICT professional in the 21st century needs to fully understand the business of the organisation in order to be able to react to the demands of the workplace in various disciplinary manners. With this in mind, Mitrovic sought to understand the positions of e-skills and e-competence needed in managerial areas, the manner in which business benefits are achieved by using these skills and competencies, and finally to establish a foundation for an initial e-skills and e-competence positioning model (Mitrovic, 2010:5). Therefore, the researcher reviewed the available literature on e-skills and e-competence in order to recognise and combine suitable models to explain the positioning of these skills and competencies within an organisation (Mitrovic, 2010:2). Suitable

models were identified and the author concluded that the positioning model could provide the foundation of an organisation's decisions regarding the required e-skills and e-competencies, and identify competency shortfalls (Mitrovic, 2010:6). However, the positioning model has key limitations due to the unresolved relationship between e-skills and e-competencies, and therefore requires further testing and development (Mitrovic, 2010:6). Nevertheless, Mitrovic's study does indicate the possibility that the right competency framework could constitute the basis for aligning its choice of IT professionals and their services with a company's needs and objectives.

In short, Salas-Pilco's study indicates how a competency framework can be used to facilitate the acquisition of abilities that will facilitate lifelong learning and adaptability in response to rapidly changing technology. His or her study also exemplifies the manner in which the establishment of a basic competency framework can be creatively and effectively adapted in tandem with the relevant stakeholders as a tool to educate the youth and foster development, while the second example illustrates that a competency framework could facilitate the ability to creatively align the use of specialised skills to the needs and objectives of a particular business, and also help managers to select the appropriate specialised staff.

From the aforementioned, it is clear that using a competency framework is a suitable approach to enhancing continuous professional development in the accounting profession, since professional accountants have the responsibility to keep their skills and knowledge up to date so that they can develop a specialised set of skills in order to deliver high quality services and meet the expectations of different business sectors and the requirements of their profession (Kloosterman, 2016; SAIPA, 2016a).

In the following two sections the researcher will examine the views of some theorists regarding the need to standardise the key competencies required by accounting graduates in order to address the gap between theory and practice. However, the researcher shall first note a few examples of attempted solutions to the challenge of attempting to instil these competencies in students who do not have real life experience of the accounting world.

2.2.3 Management accountants and internal auditors

Liu, Stout, Qi and Xie argue that accounting curricula should be broadened to cover the topic of real situations, although teaching by means of a real-option approach can be difficult because undergraduate students need to have a strong background in theory and prior knowledge, as well as advanced skills, in order to be a successful candidate for this approach (Liu *et al.*, 2008:213).

Referring to the American Institute of Certified Public Accountants' (AICPA's) Core Competency Framework, the authors claim that decision making and risk analysis (functional competencies in the AICPA's competency framework) involves the process of incorporating real options fundamentally (Liu *et al.*, 2008:215). Therefore, the researchers reviewed available sources and provided a detailed approach for covering capital budgeting in accounting (Liu *et al.*, 2008:215). These authors subsequently recommended a lesson plan to demonstrate the incorporation of a real-option approach to capital budgeting in accounting, having considered that advanced techniques were available and that new techniques continued to evolve (Liu *et al.*, 2008:225).

This contribution was extremely significant because, according to Leaby, Maas and Szabat (2010:284), students lack experience in relating new concepts and ideas to prior knowledge, because they struggle to develop their ability to think critically. Leaby *et al.* (2010:288) therefore introduced concept mapping and highlighted, by means of existing literature, that concept mapping might be a valuable and adaptable tool in accounting education because this tool integrates skills and promotes meaningful learning. The purpose of their study was to determine whether students studied accounting better by using concept mapping as an additional tool to traditional methods (Leaby *et al.*, 2010:289). The study referred to the AICPA's Core Competency Framework because this framework supported the purpose of the study by advocating a skills-based curriculum over a knowledge-based curriculum (Leaby *et al.*, 2010:295). They found that concept mapping helped students to make a link between existing and new knowledge because this tool assisted them to organise knowledge in their cognitive domain by moving from a rule-based to a principle-based environment (Leaby *et al.*, 2010:280). According to Leaby *et al.* (2010:280), no evidence has been given in regard to concept mapping that is reliable enough to use for research in an accounting learning environment. However empirical study has found that this technique is a great asset to the learning environment since it assists the learner to think critically, to join the data and prior knowledge, and provide feedback to come to a conclusion (Leaby *et al.*, 2010:280). The results of this study also supported the AICPA's vision and contributed to the learner's ability to gain professional experience and become a lifelong learner (Leaby *et al.*, 2010:296).

Beard (2007), on the other hand, posits a different solution. He defines experiential training as the practical application and active involvement that stretches beyond traditional settings (Beard, 2007:210). In light of this perspective, Beard (2007:207-220) reports on the experiential learning experience undergraduate students' gain through their participation in an internship as part of a comprehensive assessment programme. As noted in the study, recent literature highlights the fact that internships have been promoted because a need for additional assessment activities was indicated in

order to improve the knowledge base and motivational level of up-and-coming accountants, because this could help the students to develop on a professional level before entering the workplace (Beard, 2007:210). In addition, it was also reported that internships could enhance the students' ability to combine academic knowledge with practical applications, and improve communication, interpersonal and problem-solving skills (Beard, 2007:208). Furthermore, recent literature, as discussed in the study, made it clear that students who participated in an internship assessment had far more advantages and experience when entering the workforce in comparison with students who had not participated (Beard, 2007:210). With reference to the functional competencies in the AICPA's Core Competency Framework, the study found that internships could benefit students to achieve the required competencies as set out in the framework (Beard, 2007:220). Thus, internships can be a valuable tool in the ongoing improvement of business and accounting programmes, because this gives students the opportunity to learn while they work.

The use of a competency-based approach constitutes a fourth solution. As mentioned above (see 2.2.1), Bots *et al.* (2009:2) argue that information about the relevant knowledge and skills expected of accounting practitioners can be provided in education and training systems through a competency-based approach. The requirements during an accounting professional's career are often defined in terms of competencies in order to express the characteristics of a successful professional more adequately instead of using the more narrow concept of knowledge (Bots *et al.*, 2009:2). According to reports, the competency-based approach should strengthen the connection between the requirements of the accounting curricula and the workplace (Bots *et al.*, 2009:2). A study was conducted by Bots *et al.* (2009:1) with a view to formulating a hypotheses about the sequence in which the competencies required by the Competency Profiles for Management Accounting Practice and Practitioners report, more commonly recognised as Brikett's report, will become more important during a management accountant's career. The paper refers to the AICPA's Core Competency Framework, mainly for two reasons: to highlight the concept that learning is a continuous process, starting in an academic setting and developed through lifelong professional education and experience, and furthermore to state that this competency framework consists of three core competency categories (Bots *et al.*, 2009:2). Brikett's framework addresses five experience levels of management accountants, which are broken down to a five-level system of competencies to finally categorise the competencies into the management accountant's experience levels, because the sets of competency elements increase as the level of the management accountant's experience increases (Bots *et al.*, 2009:2-4). The study by Bots *et al.* simplified Brikett's model, while preserving its essence in order to conduct the empirical part of the study by means of a questionnaire (Bots *et al.*, 2009:5). The results

indicated that there might be three groups of competencies: basic, advanced and highly advanced, which present during different stages in the management accountant's career (Bots *et al.*, 2009:1). It was concluded that the basic competencies had to be present during graduation, advanced after a few years in practice and highly advanced once one attains the position of a chief financial officer (Bots *et al.*, 2009:1). The study found that tertiary institutes had to focus on developing basic competencies because advanced and highly advanced competencies could be taught in continuing professional education programmes (Bots *et al.*, 2009:1). Although the study was not without limitations, Brikett's model supported the authors' data and hypotheses (Bots *et al.*, 2009:10). The study suggested that weight factors with regard to the required competencies might be developed through future empirical research, as well as the intervals between consecutive experience levels (Bots *et al.*, 2009:10). Furthermore, the study recommended securing the validity of the answers due to the age combination of the audience (as stated before, competencies are obtained at different stages in a professional's career) and to include the scope of the job (due to differing tempos of career advancement) in future studies (Bots *et al.*, 2009:10).

Barac, Erasmus, Matubatse and Van Staden's (2013:17-18) study, on the other hand, identified the knowledge areas covered by internal auditing programmes offered at South African public tertiary institutes in order to investigate whether the expectations regarding internal audit knowledge of global internal audit stakeholders matched those of their South African counterparts and whether they were being encountered in these formal internal audit education programmes. Due to a number of pressing factors such as globalisation, changing interests, advances, development and increasing complexities, a broad range of competencies are demanded to enable internal auditors to survive in the business environment (Barac *et al.*, 2009:19). Internal audit professions have responded by developing a competency framework that is based on a body of knowledge systematically built up over time and updated on a regular basis in order to ensure that the body of knowledge remains relevant (Barac *et al.*, 2009:19). After formidable ranges of analyses were done, it was stated that nearly all the knowledge areas of the professions' competency framework were covered by South African programmes and that they were acknowledged internationally (Barac *et al.*, 2009:17). The internal audit curriculum is therefore in line with the internal audit's stakeholders' demand, both in South Africa and internationally.

However, due to the fact that the study identified only broad knowledge areas, referred only to South African public tertiary institutes and did not consider academic content and teaching methods, limitations arose that can be addressed by further research. In short, due to changing times and demands, internal auditors' competencies have become much more complex. Therefore, internal audit

professionals have adopted the Institute of Internal Auditors Incorporated Competency Framework for internal auditors in order to respond to the fast-changing environment and meet the demands of internal and external stakeholders.

Dickins and Reisch's (2009) article brings us back to the notion of on-the-job learning. These theorists deal with the problem that prospective employers are not satisfied with new entrants to the workplace (Dickins & Reisch, 2009:43). They question whether students have the necessary skills to ensure success in the workplace (Dickins & Reisch, 2009:43). These researchers examined the implementation of a service-based learning project (SBL) in the internal audit department in order to determine whether this project could enhance the student's communication, critical thinking and internal audit skills, because a lack of work-ready skills in this department can be problematic (Dickins & Reisch, 2009:43). Elements of AICPA's model were used to implement this project because this model focused on developing broad-based competencies (Dickins & Reisch, 2009:44). SBL techniques provide students with hands-on experience and skills development that change their mindsets as they gain practical, real world experience that can be applied in an actual job setting (Dickins & Reisch, 2009:44). The student receives the opportunity to apply the knowledge rather than acquiring it in the classroom and, as a bonus, the student becomes a more engaged learner through the interaction with the business partner (Dickins & Reisch, 2009:44). The project gained popularity in business education as potential employers reported willingness to hire students who took part in this or similar SBL projects because this project enhances ones work readiness. It was also reported that students who participated in the project received the highest test scores in exams in comparison with students who had not taken part in the project (Dickins & Reisch, 2009:46). To summarise, in order for internal audit students to become professionals, they have to be able to not only think in certain ways, but also use certain skills. The incorporation of the SBL into the curriculum can assist in the development of the students' skills, increasing the chance that they are more prepared for the workforce. Therefore, when academia and business communities collaborate, both can benefit as students' skills improve to meet real-world challenges.

In short, the researcher has noted four solutions that have been posited to enable accounting graduates to narrow the gap between theory and practice, namely the formulation of a learning plan, mind-mapping, internships and the adoption of a competency approach, which are by no means mutually exclusive. In particular, it seems that some form of on-the-job training needs to be an important aspect of this approach if accounting graduates are to have any chance of acquiring the competencies needed to make the transition from academia to real-world accounting situations. In this regard, Bots *et al.*'s model takes into account not only the basic competencies needed by accounting graduates if they are

to be employable, but also further levels of competency gained through experience. The good news, according to Barac *et al.*, is that university curricula in South Africa meet the standards of international competency framework for this profession, at least for internal auditing. However, Dickins and Reisch drive home the point that, despite this, accounting graduates in South Africa do not seem to be adequately prepared. Their experiment with an SBL project demonstrated the fact that on-the-job training appears to be an effective means of implementing a competency based approach in the education and training of accountants if the objective is to enable them to develop the competencies required by their profession.

In the following section the researcher will note two studies conducted in the professional accounting field, both of which support the observation that accounting students are not adequately prepared for the demands of the workplace, but that the AICPA competency framework, in tandem with an outcomes-based assessment method, helps to narrow this gap.

2.2.4 Professional accountants

According to Bolt-Lee and Foster (2003:33), a number of frameworks and reports have been developed by professional accounting organisations and academicians in the US in order to address the needs of the changing accounting profession. Therefore, these authors compared US Accounting Education Frameworks with the core competencies in the AICPA's Core Competency Framework for the purpose of comparing earlier works with the most recent works (Bolt-Lee & Foster, 2003:33). They subsequently recommended that the institute for accounting education change in the US (Bolt-Lee & Foster, 2003:39). The paper stressed the finding that accounting professionals' requirements had changed as the discipline had evolved (Bolt-Lee & Foster, 2003:34). Furthermore, they noted that existing educational programmes were not sufficient to prepare students to enter the profession, because there was a discontinuity between the body of knowledge inherited from the (often distant) past and changing demands (Bolt-Lee & Foster, 2003:35). The study concluded that recent works determined that entrants to the profession were not adequately prepared (Bolt-Lee & Foster, 2003:39). Therefore, the comparison with the AICPA's Core Competency Framework highlighted the discovery that a broader educational background would be preferable to the narrower, more rule-focused education (Bolt-Lee & Foster, 2003:39). In terms of this approach, the student would no longer be required to memorise rules and regulations, but rather to acquire a set of skills to be a successful lifelong learner (Bolt-Lee & Foster, 2003:39). However, the study left the following questions unanswered: what changes should be made, how should these changes be made, how are employers

of accounting graduates going to react to these changes and how much emphasis should be placed on training the student to learn the required set of skills? (Bolt-Lee & Foster, 2003:40).

As stated by Daigle, Hayes and Hughes (2007:150), the encouragement of a skills-based curriculum versus a content-based curriculum is premised on the recognition of changes in the knowledge required by today's professional accountants due to rapidly developing technology and globalisation. Faculties currently have a "bottom-up" approach to assessments, which is described as a classroom assessment (Daigle *et al.*, 2007:152). The distinction between classroom assessment and outcome assessment is important; classroom assessments are conducted on a continuous basis to make immediate changes, whereas outcome assessments are conducted once in a while to make future changes (Harwood & Cohen, 1999). According to the Association to Advance Collegiate Schools of Business (AACSB) (2003), the most important functions of measuring learning are to advise and guide individual students and lend support to school and faculty members to develop more successful programmes and courses.

As also noted several times, the reported problem is that entry-level accountants are not adequately prepared. Therefore, the question that was raised was how to improve the formal education of entry-level accountants (Daigle *et al.*, 2007:150). The paper by Daigle *et al.* (2007:150) therefore provided a case study of how accounting information system (AIS) educators might resolve the problem by assessing student learning outcomes in the AIS course using the AICPA's Core Competency Framework and focusing on skills-based competencies rather than content-based competencies by identifying the core functional, personal and broad-perspective competencies. The AICPA's skill-based competencies enable accounting educators to adopt a sufficient and flexible commonly agreed upon set of learning expectations to resolve the motivational tension between internal and external users (Daigle *et al.*, 2007:153). The findings were that students became more competent in certain functional competencies, although certain competencies in the AIS course needed modification in the assessment plan and AIS instructors were able to improve the consistency of the course content and education for future semesters (Daigle *et al.*, 2007:149). Furthermore, a rapidly changing technology has to be integrated into AIS courses in order to enable students to become more proficient in using information systems (Daigle *et al.*, 2007:150). In other words, according to Eder (cited by Daigle *et al.*, 2007:168), assessment is less difficult and less time consuming when it is rooted in teaching and learning and when it provides useful feedback.

In short, in the first example in this section the underlying purpose of adopting a competency approach was to prepare graduates so that their minds were not simply filled with information that might or

might not be useful to them in their professions, but also to develop individuals who had the ability to keep learning, applying their knowledge creatively and adjusting to changes in the environment. The AICPA's framework was found to be the most suitable for this purpose. The proposed outcomes-based assessment method proposed in the second example indicates a shift towards the encouragement of sound practices to assist this development process. Furthermore, measuring students' performance against skills-based competencies rather than content-based competencies, using the AICPA competency framework as a guideline, was found to help educators to more adequately prepare students for the workplace such that they were more easily able to adapt themselves to the expectations of employers and become more competent in certain functional competencies, while the use of current technology in the learning process enabled them to function more effectively in the workplace.

2.3 SUMMARY CONCLUSION

In this chapter the purpose of competency frameworks was examined. First the demands imposed by globalisation and rapid change on today's professional were noted, with particular reference to the necessity for accountants to possess the skills, understandings and personal attributes needed to be employable and to develop successfully in their field. With this in mind, the OECD's competency framework, which defines the key skills graduates and professionals in any field need to possess in order to be able to adapt to various workplace environments, was described. Particular emphasis was placed on the need to be adept at using several tools, to be an effective communicator in diverse contexts and to be able to act autonomously. However, research done by the OECD and partner organisations highlighted the gap between knowledge and technical competence among graduates.

The researcher then looked at a selection of competency frameworks that had been developed to suit various objectives in a variety of sectors. It was noted that there were a wide variety of views regarding the significance of competencies and an equally wide variety of frameworks in the general working environment. In light of globalisation, the integrated nature of business today and the fact of job migration, this variety highlights the fact that a generic framework of standardised competencies also needs to be recognised globally for each sector.

The many significant benefits of formulating competency frameworks were illustrated using examples from selected sectors, including their use with respect to addressing specific business needs and in the education, training and development areas, such as assisting companies to shift their orientation from a task-based to a competency-based people management system, defining and

guiding the development of leadership, managerial and inter-professional skills, serving as a standard of competencies or as a guideline for the development of curricula, hiring staff and for the appropriate monitoring of practices, as a measure for assessment purposes and, in particular, defining the skills needed to narrow the gap between the various dimensions of theory and practice.

The latter need was again identified in studies conducted in the accounting sector. Among the solutions posited, the need for some form of on-the-job training stood out as a means of enabling accounting graduates to acquire the competencies needed to make the transition from academia to real-world accounting situations, the effectiveness of which was demonstrated by an experiment with an SBL project in the US.

A study done in the professional accounting sector in the US found that the AICPA competency framework would serve as the most useful guideline to achieve the purpose of adopting a competency approach to develop technically competent graduates who have the ability to keep learning, applying their knowledge creatively and adjusting to the changes in the environments. The proposed outcomes-based assessment method proposed in the second example indicates a shift towards the encouragement of sound practices to assist this development process. Furthermore, measuring students' performance against skills-based competencies rather than content-based competencies, using the AICPA competency framework as a guideline, was found to be particularly effective in the development of technically competent and adaptable graduates.

The second research objective of this study was to identify the competencies needed for professional accountants to be employable and to survive in today's global economy. With this in mind, in the following chapter the researcher will turn to an examination of the IES 2, since the purpose of this standard is to establish the technical competence an aspiring professional accountant should demonstrate and develop by the end of the learning and development process through which competence is developed in order to perform the role of a professional accountant to a defined standard (IFAC, 2014a:4).

CHAPTER 3

THE DEVELOPMENT OF A COMPETENCY FRAMEWORK FOR PRACTISING ACCOUNTANTS

3.1 INTRODUCTION

As noted in chapter 1, according to IFAC, the need for a single set of international accounting standards that sets a benchmark for international participants and gains the trust of the global audience is recognised (IFAC, 2013b; IFAC, 2007). Therefore, IFAC facilitates the IAESB's vision to strengthen the global accountancy profession through the development and enhancement of high quality accounting education standards, which are implemented and applied worldwide (IFAC, 2014e).

The IAESB's board comprises individuals from around the world, among whom are practising auditors and accountants, those not in practice and members of the public (IFAC, 2014e). The IAESB gains the public's trust by developing and implementing IESs (IFAC, 2014e). The heart of the IAESB's mission is to develop professional attitudes, ethics, values, skills and knowledge (IFAC, 2014e). Therefore, the IAESB develops and publicises support material and toolkits on pre-qualification education, on how to train a professional accountant and how to continue to gain a professional education, as well as on how to be a successful member of the accountancy profession (IFAC, 2014e). In other words, the IAESB is the channel that coordinates the establishment of high-quality IESs in developing nations (IFAC, 2014e).

According to the IAESB (IFAC, 2014e), the development and implementation of high quality IESs will enable professional accountants to achieve and maintain an agreed upon level of competence. The IAESB has developed and implemented eight sets of IESs (IFAC, 2014c:1). These standards are recognised as IES 1 to IES 8 and describe the principles individuals need to learn and develop as professional accountants (IFAC, 2014c:1). They also regulate the entry and content of professional accounting educational programmes, practical experience, assessment and CPD (IFAC, 2014c:1). The IESs set a global benchmark when they develop professional competence, enhance professional accounting education in international settings and strengthen professional accountancy organisations (IFAC, 2014c:1). They also generate confidence in financial reporting and set out the requirements of professional accountants for initial professional development (IPD) and CPD (IFAC, 2014d:4).

The IES's primary audience comprises IFAC members because they have a responsibility to educate and develop both their professional accountants and aspiring professional accountants (IFAC, 2014c:3). The requirements for IPD and CPD are set out in detail in IES 1 to IES 8 (IFAC, 2014c:4-9). Because transparency is essential for standard setting, the IAESB ensures that the views of the public and those who are affected by these standards are considered in order to establish global education standards (IFAC, 2014e).

In light of feedback it has received from both accounting professionals and the public, in October 2009 the IAESB decided to revise IES 1 to IES 8 (IFAC, 2012:5). The aim of this revision was to improve the clarity of its standards and address new issues that had arisen due to the changing environment and to ensure consistency with concepts of the revised Framework for International Education Standards for Professional Accountants (2009) (IFAC, 2012:5). This purpose was fulfilled when the IAESB clarified the nature of professional competence, professional accountants' required competence areas and the obligations of IFAC members (IFAC, 2014d:4). Furthermore, the 2014-2016 IAESB strategy and work plan was implemented to: set and maintain the current IESs, consider whether there was a need for additional IESs, support the adoption and implementation of the revised IESs and, finally, to assess the impact of the IESs (IFAC, 2014d:7). According to the IAESB, the public interest is best served by implementing high-quality standards, encouraging the implementation of the IESs, developing education benchmarks and regularly reviewing the need for additional revisions and standards (IFAC, 2014d:5). In developing the 2014-2016 IAESB strategy and work plan, a wide range of comments were fully considered from a comprehensive audience in order to support the IAESB's view and the major shift from standard setting to supporting, adoption and implementation (IFAC, 2014d:4-5).

As a result of the aforementioned, in June 2014 the IAESB also decided to revise the Framework for International Education Standards for Professional Accountants (hereafter referred to as the Framework) (IFAC, 2015b). The Framework was published by the IAESB in December 2009. It identifies the components required of a professional accountant, among which are: assessment, general education, practical experience and professional accounting education (IFAC, 2012:5). The revision of the Framework will help to facilitate the consistent use of terminology and concepts, align the concepts in the revised IESs and draw attention to the principles and concepts that enhance professional accountants (IFAC, 2015b). Therefore, the participants in this project will consider the reviewing and updating of the Framework's terminology, content, structure and authoritative status (IFAC, 2015b).

To summarise, the IAESB decided to revise both the Framework for International Education Standards for Professional Accountants and the IESs on IPD and CPD (IES 1 to IES 8). The main objective was to gain the public's trust with the revised Framework and IESs, which establish professional competence standards for the accountancy profession across the globe (IFAC, 2014d:8).

The technical competencies required of an aspiring professional accountant are specified and demonstrated in IES 2 (Initial Professional Development – Technical Competence) (IFAC, 2014a:4). Together IES 2, IES 3 (Initial Professional Development – Professional Skills) and IES 4 (Initial Professional Development – Professional Values, Ethics and Attitudes) specify and demonstrate the professional competencies required of an aspiring professional accountant (IFAC, 2014a:4).

IES 2 will be discussed in detail in the following section.

3.2 IES 2: INITIAL PROFESSIONAL DEVELOPMENT – TECHNICAL COMPETENCE

3.2.1 Introduction

As an individual develops and learns during his or her career, he or she develops and maintains competence, which enables the accountant to be a successful professional (IFAC, 2012:5). IES 2 contributes to this because it identifies the competence and learning outcomes that demonstrate the technical competence an aspiring professional accountant should aspire to by the end of IPD (IFAC, 2014a:4). It serves several purposes because it encourages the trustworthiness of the accounting profession, protects the public interest and enhances the professional accountant's competencies (IFAC, 2014a:9).

From the aforementioned and for the purpose of clarifying terminology, brief descriptions of selected terms are provided below.

3.2.2 Definitions

a) Technical Competence

Technical competence is achieved when an individual has the skill to apply his or her professional knowledge to perform a task to a required standard (IFAC, 2014a:4).

b) Professional Skills

Professional skills are described as the “intellectual, personal, interpersonal, communication and organisational skills that a professional integrates with technical competence and professional values, ethics and attitudes to demonstrate professional competence” (IFAC, 2012:9).

c) Professional Competence

Professional competence is the integration and application of professional values, skills, attitudes, ethics and technical competence (IFAC, 2014a:9). It goes beyond the knowledge of facts, standards, procedures, principles and concepts (IFAC, 2014b:1). It is the ability to carry out a task to a required standard (IFAC, 2014a:9).

d) Aspiring Professional Accountant

An aspiring professional accountant is one who has initiated a professional education programme during IPD (IFAC, 2014a:9).

e) Initial Professional Development

IPD is the learning and development process through which aspiring professional accountants develop competence in order to perform a professional accountant’s role (IFAC, 2014a:9). The process is finalised as soon as the aspiring professional accountant can successfully demonstrate the professional competencies required of him or her (IFAC, 2014a:9). IPD includes practical experience, assessment, general education and professional accounting education (IFAC, 2014a:9).

IPD is important in order to recognise qualifications on an international scale, improve professional competence, financial reporting and management and, finally, build and sustain stronger professional accounting organisations (IFAC, 2014c:3, 11).

The points of qualification or licensing are determined by applicable laws and jurisdictions and therefore the IFAC member body may define the relationship between the end of IPD and the point of qualification or licensing (IFAC, 2014a:9).

f) Professional Accounting Education Programmes

Professional accounting education programmes are programmes, such as formal education, that assist the aspiring professional accountant to develop the required professional competencies by the end of IPD (IFAC, 2014a:10).

In the following section a descriptive background of IES 2 will be provided.

3.2.3 Background

In May 2004 the existing version of IES 2, titled “Content of Professional Accounting Education Programs” was published and became effective on January 1, 2005 (IFAC, 2012:5). It prescribes the content of knowledge required of an IFAC member body’s professional accounting education programme for a candidate to qualify as a professional accountant (IFAC, 2012:5). The title was amended in the proposed IES 2 (Revised) to “Initial Professional Development – Technical Competence”, to support the IAESB’s view that IES 2 covers IPD (IFAC, 2012:6).

IES 2 is addressed to members of IFAC (IFAC, 2014a:4). It is the member bodies’ responsibility to ensure that IPD meets the requirements of IES 2, which prescribes the technical competence required of an aspiring professional accountant, to regularly reassess and revise professional accounting education programmes and establish appropriate assessment activities (case studies, workplace assessments, written examinations and essays etc.) to determine the aspiring professional accountant’s progress in technical competence (IFAC, 2014a:4, 8, 11). The recommendations made in IES 2 can be implemented in cooperation with government authorities, employers, supervisors, educational institutions and any party that supports the professional accountant’s learning and development process (IFAC, 2014a:4).

The IAESB adopted a learning outcomes approach in the proposed IES 2 (Revised) (IFAC, 2012:7) by specifying 11 competence areas: (i) *financial accounting and reporting*; (ii) *management accounting*; (iii) *finance and financial management*; (iv) *taxation*; (v) *audit and assurance*; (vi) *governance, risk management and internal control*; (vii) *business laws and regulations*; (viii) *information technology*; (ix) *business and organisational environment*; (x) *economics* and (xi) *business management* (IFAC, 2014a:5-8). The practical validity of these competence areas in the South African context will be the subject of the empirical research in the next chapter. Furthermore, instead of prescribing knowledge as set out in the existing IES 2 (IFAC, 2012:6), the IAESB identified four proficiency levels, namely foundational, intermediate, advanced and master levels, to demonstrate professional competence (IFAC, 2012:20-22). The competence areas and proficiency levels enable member bodies to plan and design their professional accounting education programmes for multiple professional accounting tasks and positions (IFAC, 2014a:10).

Learning outcomes are associated with each competence area in order to establish the depth of knowledge, perception and purpose required for each specified area (IFAC, 2014a:9). These learning

outcomes form a foundation for professional accountants to gain knowledge and develop skills in the various accountancy roles (IFAC 2014a:9). Therefore, all the required outcomes should be achieved by the professional accountant by the end of IPD, irrespective of their plans for the future (IFAC 2014a:9). A level of proficiency has been assigned to each competence area with the purpose of indicating the context in which the learning outcome is expected to be achieved (IFAC, 2014a:10). This lends support to IFAC member bodies to plan and design their professional accounting education programmes (IFAC, 2014a:10). Due to differing industries and roles, IFAC members can add additional competence areas and learning outcomes, and raise the level of proficiency in order to prepare the aspiring professional accountant for a specific position and/or sector (IFAC, 2014a:10).

In order to fulfil the IAESB's desire for the proposed IES 2 (Revised) to be consistently drafted, the IAESB considered a wide range of comments and feedback (IFAC, 2012:6). The proposed IES 2 (Revised) was ready for implementation from July 1, 2015 (IFAC, 2014a:4).

The comments and feedback that the IAESB considered will now be outlined.

3.2.4 Comments and feedback

The IAESB considered a wide range of comments and feedback to facilitate the process of revising and finalising the proposed IES 2 (Revised) in the hope that it would be accepted and implemented on a global scale. Therefore, the IAESB reviewed the comments and feedback of the global bodies that submitted their findings. Comments on matters in the proposed IES 2 (Revised) were addressed in a structure of eight questions (IFAC, 2012:7-8). The bodies' findings regarding the eight questions (1-8) from the submitted comment letters can be summarised as follows:

a) Question 1

“Do the 11 competence areas listed in Paragraph 7 of the proposed IES 2 (Revised) capture the breadth of areas over which aspiring professional accountants need to acquire technical competence? If not, what do you suggest?” (IFAC, 2012:7)

The majority of the comments indicated agreement that the 11 competence areas (as mentioned earlier in the chapter) of the proposed IES 2 (Revised) captured the breadth of the technical competencies required of aspiring professional accountants. However, the following suggestions were made:

The Association of Accounting Technicians in the United Kingdom (AAT) (2012:1) and the Institute of Chartered Accountants in England and Wales (ICAEW) (2012:1) suggested that business strategy and allied advice should be emphasised as an independent competence area to enhance an

accountant's role as a strategic adviser. The Canadian Institute of Chartered Accountants (CICA) (2012:11), the Institute of Chartered Accountants of India (ICAI) (2012:1), the New Zealand Institute of Chartered Accountants (NZICA) (2012:2) and AICPA (2012:2) were of the opinion that quantitative methods, mathematics and statistics should be included at a foundational or intermediate level because they facilitate a better understanding of related processes, principles, theories and subjects. The Chartered Institute of Public Finance and Accountancy (CIPFA) (2012:1) regarded *information technology* as a general skill at a foundational level and felt that it should therefore not have been included as a competence area. CIPFA (2012:1) considered that marketing should be highlighted by modifying the name or learning outcomes of the *economics* competence area in order to include marketing. According to the Federation of European Accountants (FEE) (2012:2) and the Institute of Certified Public Accountants of Singapore (ICPAS) (2012:2), *business laws and regulations* appeared too general and they therefore proposed that specific laws of the applicable jurisdiction be included at a foundational level. The Institute of Certified Public Accountants of Uganda (ICPAU) (2012:2) and ICAI (2012:1) suggested that *governance, risk management and internal control*, as well as *business organisational environment* and *business management*, should be merged irrespectively.

Compilation engagements and agreed-upon-procedure engagements are primary assurance services provided by small and medium-sized businesses (IDW, 2012:2). In light of this, the two French bodies, Compagnie Nationale des Commissaires aux Comptes (CNCC) and Conseil Supérieur de l'Ordre des Experts-Comptables (CSOEC) (2012:1-2), as well as the Institut der Wirtschaftsprüfer in Germany (IDW) (2012:2) and CICA (2012:11) recommended that the *audit and assurance* competence areas should be broadened and learning outcomes should be added in relation to assurance services.

Moreover, ICPAU (2012:2) and CIPFA (2012:1) argued that there was inadequate reference to the public sector's accounting, because it is important that an accountant should possess knowledge of this sector.

Finally, according to Noor Ali (2012:3), the IAESB and IFAC need to be more actively involved in encouraging aspiring professional accountants to explore competencies other than technical competencies to broaden their horizons within IPD.

In other words, it was suggested that competence areas and learning outcomes should be added or merged, certain proficiency levels and terminology should be revised and the sequence of the competence areas should be reviewed and restructured according to necessary educational steps.

b) Question 2

“Do the learning outcomes listed in Paragraph 7 of the proposed IES 2 (Revised) adequately capture the minimum levels of proficiency to be achieved by an aspiring professional accountant by the end of IPD? If not, what changes do you suggest?” (IFAC, 2012:7)

The IAESB identified learning outcomes for each competence area with the aim of indicating the minimum level of proficiency required of an aspiring professional accountant (IFAC, 2012:11-17). Although the majority of stakeholders agreed, a few questions were raised and suggestions were made.

The respondents agreed with the learning outcomes but were of the opinion that some learning outcomes had to be clarified and revised (AAT, 2012:1-2; CA Ireland, 2012:1-3; CIPFA, 2012:2; CPA Australia, 2012:1-2; ICPAU, 2012:2-3; FEE, 2012:2-5; ICAI, 2012:1; Noor Ali, 2012:13; CICA, 2012:11). In addition, there were suggestions that the proficiency levels for some of the competence areas should be altered and explained due to a question that was raised regarding how the IAESB had decided on the proficiency levels (AAT, 2012:1-2; AICPA, 2012:4; CA Ireland, 2012:1-3; CPA Ireland, 2012:2; ICAEW, 2012:1; JICPA, 2012:1-2; PwC, 2012:2; SAIPA, 2012b:1; CICA, 2012:11). Furthermore, AAT (2012:1-2), Deloitte (2012:2-3) and IDW (2012:2-5) argued that the indicative verbs should be revised and clarified and, finally, Noor Ali (2012:13) asked the IAESB to provide IFAC member bodies with more guidance.

c) Question 3

“Does the Appendix provide adequate clarification to assist in the interpretation of the learning outcomes that are listed in Paragraph 7 of the proposed IES 2 (Revised)? If not, what changes do you suggest?” (IFAC, 2012:8)

The Appendix in the proposed IES 2 (Revised) classifies and explains the four proficiency levels (foundation, intermediate, advanced and master) for the learning outcomes (IFAC, 2012:20-22).

A number of comments were made regarding the assistance offered by the Appendix in the interpretation of the learning outcomes. The comments can be summarised as follows:

According to the Japanese Institute of Certified Public Accountants (JICPA) (2012:2) and Ernst and Young (2012:2), the descriptions of the level of proficiency were unclear and difficult to understand. Noor Ali (2012:13) argued that the Appendix was confusing. In addition, the Institute of Chartered Accountants Australia (ICAA) (2012:2), ICPAS (2012:4), ICAEW (2012:2), IDW (2012:6-7) and

NZCIA (2012:3) stated that the indicative verbs and terms used to describe the proficiency levels were difficult, imprecise and subjective, and suggested that the verbs should be defined. The Hong Kong Institute of Certified Public Accountants (HKICPA) (2012:2) and the Independent Regulatory Board for Auditors (IRBA) (2012:3) proposed that useful examples could be provided in order to explain the differences between the proficiency levels.

More generally, some respondents suggested that no competence area required a master level and that it was difficult to distinguish between the advanced and master level (Ernst & Young: 2012:2; ICPAU, 2012:3; FEE, 2012:5; ICAEW: 2012:2; JICPA, 2012:2). Hence, it was suggested that the master level should be removed (ICPAU, 2012:3).

d) Question 4

“Overall, are the Requirements paragraphs 7, 8, and 9 of the proposed IES 2 (Revised) appropriate for ensuring that aspiring professional accountants achieve the appropriate level of technical competence by the end of IPD? If not, what changes do you suggest?” (IFAC, 2012:8)

Paragraph seven of the proposed IES 2 (Revised) lists the competence areas and learning outcomes that are required of an aspiring professional accountant in order to demonstrate technical competence at a minimum proficiency level (IFAC, 2012:11-17). Paragraphs eight and nine advise IFAC member bodies to reassess and revise professional accounting education programmes on a regular basis and to establish appropriate assessment activities to determine the aspiring professional accountant’s progress in technical competence (IFAC, 2012:17).

A number of comments were made regarding whether the requirement paragraphs were adequate to ensure that an aspiring professional accountant could achieve the desired level of technical competence by the end of IPD.

IDW (2012:7) suggested that paragraph seven should be restructured in order to reflect that the learning outcomes should be achieved at the minimum level required according to the aspiring professional accountant’s role and business environment. Furthermore, the ICAI (2012:2-6) proposed additional learning outcomes, prescribed higher levels of proficiency for a number of learning outcomes and argued that indicative verbs such as ‘explain’ had to be reworded as ‘understand and explain’. ICAEW (2012:2) also suggested additional learning outcomes.

According to the South African Institute of Chartered Accountants (SAICA) (2012:2) and the Certified Practising Accountants in Australia (CPA Australia) (2012: 2-3), paragraph eight needed to

be reworded because it seemed as if IFAC member bodies had direct control over professional education programmes and that the main purpose of the regular updates of these programmes was not to keep up with the changing environment. Moreover, PricewaterhouseCoopers (2012:2-3), CIPFA (2012:2-3), ICPAU (2012:3), Deloitte (2012:3-4) and IRBA (2012:3) questioned the nature, timing and extent of the reviews and updates because some competence areas required, for example, annual updates and others were needed every two to three years. In other words, a timeframe was required considering that the entire education programme had to be reviewed every now and then in order to account for the various updates and reviews of the competence areas (CIPFA, 2012:2-3).

The Certified Public Accountants in Ireland (CPA Ireland) (2012:2-3), HKICPA (2012:2), CNCC and CSOEC (2012:3) questioned the assessment activities' quality assurance and the meaning of 'appropriate', and requested guidance on how to select appropriate assessment activities to evaluate the specific competencies.

e) Question 5

“Do you anticipate any impact on or implications for your organisation, or organisations with which you are familiar in implementing the new requirements included in this proposed IES 2 (Revised)” (IFAC, 2012:8)

The requirements that are included in this proposed IES 2 (Revised) were discussed earlier in this chapter.

The majority of comments indicated that the implementation of the new requirements according to the proposed IES 2 (Revised) would have a minor and indirect impact on or implications for their organisations (AAT, 2012:2; CA Ireland, 2012:4; CIPFA, 2012:3; CNCC & CSOEC, 2012:4; Ernst & Young, 2012:3; ICAA, 2012:2; ICAEW, 2012:2; IRBA, 2012:3; NZICA, 2012:3; PwC, 2012:3; SAICA, 2012:2; SAIPA, 2012b:1; CICA, 2012:12; CPA Ireland, 2012:3; ICPAU, 2012:3).

f) Question 6

“Is the objective to be achieved by a member body, stated in the proposed revised IES 2, appropriate?” (IFAC, 2012:8)

According to the proposed IES 2 (Revised), the objective of a member body is to ensure that aspiring professional accountants demonstrate technical competence through the achievement of the required learning outcomes (IFAC, 2012:18).

Most of the respondents agreed that the objective to be achieved by a member body was appropriate. However, it was suggested that the phrase had to be restructured. ICAA (2012:2) suggested that “a role of a professional accountant” should be stated as “a role as a professional accountant”. The Chinese Institute of Certified Public Accountants (CICPA) (2012:2), Deloitte (2012:4) and ICAI (2012:7) questioned the word ‘provide’ because this word indicated a passive role, which is in contrast with the accountant’s active role in developing technical competence, while the IFAC member body had to support and enable this process. AAT (2012:3) argued that the wording of the objective should be amended in order to clarify that an accountant’s role required the requisite skills, knowledge and understanding. According to CPA Ireland (2012:3), IFAC member bodies had many objectives and therefore ‘the objective’ should be changed to ‘an objective’.

By contrast, Ernst and Young (2012:3) and the FEE (2012:6) disagreed. According to Ernst and Young (2012:3), the IFAC member body provides only the opportunity for the aspiring professional accountant to acquire professional knowledge, which they assess according to the proposed revised IES 2’s requirements; they do not provide professional knowledge itself. FEE (2012:6) argued that the objective of the proposed IES 2 (Revised) should be stated and not that of the IFAC member body due to the professional institutes’ objective that is required by the countries’ legal framework and statutes.

g) Question 7

“Have the criteria identified by the IAESB for determining whether a requirement should be specified been applied appropriately and consistently, such that the resulting requirements promote consistency in implementation by member bodies?” (IFAC, 2012:8)

The three criteria identified by the IAESB for a requirement to be specified in a standard way can be summarised as follows. Firstly, it is necessary to achieve the objective stated in the proposed IES 2 (Revised) (PwC, 2012:3). Furthermore, the requirement is expected to be applicable in any situation to which the proposed IES 2 (Revised) is relevant. Finally, it is doubted that the objectives indicated in the proposed IES 2 (Revised) have been achieved by the requirements of other standards.

The majority of commentators agreed that the criteria that the IAESB identified promoted a consistent implementation of requirements by member bodies (AAT, 2012:3; ACAA, 2012:3; AICPA, 2012:3; CA Ireland, 2012:4; CICPA, 2012:2; CIPFA, 2012:3; CNCC & CSOEC, 2012:4; CPA Australia, 2012:3; CPA Ireland, 2012:3; ICPAU, 2012:3; ICPAK, 2012:4; Deloitte, 2012:4; Ernst & Young,

2012:3; FEE, 2012:7; ICAA, 2012:2; ICAEW, 2012:2; IDW, 2012:8; IRBA, 2012:4; JICPA, 2012:4; Juvenal, D.S.F., 2012:4; NZICA, 2012:3; PwC, 2012:3; SAIPA, 2012b:1; CICA, 2012:12).

h) Question 8

“Are there any terms within the proposed IES 2 (Revised) that require further clarification? If so, please explain the nature of the deficiencies.” (IFAC, 2012:8)

As already mentioned in the responses to question four, CICA (2012:6), ICAEW (2012:2) and PwC (2012:3) questioned the timing and extent of the reviews and updates of the professional accounting education programmes. Moreover, CNCC and CSOEC (2012:4-5) and NZICA (2012:4) suggested that the indicative verbs should be defined. Deloitte (2012:4) wanted the learning outcomes for each of the 11 competence areas to be described. AICPA (2012:4) proposed that the foundation and intermediate proficiency levels should be re-examined in order to distinguish between skills. CIPFA (2012:3) could not distinguish the difference between technical and professional competencies. ICPAU (2012:3) desired to understand the board’s reasoning and decisions behind the selection of the 11 competence areas and four proficiency levels. AAT (2012:3) requested that explicit reference be made to computer-based assessments in the explanatory material in order to account for organisations that use only computer-based assessments. FEE (2012:7) questioned whether the proposed IES 2 (Revised) was relevant for a variety of stakeholders because they argued that the IAESB needed to avoid drafting standards that go beyond their responsibility.

3.2.5 Subsequent amendments

After the comments and feedback had been taken into account, the major changes that were made to the final version of IES 2 (Revised) can be briefly summarised as follows:

- Knowledge subject areas are no longer as appropriate because learning outcomes are categorised in competence areas with a prescribed level of proficiency (IFAC, 2015a:6).
- The learning outcomes of each competence area, as well as its level of proficiency, were revised and reconsidered. A number of learning outcomes were eliminated, added, merged and/or clarified (IFAC, 2014a:5-8; IFAC, 2012:11-17).
- The proficiency level for *financial accounting and reporting* was amended from an advanced level to an intermediate level, while business laws and regulations were raised from a foundational level to an intermediate level (IFAC, 2014a:6-7; IFAC, 2012:11, 17).
- The master level was eliminated and the three remaining level’s (foundation, intermediate and advanced) descriptions were altered and clarified (IFAC, 2014a:12-13; IFAC, 2012:20-22).

- The final version of IES 2 (Revised) pronounced that the names of the prescribed courses and subjects did not have to be identical to the required competence areas when planning and designing the professional accounting education programmes (IFAC, 2014a:10).
- Also, the sequence of the competence areas in the professional accounting education programmes may differ from the sequence of the competence areas as set out in Table A of the final version of IES 2 (Revised) (IFAC, 2014a:10).
- Furthermore, stakeholders other than IFAC member bodies could be involved in the design and planning of professional accounting education programmes (IFAC, 2014a:10).
- The final version of IES 2 (Revised) requires that technical competence should be achieved by the end of IPD and measured through the assessment of suitable assessment activities (IFAC, 2015a:6). Moreover, the achievement of learning outcomes can be across different courses or subjects, not solely devoted to that competence area (IFAC, 2014a:10).
- Lastly, the final version of IES 2 (Revised) prescribes that professional education accounting programmes have to be reviewed and updated in a typical review cycle of three to five years, keeping in mind the changes to relevant regulations, standards and legislation (IFAC, 2014a:10).

In other words, significant changes were made to the final version of IES 2 (Revised) but the standard continues to require that professional knowledge is an important element of technical competence and has to be included in professional accounting education programmes (IFAC, 2015a:6).

3.3 SUMMARY CONCLUSION

Due to the pressing need for a single set of international accounting standards that set an international benchmark, the IAESB was introduced in Chapter 3 because its vision is to develop and enhance high quality accounting education standards. Furthermore, its accounting education standards (IES1 to IES8) comprise the principles individuals need in order to learn and develop as professional accountants, and to achieve and maintain an agreed upon level of competence. Therefore, the IAESB and its standards, in particular IES 2, were discussed and explained in this chapter with the aim of supporting the assertion made in Chapter 2 that a competency framework is implemented order to gain skilled and professional employees. Furthermore, IES 2 was introduced and explained in detail because it enabled the researcher to identify the competence and learning outcomes that demonstrate the technical competence an aspiring professional accountant should have acquired by the end of IPD in order to be a successful professional accountant. Eleven competence areas were recognised (see

3.2.3) but the learning outcomes related to these competence areas will be listed only in the next chapter, in which the results are detailed.

The main body of chapter three was devoted to describing the process by which the IAESB redrafted IES 1 to IES 8 in a more consistent manner and finalised its revised IES 2, as well as the results of that process. This project had been undertaken due to the ever-changing environment and the IAESB's goal to improve the clarity of its standards to ensure consistency across borders. The fact that the 2014-2016 IAESB strategy and work plan were implemented with the goal of setting, maintaining and measuring the current IESs and to consider the need for additional IESs was discussed. In addition, the comments and results of the eight questions relating to the proposed IES 2 (Revised) that were posed to the public were briefly explained and discussed, followed by a summary of the major conceptual changes that were made to the revised IESs. The process of finalising the revised IES 2 added to its validity, since the proposed learning outcomes and competence areas were evaluated and accepted by international stakeholders. The global participants included South African accounting bodies (SAIPA and SAICA), which indicates that this standard is applicable to South African stakeholders. Moreover, the facts that two of the major conceptual changes included shifting from a rule-based to a competence-based approach, that pre- and post-qualifications are no longer needed because IPD and CPD are required, and that several theorists argue that adherence to these standards constitutes an appropriate solution to the existing knowledge-skills gap, provide the rationale for making the revised and finalised IES 2 a suitable subject for this study, namely to evaluate whether this competency-based standard is applicable in practice. In addition, the change from four levels of proficiency to three proficiency levels indicated the context in which the relevant learning outcomes were expected to be demonstrated. In other words, the objectives of the IAESB, the process by which it finalised its IES 2 (Revised) and the reformulation of the standards from being knowledge based to competency based informed the third objective, which will be dealt with in the next chapter.

In the following chapter, the comprehensive set of learning outcomes that has received widespread international approval are going to be evaluated in order to conclude whether this standard is relevant to practising accountants in a South African environment.

CHAPTER 4

RESEARCH METHODOLOGY AND RESULTS

4.1 INTRODUCTION

In the previous chapters' it was found that technically competent and adaptable graduates were developed when a student's performance was measured against skills-based competencies rather than content-based competencies, using a competency framework as a guideline.

It was also noted that the integrated nature of business today and the fact of job migration due to globalisation meant that a need existed for a generic framework of standardised competencies to be recognised internationally to narrow the gap between the various dimensions of theory and practice.

The recent and relevant literature that was examined in chapters one, two and three is fundamental to this study because it establishes the theoretical base for the empirical research.

In this study analytical research is used to attain fundamental knowledge of the influence a competency framework has on the working environment because further research needs to be done to test validity of the fundamental knowledge gained during the literature review in practice.

In this chapter the empirical part of the study is dealt with. Firstly, the purpose of this chapter is established. Secondly, insight is provided into the data collection method and design, as well as the target population, sampling method and sample size. Thirdly, the reliability and validity of the survey instrument are discussed, followed by a description of the pilot and final studies that were conducted. In addition, demographic information regarding the subjects used to gather the information for this study is provided. Finally, the results are presented, analysed and discussed.

4.2 METHOD OF RESEARCH FOR THIS STUDY

Fox and Jennings (2014:140) and Kallet (2004:1229) argue that the account of the research methodology is one of the most important aspects of a research paper because it provides information on which the validity of the study can be judged. This section therefore serves to provide an in-depth description of how the study was conducted to enable other researchers and reviewers to determine the merits of the study (Fox and Jennings, 2014:138).

The research methodology should be decided upon at a fairly early stage of the study to determine whether the project is feasible (Hannabuss, 1996:23). The researcher's knowledge of different research methods can assist him or her to select an appropriate research methodology for the study, even though time and cost could limit the decision (Hannabuss, 1996:23). According to Wisker (2001:118), different types of research can define and clarify the research outcomes and strategies, and the researcher needs to choose the applicable methodology, namely the one that will assist him or her to attain his or her research objective.

4.2.1 Purpose of the empirical study

After the researcher identified the competence areas that an aspiring professional accountant had to demonstrate by the end of IPD in order to perform the role of a professional accountant to a defined standard, an empirical study was conducted to evaluate these learning outcomes and competence areas to determine whether they were applicable to practising accountants in a South African environment.

Based on the aforementioned, the researcher will discuss the method and design that have been implemented, as well as the data analysis that was done in order to achieve the objective of this chapter in the sections that follow.

4.2.2 Data collection techniques

According to Creswell, Ivankova and Plano Clark (2012:263), there are three recognised approaches to collecting data: quantitative, qualitative and mixed methods. The selection of the approach depends on the purpose of the study, the review methods, data collection, analytical strategies and the criteria necessary to judge the quality of the data (Creswell *et al.*, 2012:263).

According to Creswell *et al.* (2012:263-266), the quantitative and qualitative approaches differ as follows:

When one adopts the quantitative approach, one describes trends or relationships between variables, while the qualitative approach is to do with an exploration of the study's concept or process. The research questions of a quantitative approach are specific and narrow, whereas the qualitative researcher asks general, broad questions to understand the participants' point of view. During quantitative sampling a random and large sample is conveniently selected with the intention of generalising the results to the population. A small sample is purposefully selected during qualitative research to gain an in-depth understanding of the underlying matter. Quantitative designs include

experimental, quasi-experimental, correlation and survey research designs. The major designs for a qualitative approach include a case study, grounded theory, phenomenology, narrative and ethnographic research.

The quantitative approach is to do with the evaluation of objective (numerical) data, while the qualitative researcher evaluates subjective data (usually words, images and/or languages). A quantitative researcher collects data using existing, pilot-tested or self-developed instruments such as closed-ended or multiple choice questions. A qualitative researcher serves as the instrument to collect the data during interviews or observations. Quantitative data analysis is conducted on two levels: descriptive statistics and inferential statistics. Also the research report has a standardised, fixed structure. Qualitative data analysis is based on values and meanings and the research report is flexible, with rich descriptions of the setting and participants.

Although quantitative and qualitative research approaches differ, they can both be applied to a single study at some stage of the research process. According to Amaratunga, Baldry, Sarshar and Newton (2002:23), a mixed method is a combination of quantitative and qualitative methods used in a study to investigate the same phenomenon. It is a research design that includes both quantitative and qualitative components (Grafton, Lillis & Mahaama; 2011:7). Furthermore, when the researcher collects both numerical and textual information and combines or links the data or findings at one or several points in the study, the research method is defined as a mixed-methods approach (Creswell *et al.*, 2012:269-270). This approach facilitates differing interpretations, methods and strategies and therefore the most appropriate variables and measuring instruments can be selected to address the purpose and questions of the study (Creswell *et al.*, 2012:268).

Numerous questions had to be considered to determine whether a mixed method would be the best approach to address this study's research problem. The researcher had to evaluate whether both quantitative and qualitative data were necessary to solve the research problem, whether the collection of one type would be comprehensive enough and what the advantages would be of collecting both numerical and textual information. In addition, the researcher had to identify the rationale for the study and consider whether she had the required skills and time to collect both sets of data.

Creswell (2013:17) provides a summary of the three methods, which can be seen in Table 4.1.

Table 4.1: Quantitative, qualitative and mixed methods

Quantitative Methods	Qualitative Methods	Mixed Methods
Predetermined	Emerging methods	Both predetermined and emerging methods
Instrument based questions	Open-ended questions	Both open- and closed-ended questions
Performance data, observational data and census data	Interview data, observation data, document data and audio-visual data	Multiple forms of data drawing on all possibilities
Statistical analysis	Text and image analysis	Statistical and text analysis
Statistical interpretation	Themes, patterns interpretations	Across databases interpretation

Source: Creswell (2013:17)

After the researcher evaluated the differences between, as well as the advantages and disadvantages of, the quantitative, qualitative and mixed approaches, it was decided that a mixed approach would best suit this study. In the first, qualitative, phase of this study, the researcher examined how and why a competency framework was a suitable approach to both narrowing the knowledge-skills gap and facilitating adequate development of professionals (Chapter 2). Furthermore, the researcher examined IES 2 in Chapter 3 with the aim of identifying the competencies an aspiring professional accountant has to demonstrate when entering the practice. In the second, quantitative, phase of the study, a questionnaire (refer to Appendix A) was selected to evaluate and gain an in-depth understanding of the respondents' perceptions regarding the importance of these learning outcomes and competence areas in order to determine whether they are relevant to practising accountants in a South African environment. The results of the questionnaire were analysed by means of descriptive and inferential statistics to describe relationships and correlations and, most importantly, confirm whether the results were reliable. Mixing occurred during the second stage of the study, when the researcher used concurrent timing to collect and analyse both subjective and objective data at the same time (refer to subsection *iii* of section 4.2.3). The collection of both types of data enabled the researcher to approach the research problem from two different perspectives to gain better insight into the results (Amaratunga *et al.*, 2002:30) and address the research objectives more extensively (Grafton, Lillis & Mahaama, 2011:12).

Based on the purpose of the empirical study (as noted above in section 4.2.1) and the required set of skills and timing required to collect both sets of data, the researcher decided that a questionnaire would be the most appropriate instrument to collect the necessary data. According to Maree and Pietersen (2012b:157), this method is affordable, easy to do and allows a quick and optimal response from the sample in a short time, although the researcher has limited control over the conditions in which the questionnaire is filled in.

Since use was made of a questionnaire, the above had to be kept in mind when designing and disseminating the questionnaire.

4.2.3 Designing the questionnaire

When designing a questionnaire, the researcher has to identify the type of data that will be generated by the questions and the statistical techniques that will be used to analyse them. The researcher also has to encourage the respondent to take the time to complete the questionnaire; therefore, the researcher has to consider the appearance of the questionnaire, whether the instructions are simple, clear and concise, and structured in an orderly and logical manner, how to improve the response rate and, finally, what the timeframe for completing the questionnaire will be (Maree *et al.*, 2012b:158-159).

The purpose and design of the research questionnaire (see Appendix A) for this study will be discussed in the following sections.

i Purpose of the questionnaire

The purpose of the questionnaire was determined by referring to the key objective to be met by the empirical research (see 4.2.1). In order to achieve this objective, the researcher designed a questionnaire based on the themes and findings that emerged from the literature review outlined in chapters one, two and three. The questionnaire was divided into three sections, namely Section A: demographics; Section B: learning outcomes for technical competence; and Section C: recommendations. Section B of the questionnaire was compiled using the learning outcomes for technical competence required of a professional accountant from the final version of IES 2, while Section A and Section C were purposively designed by the researcher to complement Section B.

ii Types of questions

According to Maree *et al.* (2012b:160-164), the types of questions that can be included in a questionnaire are open questions (or unstructured questions), closed questions (or structured questions), closed-open questions and biographical questions.

The type of question is selected according to the type of information that has to be gathered.

Maree *et al.* (2012b:161-164) delineated the different types of questions as follows:

Unstructured questions allow the participant to give an honest and detailed answer, while structured questions are easy and quick to answer and do not reveal the participant's thinking process. Closed questions are more easily analysed than open questions due to the limited amount of detail.

A closed-open question is a closed question that contains *other* as an open option, consequently permitting the participant to provide an opinion that falls outside the closed options.

Biographical questions are asked to obtain important information and determine the sample's profile. Likewise, these types of questions are asked to compare the sample to the population and explore possible relationships between variables.

As mentioned earlier in the chapter, the questionnaire's length should be considered, while keeping in mind that it should still be able to measure the answers to the research questions.

Data are captured on various scales of measurement since they can be gathered from a variety of sources. There are four measurement scales, which are based on the amount or characteristics of the information in the data. These four scales are known as: nominal, ordinal, interval and ratio scales. Maree *et al.* (2012a:148-149) describes these scales as follows:

Nominal scales distinguish values by using names and consist of more than one class or category. Ordinal scales are similar to nominal scales, except that they include numerical data that can be grouped into a class or category. Interval scales are used to measure differences between quantity and magnitude, while ratio scales are used for height, weight, length, time, volume, etc.

Scales are intended to help the researcher to discover the strength of feeling or attitude when the measured variables are expressed as numerical scores that are of either an ordinal, interval or ratio type.

According to Maree *et al.* (2012b:167), the Likert scale and the semantic differential scale are the most commonly used scales. The Likert scale is convenient when a construct needs to be measured, while the semantic differential scale measures the participant's feelings (Maree *et al.*, 2012b:167-168). The Likert scale provides an ordinal measurement for the participant's attitude, while the semantic differential scale uses adjectives to measure how the participant feels about a certain concept (Maree *et al.*, 2012b:167-168).

The researcher decided that the questionnaire would be best designed by making use of demographic questions, closed questions and an open question. The demographic questions were selected to gather information about the sample in order to make comparisons. Closed-ended questions were chosen to enable participants to make quick decisions and that the analysis thereof could be done with little effort. Furthermore, the researcher decided that a Likert scale would be the most appropriate scale to measure the level of the learning outcomes for technical competence from the participants' point of view. Therefore, the unstructured questions represent the participants' opinions with the assistance of a three-point Likert scale (please refer to section 4.2.7 and 4.2.8 for the discussion of a three-point scale instead of a four or five-point scale). One open-ended question was purposefully selected to help the researcher to support the results of the structured questions.

iii Content of the questions

The questionnaire consisted of five demographic questions in Section A, 46 structured questions under 11 constructs in Section B and one unstructured question in Section C.

Section A of the questionnaire comprised biographical questions regarding the participant's (a) gender, (b) highest qualification, (c) years of experience in practice, (d) province in which the participant works and (e) to which sector size the majority of the participant's clients belong. These introductory questions were included to gain knowledge about the participants in order to make comparisons.

Section B of the questionnaire included 11 competence areas (constructs) and comprised the following: (a) *financial accounting and reporting*; (b) *management accounting*; (c) *finance and financial management*; (d) *taxation*; (e) *audit and assurance*; (f) *governance, risk management and internal control*; (g) *business laws and regulations*; (h) *information technology*; (i) *business and organisational environment*; (j) *economics*; and (k) *business strategy and management*. Forty-six closed-ended questions (learning outcomes related to these competence areas) were included in this section of the questionnaire. The participant had to classify the learning outcomes related to each

competence area from the final version of IES 2 (Revised) from his or her practical background using a three-point Likert scale (1= Foundation; 2 = Intermediate; 3= Advanced). The purpose of Section B was to determine the proficiency levels of the learning outcomes from each participant's point of view.

The last section of the questionnaire (Section C) included one unstructured question that required the participant to make recommendations that he or she felt would be of assistance in overcoming the problem of the skills shortages of first-year SAIPA trainees when entering a practice. This question was purposefully designed to support the findings of Section B.

In short, the researcher selected a questionnaire to meet the objectives of the empirical study. In addition, the researcher discussed the layout and content of the questionnaire based on the type of data that had to be collected and the criteria that had to be met to encourage the respondent to take the time and effort to complete the research survey.

The next step in the research process was to define the population and sample (see section 4.2.4 and 4.2.5 respectively).

4.2.4 Defining the population

Small-and medium-sized practices (SMPs) are a very important part of the profession (IFAC, 2016). According to IFAC (2016), the majority of accountancy practices across the globe are SMPs, which employ the majority of professional accountants in practice to provide a range of high-quality professional services to their clients, which comprise small- and medium-sized entities (SMEs). According to Daniels (2015), small, medium and micro enterprises (SMMEs) are the fastest-growing business sector in South Africa, comprising 91% of the formal business entities, and are the engines of growth and innovation. IFAC (2016) reports that more than 95% of enterprises across the world are SMEs and that they account for almost 60% of private sector employment. Furthermore, SMEs play a critically important role in the wellbeing, stability and sustainability of both developing and developed economies (IFAC, 2016). IFAC supports this critical sector and emphasises the importance of their role and value, especially in supporting SMEs (IFAC, 2016).

Professional accountants are regularly the preferred source of advice for SMEs (IFAC, 2016). Banham (2014:211) explored the relationship between accounting professionals and SMEs and found that accounting firms mostly (71%) rely on services generated from SMEs and vice versa. It was also found that, in addition to seeking traditional accounting services, SMEs seek advice in business planning, non-accounting areas, sales and marketing and human resource planning and remuneration

(Banham, 2014:211). In other words, SMEs require a “one-stop shopping” service (Banham, 2014:211). In order to meet SMEs needs, professional accountants have to expand their knowledge in these non-accounting areas through continuing and professional development (Banham, 2014:211).

SAIPA plays a very important role in ensuring that its members (professional accountants) add value to their employers in practice (SAIPA, 2016b). The majority of SAIPA’s members are in public practice, offering accountancy and related services, except for auditing, to the general public and business community, especially in the SMME sector (SAIPA, 2016b). SAIPA ensures that its members are up to date with the latest developments, both national and international, to provide them with local and international recognition (SAIPA, 2016b). To become a SAIPA member one has to comply with the academic, practical and professional evaluations required by the Institute (SAIPA, 2016b). Furthermore, a SAIPA member can register as a practitioner if he or she has at least three years of experience in a tax environment (SAIPA, 2016b).

As mentioned earlier in this section, as well as earlier in this paper (see section 1.1.2), the majority of professional accountants or SAIPA practitioners’ client base comprises a variety of SMEs (IFAC, 2016). Therefore, it can be said that the professional accountant or SAIPA practitioner represents a wide range of clients, including his or her employees.

For the following reasons, the researcher decided that SAIPA practitioners would be the most appropriate candidates to complete the questionnaire. Moreover, the researcher’s decision was based on the requirement that professional accountants or SAIPA practitioners had to have a defined set of high quality, specialised skills and knowledge in order to meet the needs of a wide range of SMEs. Consequently, the researcher reasoned that the feedback from the targeted population could be a useful guideline to make recommendations on how to improve the competency framework for professional accountants, along with the skills development of SAIPA trainees.

4.2.5 Defining the sample

According to Maree *et al.* (2012c:178), the sample size, time and cost should be considered when it comes to sampling. The factors that largely determine the sample size are the type of statistical analyses planned, the accuracy of the results required and the characteristics of the population (Maree *et al.*, 2012c:178). The first issue that had to be addressed was that the sample had to represent the population. The size of the sample needed to represent the population depends on the degree of the population’s homogeneity (Maree *et al.*, 2012c:178). Smaller samples might adequately represent a homogenous population in which the members are similar with respect to the variables identified for

the study (Maree *et al.*, 2012c:178). By contrast, a bigger sample is required in the case of a heterogeneous population so as to represent the diversity of this population (Maree *et al.*, 2012c:179). When it comes to the statistical analysis of data, the sample size is determined by the complexity of the techniques and number of variables that the researcher plans to use (Maree *et al.*, 2012c:179). Thus, the size of the population can be determined after the researcher has determined the nature of the targeted population, and identified the type of techniques and number of variables required, and is assured that the results can be accurately measured. Maree *et al.* (2012c:179) advises the researcher to make use of a survey statistician when deciding on a usable sample size.

The two major classes to which sampling methods belong are probability methods and non-probability methods. According to Maree *et al.* (2012c:172, 176-178), these two methods differ as follows:

Probability methods are based on probability theory and the principles of randomness, while non-probability methods are not. Consequently, probability samples can accurately be generalised to the population, while this is not the case with non-probability sampling. Each element in the population with probability sampling has a known non-zero probability of being selected because the selection is completely random and an objective mechanism is used in the selection process. Even though it is very dangerous to draw important conclusions about the population with non-probability methods due to the fact that random sampling is not possible, there are a few situations in which the researcher may consider using this method. The researcher may select a non-probability method when there is not much time or funds available to gather the required information, when the measuring instrument needs to be tested or preliminary studies have to be done in its development stage and when it is difficult to discover the population. Common probability methods are simple random sampling, systematic sampling, stratified sampling and cluster sampling, whereas non-probability methods include convenience sampling, quota sampling, snowball sampling and purposive sampling.

For the purpose of this study, the participants were selected by means of non-probability methods due to limited time and funds. Both convenience and purposive sampling were employed as sampling methods in this study. According to Babbie and Mouton (2012:166), the researcher relies on the availability of the participants with convenience sampling, while the sample is chosen based on the researcher's judgement with purposive sampling. According to Maree *et al.* (2012c:177-178), convenience sampling is useful in exploratory research in which the researcher has to collect the results in a quick and affordable manner, whereas purposive sampling is done with a specific purpose in mind. The convenience sampling of the participants was based on the researcher's expectation of

the SAIPA practitioners' availability at a regional forum, at which the questionnaire was distributed and, although the researcher expected 100% coverage, the size of the sample was limited to the total number of attendees (46). Furthermore, the purposive sampling of the participants was grounded in the SAIPA practitioners' characteristics, experience and, most importantly, to gain an in-depth understanding of their perceptions regarding the proficiency levels of the learning outcomes for technical competence required of professional accountants.

i Sample size

The final questionnaire was distributed to 46 SAIPA practitioners at a regional SAIPA forum. The size of the sample was limited to the total number of attendees, as mentioned earlier in this section. Although this sample size was rather small, it size was adequate to the key purpose of the questionnaire, which was to enhance the qualitative study (literature review) by means of gathering an in-depth understanding of the participants' point of view from a different perspective. Descriptive and inferential statistics were performed to determine whether the results of the questionnaire were reliable and not to consider levels of precision. Therefore, it can be said that although a mixed-methods approach was used, the emphasis was on the qualitative nature of this study. Consequently, it can be argued that the small size of the sample used in this study is acceptable owing to the homogeneous nature of the sample, for which predetermined criteria had been set, because the level of precision is not a critical factor and due to the opportunity to obtain in-depth knowledge of the central phenomenon explored in this paper. Furthermore, the wide range of clients and employees that the SAIPA practitioner represents (see section 4.2.4) was also kept in mind when determining an acceptable sample size for this study. Finally, the size of the sample can also be said to be fair based on the consistency of the study's results, which will be discussed below.

4.2.6 Reliability and validity

According to Richardson (2004:349), research instruments have a significant influence on the reliability and validity of the research study. Therefore, it was essential to test the reliability and validity of the questionnaire in order for this measuring instrument to be standardised. A questionnaire is standardised whenever participants are asked the same questions in the same format. The use of a standardised questionnaire automatically increases the reliability of the data (Boynton & Greenhalgh, 2004:1313). The reliability and validity of the questionnaire are discussed in the following sections.

i Reliability

According to Maree *et al.* (2012f:215), a measuring instrument that is administered to various subjects from the same population has to be reliable to generate similar and consistent findings when employing the instrument repeatedly for the same groups or individuals.

There are a number of different types of reliability. McLeod (2007) identified two types of reliability i.e. internal and external reliability. Internal reliability refers to how reliable the results are from items within a test, while external reliability refers to the extent of consistency between different measuring instruments (McLeod, 2007). According to Maree *et al.* (2012f:215), there are four methods to determine reliability: test-retest reliability, equivalent form reliability, split-half reliability and internal reliability.

Since a number of items were formulated to measure a certain construct for this study, the internal consistency method was chosen. The coefficient that was used to measure the internal reliability of the questionnaire was the Cronbach's alpha coefficient.

According to Maree *et al.* (2012f:216), this coefficient measures the degree of similarity among items and is based on inter-item correlations. Furthermore, it is a measure of the extent to which all the variables are positively related to each other (Gatton College of Business & Economics, 2016). The alpha coefficient is most commonly used to determine whether surveys with numerous Likert scale questions are reliable (Statistics How To, 2016). It is calculated by comparing the total scores between scale items and observations, and then relating that to the variance for all individual item scores (University of Virginia library, 2016).

A Cronbach's alpha coefficient was calculated for each of the 11 competence areas by the Statistical Consultation Service of the North-West University, Potchefstroom Campus, using the Statistical Package for the Social Sciences computer software (SPSS Inc., 2009). The results are provided in Table 4.2 below.

Table 4.2: Cronbach's alpha coefficient of the competence areas (ranked in order of value size)

Competence areas		Cronbach's alpha coefficient
1	Business laws and regulations	.979
2	Business strategy and management	.945
3	Information technology	.930
4	Governance, risk management and internal control	.926
5	Audit and assurance	.922
6	Economics	.922
7	Business and organisational environment	.905
8	Finance and financial management	.902
9	Taxation	.901
10	Management accounting	.887
11	Financial accounting and reporting	.879

If items are strongly correlated with each other, their internal consistency is high and Cronbach's alpha will be close to one (Maree *et al.*, 2012f:216). If, on the other hand, items do not correlate strongly due to poor formulation, the alpha coefficient will be close to zero (Maree *et al.*, 2012f:216). Researchers accept 0.90 as a high reliability, 0.80 as a moderate reliability and 0.70 as a low reliability (Maree *et al.*, 2012f:216). Hence reliability estimates of 0.80 are regarded to be acceptable, while values lower than 0.60 are regarded as unacceptable (Maree *et al.*, 2012f:216).

The results, as indicated in Table 4.2, suggested that the reliability of the questionnaire was high and acceptable, since the Cronbach's alpha coefficient was not lower than 0.90 (when rounded) for any of the constructs tested.

ii Validity

While reliability is necessary, it alone is not sufficient. For a test to be reliable, it also needs to be valid. According to Boynton and Greenhalgh (2004:1313) and Maree *et al.* (2012f:216), the validity of an instrument refers to how well a test measures what it is purported to measure.

There are four types of validity, namely: face validity, content validity, construct validity and criterion validity (Maree *et al.*; 2012f:217). To ensure the validity of the questionnaire, several steps were taken.

Criterion-related validity:

This type of validity is based on external factors (Babbie & Mouton; 2012:122). In order to achieve criterion-related validity, the questionnaire was reviewed by a specialist in the accounting education field.

The criterion-related validity of the questionnaire is also increased when the researcher makes use of similar questionnaires to those that have been used in previous research, because such questionnaires have already been validated (Rowley; 2014:312). Section B of the questionnaire was based on the learning outcomes required of aspiring professional accountants in order to achieve technical competence. These learning outcomes were prescribed by IFAC member bodies in IES 2 (refer to 3.2). As noted above, in July 2012, the IAESB released an exposure draft of the IES 2 in order to gather comments and feedback from global bodies, which submitted their comments before a final issue was published (refer to 3.2.4). The final issue was ready for implementation from July 1, 2015 (refer to 3.2.3). Therefore, it can be said that the learning outcomes for technical competence have already been tested and validated.

Content validity:

With content validity the objective is to ensure the content validity of the instrument (Babbie & Mouton, 2012:123; Maree *et al.*, 2012f:217). Content validity can be ensured when a questionnaire is piloted or pre-tested (Boynton, 2004:328, Maree *et al.*, 2012f:217). A questionnaire could easily fail because it is impossible to determine how the pre-selected participants will respond to the questionnaire and therefore their possible reactions need to be tested (Boynton, 2004:328). A pilot enables a researcher to revise unclear, complex questions and eliminate problems (Rowley, 2014:316).

In order to ensure the content validity of the survey instrument for this study, the questionnaire was pre-tested at small- and medium-sized accounting firms in 2013. The process and results of the pilot questionnaire are discussed in the following section.

4.2.7 Pilot study

A pilot test was conducted to assess comprehension, identify weaknesses and evaluate the validity of the questionnaire. The questionnaire was scrutinised by a specialist in the accounting education field and was pre-tested at small- and medium-sized accounting firms. The pilot questionnaire was based on the technical competence learning outcomes in the proposed (Revised) IES 2 (please refer to

Appendix B). The pilot questionnaire was sent to 23 small-and medium-sized entities. These entities were identified by their representative/(s), who attended the North West University career expo during 2013. The participant had to classify the learning outcomes related to each competence area from his or her practical background using a four-point Likert scale (1= Foundation, 2= Intermediate, 3= Advanced and 4= Mastery). Fifteen accounting firms provided feedback. This resulted in a 65% response rate.

The data collected from the 15 piloted surveys were submitted in an Excel spreadsheet to the Statistical Consultancy Service of the North West University, Potchefstroom campus. The data was analysed by the Statistical Consultation Service using the SPSS (SPSS Inc., 2009) computer software. The background (section 1.1.1), rationale for the study (section 1.1.2), problem statement (section 1.2) and the results of the pilot study were presented in a paper at the sixth edition of the 2013 conference in Romania on small- and medium-sized enterprises in a globalised world. The paper was titled *Towards a Competency Framework for SMEs – A South African case study* and was published in 2014 (Schutte & Lovecchio, 2014:5-20).

The results obtained from the pilot survey can be summarised as follows, please refer to Appendix C for more detail (Schutte & Lovecchio, 2014:5-20):

The average rating of the 11 competence areas is graphically presented in the clustered column chart (Figure 4.1) below.

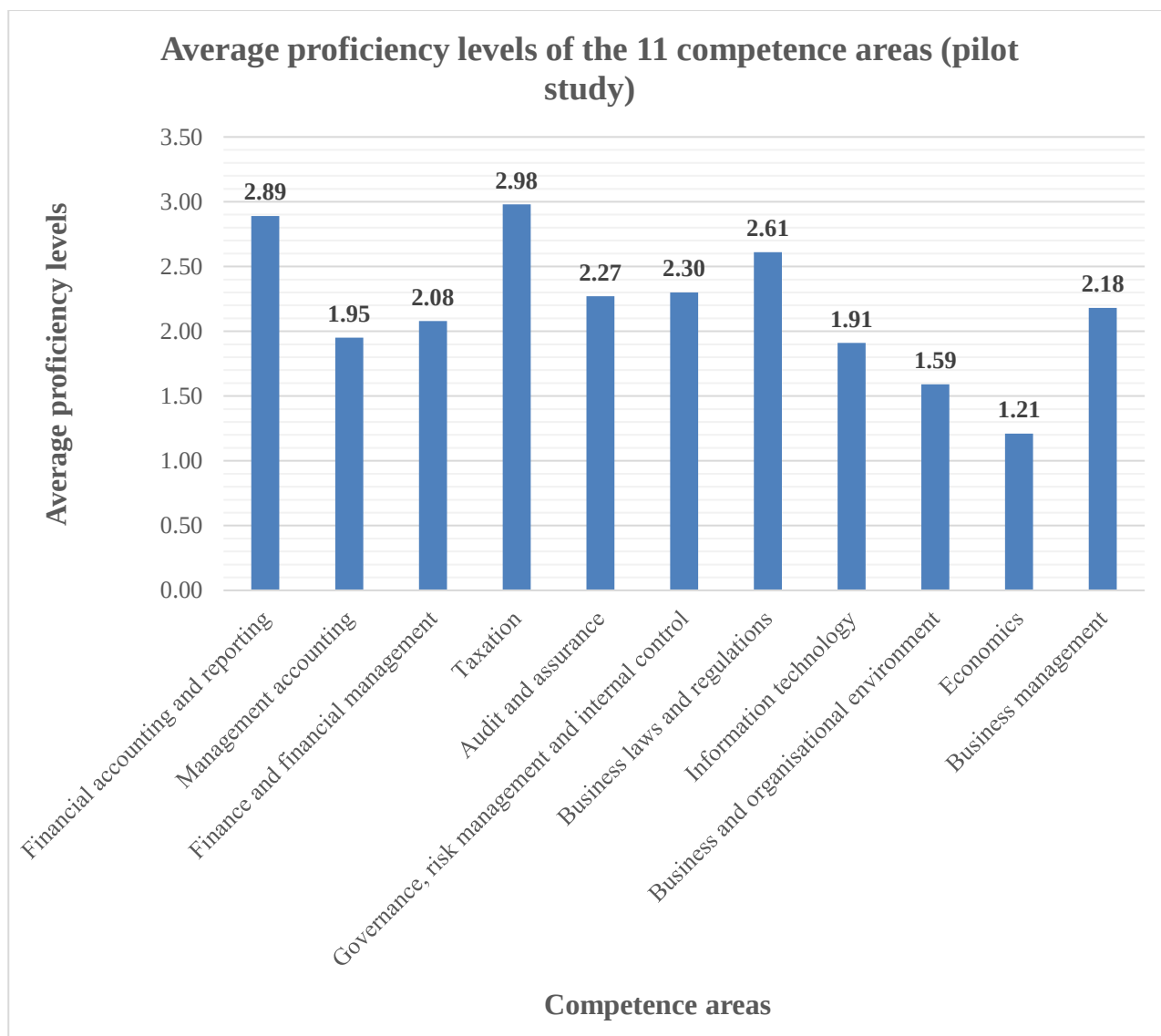


Figure 4.1: Average proficiency levels of the 11 competence areas (pilot study)

The accounting firms rated *taxation* ($\bar{x}$ = 2.98) and *financial accounting and reporting* ($\bar{x}$ = 2.98) as the most important competence areas. *Business laws and regulations* ($\bar{x}$ = 2.61) were considered the third most important competence area. *Governance, risk management and internal control* ($\bar{x}$ = 2.30) and *audit and assurance* ($\bar{x}$ = 2.27) were also considered important. In contrast, *business and organisational environment* ($\bar{x}$ = 1.59) were not highly rated by the accounting firms. In addition, the results revealed that *information technology* ($\bar{x}$ = 1.91), *management accounting* ($\bar{x}$ = 1.95), and *finance and financial management* ($\bar{x}$ = 2.08) were not considered that important by the accounting firms included in the pilot survey.

From the aforementioned, the 11 competence areas could be ranked as follows (Table 4.3).

Table 4.3: Proficiency levels per competence area (pilot study)

Competence areas		Rating	Proficiency levels
1	Taxation	2.98	Advanced
2	Financial accounting and reporting	2.89	Advanced
3	Business laws and regulations	2.61	Intermediate to Advanced
4	Governance, risk management and internal control	2.30	Intermediate to Advanced
5	Audit and assurance	2.27	Intermediate to Advanced
6	Business management	2.18	Intermediate
7	Finance and financial management	2.08	Intermediate
8	Management accounting	1.95	Intermediate
9	Information technology	1.91	Intermediate
10	Business and organisational environment	1.59	Foundation to Intermediate
11	Economics	1.21	Foundation

The evidence suggests that accounting students can expect to provide a combination of accounting and tax consultation services to small and medium businesses in the South African environment since *taxation* and *financial accounting and reporting* obtained an advanced level of proficiency. *Business laws and regulations*; *governance, risk management and internal control*, as well as *audit and assurance* were considered to be intermediate to advanced areas. The study revealed that only moderate levels of complexity were required for *business management*, *finance and financial management*, *management accounting* and *information technology*. The lower than expected rating for the aforementioned disciplines could indicate that financial statements prepared in the small and medium business sector are confirmative in nature and that accountants are not involved in the day-to-day management of clients, especially in view of the relatively low rating for *business and organisational environment* and *economics*.

In short, the pilot study identified the most important competence areas for accountants in the South African small and medium business sector. In addition, the validity of the questionnaire was established and useful feedback was obtained to enable the researcher to refine the questionnaire.

4.2.8 Conducting the empirical study

After the pilot study was conducted and its results were presented at a conference in Romania during 2013, the researcher consulted a statistician in order to gain useful guidelines to refine the questionnaire before the final test. The researcher adapted the questionnaire based on the weaknesses

identified during the pilot study and the statistician's comments. The following amendments were made:

The learning outcomes and Likert scale of the piloted questionnaire were adjusted according to the learning outcomes and proficiency levels of the final version of IES 2 (Revised). A four-point Likert scale was no longer applicable since the mastery level had been removed during the process of finalising the proposed IES 2 (Revised). As noted in subsection *b* of section 3.2.4, the mastery proficiency level was removed due to global bodies' findings that no competence area required a mastery level and that it was difficult to distinguish between the advanced (level 3) and mastery level (level 4). In addition, the demographic questions and an open question were added. Please refer to the discussion of Section A and Section C in subsection *iii* of section 4.2.3.

The final questionnaire was distributed to 46 SAIPA practitioners at a regional SAIPA forum in July 2016 as noted in 4.2.5 above. The questionnaire was circulated, completed and collected under supervision.

The population members were assured that all their responses would be treated confidentially and anonymously by means of an indication on the questionnaire that the demographic information was required for statistical purposes only. Likewise, it would not be possible to disclose the identity of the participants because the respondents were not required to fill in any personal information (name, identification number, etc.).

A total number of 46 questionnaires were completed and handed in as noted in 4.2.5 above. Although all 46 questionnaires that had been handed out were returned, one had not been fully completed and therefore could not be used for analysis and had to be discarded. This resulted in a 98% response rate. The data collected from the remaining 45 completed questionnaires were submitted on an Excel spreadsheet to the Statistical Consultancy Service of the North West University, Potchefstroom campus, for processing, validation and analysis.

4.2.9 Ethical considerations

All the SAIPA practitioners present at the regional SAIPA forum had the opportunity to complete the questionnaire. The completion of the questionnaire was each practitioner's own decision and no one was forced to fill it in; therefore, the completion of the questionnaire was on a voluntary basis. The respondents also did not receive any compensation. As mentioned in section 4.2.8 above, the questionnaire did not contain any personal information; thus no practitioner could be linked to a particular questionnaire. This ensured the confidentiality of each participant. The questionnaire also

did not require any sensitive information to be disclosed by the participants. Due to the aforementioned, no further clearance needed to be obtained from the university.

To summarise, the first part of the chapter (section 4.2) served to address and explain the different aspects of the research method and design implemented in this study. In the next part of the chapter the results and analysis of the empirical research are provided.

4.3 RESEARCH RESULTS AND STATISTICAL ANALYSIS

4.3.1 Demographic information of participants

Section A of the questionnaire consisted of demographic information. The respondents were asked to provide information regarding their gender, highest qualification, years of experience in practice, the names of the provinces in which they worked and the size of the sector in which the majority of their clients operated.

Tables 4.4 to 4.8 show the participants' demographic background. It was important to take this into consideration when analysing the data. It will also be important if this research is compared to other research findings.

i Gender of respondents

The male-female ratio of the respondents who participated in the survey is summarised in Table 4.4 below.

Table 4.4: Gender of respondents

Gender	Frequency	Percentage
Male	19	42.2%
Female	26	57.8%
Total	45	100%

Of the 45 participants, 26 (57.8%) were female and 19 (42.2%) were male.

ii Highest academic qualification achieved

The purpose of this question was to determine the respondents' highest academic qualifications in order to establish their levels of qualification and knowledge.

Table 4.5 presents the highest academic qualification achieved by the participants.

Table 4.5: Highest academic qualification achieved

Highest qualification	Frequency	Percentage
Diploma	2	4.4%
B. Com degree (or equivalent)	13	28.9%
Honours degree	13	28.9%
Master's degree	6	13.3%
Other	11	24.4%
Total	45	100%

There was an equal number of participants whose highest academic qualifications were either B. Com degrees (or equivalent qualifications) or Honours degrees. These two groups accounted for a sample of 57.8%. Both groups had a 28.9% response rate. Six (13.3%) participants had obtained a Master's degree, while only two (4.4%) were not in possession of an academic qualification higher than a diploma. 24.4% of the participants' highest academic qualification were unknown.

iii Years of experience in practice

In addition to the participants' highest academic qualifications, they were asked to specify the number of years they had experienced in practice. Table 4.6 represents their number of years of experience in practice.

Table 4.6: Years of experience in practice

Years of experience	Frequency	Percentage
1 - 5 years	8	17.8%
6 - 10 years	12	26.7%
10 years and more	25	55.6%
Total	45	100%

The majority of the respondents had 10 years' or more experience in practice (55.6%). 26.7% of them had six to 10 years' experience in practice, while only eight (17.8%) participants had less than five years' experience in practice. Regardless of the respondents' qualifications or any other factors, they had to be able to provide good feedback based on their many years' experience in practice, bearing in mind the theorists' argument that knowledge is gained by combining theory and practice (see section 1.1.2).

iv Provinces in which the respondents worked

The geographical locations of the participants' workplaces are summarised in Table 4.7.

Table 4.7: Provinces in which the respondents worked

Province	Frequency	Percentage
Free State	9	20.0%
Gauteng	6	13.3%
North West	30	66.7%
Total	45	100%

Participants from the North West Province formed the largest category (66.7%), while only nine (20%) of them were from the Free State and six (13.3%) from Gauteng. It is understandable that the majority of them were from the North West Province because the SAIPA forum at which the questionnaire was distributed was a regional North West forum and distance could have been a problem. The results do, however, show that there were participants from nearby provinces.

v Sector size of the majority of the respondents' clients

For the purpose of this study, the participants were asked to classify the majority of their clients into small-, medium- or large-sized sectors. Table 4.8 shows their classification.

Table 4.8: Sector size of the majority of the participants' clients

Size of sector	Frequency	Percentage
Small	27	60.0%
Medium	15	33.3%
Large	3	6.7%
Total	45	100%

The majority of the participants' clients fell into either small-sized sectors (60%) or medium-sized sectors (33.3%). The participants with clients that fell into these two sector sizes accounted for 93.3% of the total responses. Only three (6.7%) participants' clients were from large-sized sectors. These results support IFAC's (2016) report, which stated that the accountancy institute was represented mainly by Professional Accountants (SA) practising in the small- and medium-enterprise business sector in South Africa.

4.3.2 Descriptive statistics of the learning outcomes for technical competence

Descriptive statistics are used to organise, summarise, describe and compare quantitative data in meaningful ways (Salkind, 2008:8; Saunders, Lewis & Thornhill, 2007:433). According to Jansen (2012:19-20), descriptive statistics summarise data in three ways. The distribution and measures of values are set out in table 4.9.

Table 4.9: Distribution and measures of values

Distribution of values	Measures
Location or centrality	Means, mode or median
Dispersion	Range, variance and standard deviation
Measures of shape	Skewness and kurtosis

Source: Jansen (2012: 19-20)

In this study, descriptive statistics such as measures of central tendency (means) and dispersion were used to describe, summarise and compare data obtained from the questionnaire.

To facilitate the statistical analysis, a Likert scale was used to determine the proficiency levels of the learning outcomes related to the 11 competence areas from the participants' point of view. The respondents had the option to rate each statement at a foundational (number 1), intermediate (number 2) or advanced (number 3) level of proficiency.

For any sample, the arithmetic mean (or simply the mean), denoted $\bar{X}$, is the most useful and widely used method to measure the central tendency of some data (Maree *et al.*, 2012d:187). It is the average of the set of data. The mean is calculated by dividing the sum of the set of values through the number of elements in the set (Sarkissian, 2016).

It should be noted that a mean of 2 represents the middle of the three-point scale that was used, i.e. it is the middle of 1 (foundation) and 3 (advanced).

The standard deviation (s) of a sample is a measure of how dispersed the numbers are around the mean (Maree *et al.*, 2012d:188). The majority of the values lie within an interval of plus-minus one standard deviation above or below the mean in a normal distribution. The more spread out the data are around the mean the larger the standard deviation. The standard deviation is the square root of the variance, which is calculated as the average of the squared deviations of all the values from their mean (Maree *et al.*, 2012d:188).

The mean and standard deviation calculated for each learning outcome and competence area will be discussed under two headings, namely (i) learning outcomes for technical competence and (ii) competence areas.

i Learning outcomes for technical competence

Table 4.10 to Table 4.20 present descriptive statistics for the learning outcomes included in Section B of the questionnaire, which dealt with the participants' point of view regarding the importance of the learning outcomes required of professional accountants to be technically competent. The following data are included: the population (N), mean ($\bar{X}$) and standard deviation (s).

Table 4.10: Descriptive statistics of the learning outcomes for financial accounting and reporting (ranked in order of the mean's value size)

(a) Financial accounting and reporting	N	$\bar{X}$	s
(i) Apply accounting principles to transactions and other events.	45	2.36	.570
(v) Interpret financial statements and related disclosures.	45	2.16	.638
(ii) Apply International Financial Reporting Standards (IFRSs) or other relevant standards to transactions and other events.	45	2.09	.557
(iii) Evaluate the appropriateness of accounting policies used to prepare financial statements.	45	2.04	.562
(iv) Prepare financial statements, including consolidated financial statements, in accordance with IFRSs or other relevant standards.	45	2.02	.583
(vi) Interpret reports that include non-financial data, for example, sustainability reports and integrated reports.	45	1.87	.661

Source: IFAC (2014a:5)

Means were found to vary between a high of 2.36 (i) and a low of 1.87 (vi). The participants felt that it was crucial for professional accountants to be able to apply accounting principles to transactions and other events ($\bar{X}$ = 2.36), while it was not seen as that important to be able to interpret reports and non-financial data ($\bar{X}$ = 1.87).

Table 4.11: Descriptive statistics of the learning outcomes for management accounting (ranked in order of the mean's value size)

(b) Management accounting	N	$\bar{x}$	s
(iii) Analyse financial and non-financial data to provide relevant information for management decision making.	45	2.11	.682
(iv) Prepare reports to support management decision making, including reports that focus on planning and budgeting, cost management, quality control, performance measurement, and benchmarking.	45	2.00	.674
(i) Apply techniques to support management decision making, including product costing, variance analysis, inventory management, and budgeting and forecasting.	45	1.96	.638
(v) Evaluate the performance of products and business segments.	45	1.93	.618
(ii) Apply appropriate quantitative techniques to analyse cost behaviour and the drivers of costs.	45	1.87	.588

Source: IFAC (2014a:5)

The participants were of opinion that it was essential for professional accountants to be able to analyse financial and non-financial data ($\bar{x}$ = 2.11), while they regarded the application of appropriate quantitative techniques ($\bar{x}$ = 1.87) to be of little importance.

Table 4.12: Descriptive statistics of the learning outcomes for finance and financial management (ranked in order of the mean's value size)

(c) Finance and financial management	N	$\bar{x}$	s
(ii) Analyse an organisation's cash flow and working capital requirements.	45	2.22	.704
(i) Compare the various sources of financing available to an organisation, including bank financing, financial instruments, and bond, equity and treasury markets.	45	2.09	.668
(iv) Evaluate the appropriateness of the components used to calculate an organisation's cost of capital.	45	1.98	.621
(iii) Analyse the current and future financial position of an organisation, using techniques including ratio analysis, trend analysis, and cash flow analysis.	45	1.98	.657
(vi) Explain income, asset-based, and market valuation approaches used for investment decisions, business planning, and long-term financial management.	45	1.93	.688
(v) Apply capital budgeting techniques in the evaluation of capital investment decisions.	45	1.87	.694

Source: IFAC (2014a:5-6)

With a mean of 1.87, the participants felt that it was not of great importance for professional accountants to be able to apply capital budgeting techniques in the evaluation of capital investment decisions, although they should be able to analyse an organisation's cash flow and working capital requirements ($\bar{x}$ = 2.22).

Table 4.13: Descriptive statistics of the learning outcomes for taxation (ranked in order of the mean's value size)

(d) Taxation	N	$\bar{x}$	s
(i) Explain national taxation compliance and filing requirements.	45	2.47	.625
(ii) Prepare direct and indirect tax calculations for individuals and organisations.	45	2.44	.586
(iv) Explain the differences between tax planning, tax avoidance, and tax evasion.	45	2.42	.657
(iii) Analyse the taxation issues associated with non-complex international transactions.	45	2.09	.668

Source: IFAC (2014a:6)

As a result of the accountancy institute being represented mainly by professional accountants practising in small- and medium-sized sectors (IFAC, 2016) it was no surprise that the SAIPA practitioners regarded national taxation compliance and requirements ($\bar{x}$ = 2.47) as being more important than the analysis of taxation issues associated with non-complex international transactions ($\bar{x}$ = 2.09).

Table 4.14: Descriptive statistics of the learning outcomes for audit and assurance (ranked in order of the mean's value size)

(e) Audit and assurance	N	$\bar{x}$	s
(iii) Assess the risks of material misstatement in the financial statements and consider the impact on the audit strategy.	45	1.71	.695
i) Describe the objectives and stages involved in performing an audit of financial statements.	45	1.71	.727
(ii) Apply relevant auditing standards (for example, International Standards on Auditing), and applicable laws and regulations to an audit of financial statements.	45	1.67	.603
(v) Explain the key elements of assurance engagements and applicable standards that are relevant to such engagements.	45	1.60	.618
(iv) Apply quantitative methods that are used in audit engagements.	45	1.56	.586

Source: IFAC (2014a:6-7)

The participants considered the assessment of material misstatement risks in the financial statements and the impact of these risks on the audit strategy ($\bar{X}$ = 1.71) to be more important than the application of quantitative methods that are used in audit engagements ($\bar{X}$ = 1.56).

Table 4.15: Descriptive statistics of the learning outcomes for governance, risk management and internal control (ranked in order of the mean's value size)

(f) Governance, risk management and internal control	N	$\bar{X}$	s
(iv) Analyse the components of internal control related to financial reporting.	45	1.98	.690
(i) Explain the principles of good governance, including the rights and responsibilities of owners, investors, and those charged with governance; and explain the role of stakeholders in governance, disclosure, and transparency requirements.	45	1.87	.625
(iii) Analyse an organisation's risks and opportunities using a risk management framework.	45	1.84	.706
(ii) Analyse the components of an organisation's governance framework.	45	1.84	.638

Source: IFAC (2014a:7)

The highest mean ($\bar{X}$ = 1.98) indicated that participants felt it was crucial for professional accountants to be able to analyse the components of internal control related to financial reporting. The lowest mean ($\bar{X}$ = 1.84) revealed that the participants were of opinion that it was not that important for professional accountants to be able to analyse components of an organisation's governance framework.

Table 4.16: Descriptive statistics of the learning outcomes for business laws and regulations (ranked in order of the mean's value size)

(g) Business laws and regulations	N	$\bar{X}$	s
(ii) Explain the laws and regulations applicable to the environment in which professional accountants operate.	45	2.24	.743
(i) Explain the laws and regulations that govern the different forms of legal entities.	45	2.20	.726

Source: IFAC (2014a:7)

According to the mean's value sizes, it is essential for professional accountants to be able to explain laws and regulations applicable to the environment in which they operate ($\bar{X}$ = 2.24), while it is not that important to describe the laws and regulations that govern the different forms of legal entities ($\bar{X}$ = 2.20).

Table 4.17: Descriptive statistics of the learning outcomes for information technology (ranked in order of the mean's value size)

(h) Information technology	N	$\bar{X}$	s
(iii) Use information technology to support decision making through business analytics.	45	2.00	.674
(i) Analyse the adequacy of general information technology controls and relevant application controls.	45	1.93	.654
(ii) Explain how information technology contributes to data analysis and decision making.	45	1.91	.668

Source: IFAC (2014a:7-8)

With a mean of 2.00, it was regarded crucial for professional accountants to be able to use information technology to make decisions through business analytics, while it was not seen as that important to be able to explain how information technology contributes to data analysis and decision making ($\bar{X}$ = 1.91).

Table 4.18: Descriptive statistics of the learning outcomes for business and organisational environment (ranked in order of the mean's value size)

(i) Business and organisational environment	N	$\bar{X}$	s
(i) Describe the environment in which an organisation operates, including the main economic, legal, political, social, technical, international, and cultural forces.	45	1.89	.745
(ii) Analyse aspects of the global environment that affect international trade and finance.	45	1.62	.650
(iii) Identify the features of globalisation, including the role of multinationals, e-commerce, and emerging markets.	45	1.53	.625

Source: IFAC (2014a:8)

Question one yielded the highest mean value ($\bar{X}$ = 1.89), while question three yielded the lowest mean value ($\bar{X}$ = 1.53). These results indicate that it is more essential for South African professional accountants to have the ability to describe the environment, and the aspects thereof, in which the organisation operates than to be able to identify the features of globalisation and international markets.

Table 4.19: Descriptive statistics of the learning outcomes for economics (ranked in order of the mean's value size)

(j) Economics	N	$\bar{X}$	s
(i) Describe the fundamental principles of micro-economics and macro-economics.	45	1.73	.751
(ii) Describe the effect of changes in macro-economic indicators on business activity.	45	1.73	.720
(iii) Explain the different types of market structures, including perfect competition, monopolistic competition, monopoly and oligopoly.	45	1.58	.690

Source: IFAC (2014a:8)

Table 4.19 indicates that it is more important for professional accountants to be able to describe the fundamental principles of micro- and macro-economics ($\bar{X}$ = 1.73) in comparison with the ability to explain different types of market structures ($\bar{X}$ = 1.58).

Table 4.20: Descriptive statistics of the learning outcomes for business strategy and management (ranked in order of the mean's value size)

(k) Business strategy and management	N	$\bar{X}$	s
(i) Explain the various ways that organisations can be designed and structured.	45	1.98	.690
(iii) Analyse the external and internal factors that could influence the strategy of an organisation.	45	1.84	.673
(ii) Explain the purpose and importance of different types of functional and operational areas within organisations.	45	1.82	.684
(iv) Explain the processes that may be used to implement the strategy of an organisation.	45	1.71	.549
(v) Explain how theories of organisational behaviour might be used to enhance the performance of the individual, teams and the organisation.	45	1.69	.557

Source: IFAC (2014a:8)

The highest mean value of 1.98 indicated that it was important for professional accountants to have the skills to explain the various ways that organisations might be designed and structured, while the answers to question five, which yielded the lowest mean value ($\bar{X}$ = 1.69), indicated that it was not that essential to be able to explain how theories of organisational behaviour might be used to enhance the performance of the individual, teams, and the organisation.

The mean and standard deviation calculated for each competence area will be discussed in the following section.

ii Competence areas

Since the reliability of the learning outcomes related to the 11 competence areas in Section B of the questionnaire had been established in subsection *i* of section 4.2.6, the 11 competence areas were used for further analysis.

The descriptive information provided in Table 4.21 below shows the means and standard deviations of the 11 competence areas. The following data are included: the population (N), mean ($\bar{X}$) and standard deviation (*s*).

Table 4.21: Descriptive statistics of the 11 competence areas (ranked in order of the mean's value size)

Competence areas		N	$\bar{X}$	<i>s</i>
1	Taxation	45	2.36	.56
2	Business laws and regulations	45	2.22	.73
3	Financial accounting and reporting	45	2.09	.47
4	Finance and financial management	45	2.01	.55
5	Management accounting	45	1.97	.53
6	Information technology	45	1.95	.62
7	Governance, risk management and internal control	45	1.88	.60
8	Business strategy and management	45	1.81	.57
9	Business and organisational environment	45	1.68	.62
10	Economics	45	1.68	.67
11	Audit and assurance	45	1.65	.57

The average mean of all the competence areas evaluated by the participants was $\bar{X}$ = 1.94. The score of 1.94 out of three on the Likert scale indicates that the average participant regarded the competence areas to be on an intermediate level. Likewise, the competence areas' mean varied between a high of $\bar{X}$ = 2.36 (*taxation*) and a low of $\bar{X}$ = 1.65 (*audit and assurance*).

The results of the survey, illustrating the mean values of the 11 competence areas, are presented graphically in the clustered column chart (Figure 4.2) below.

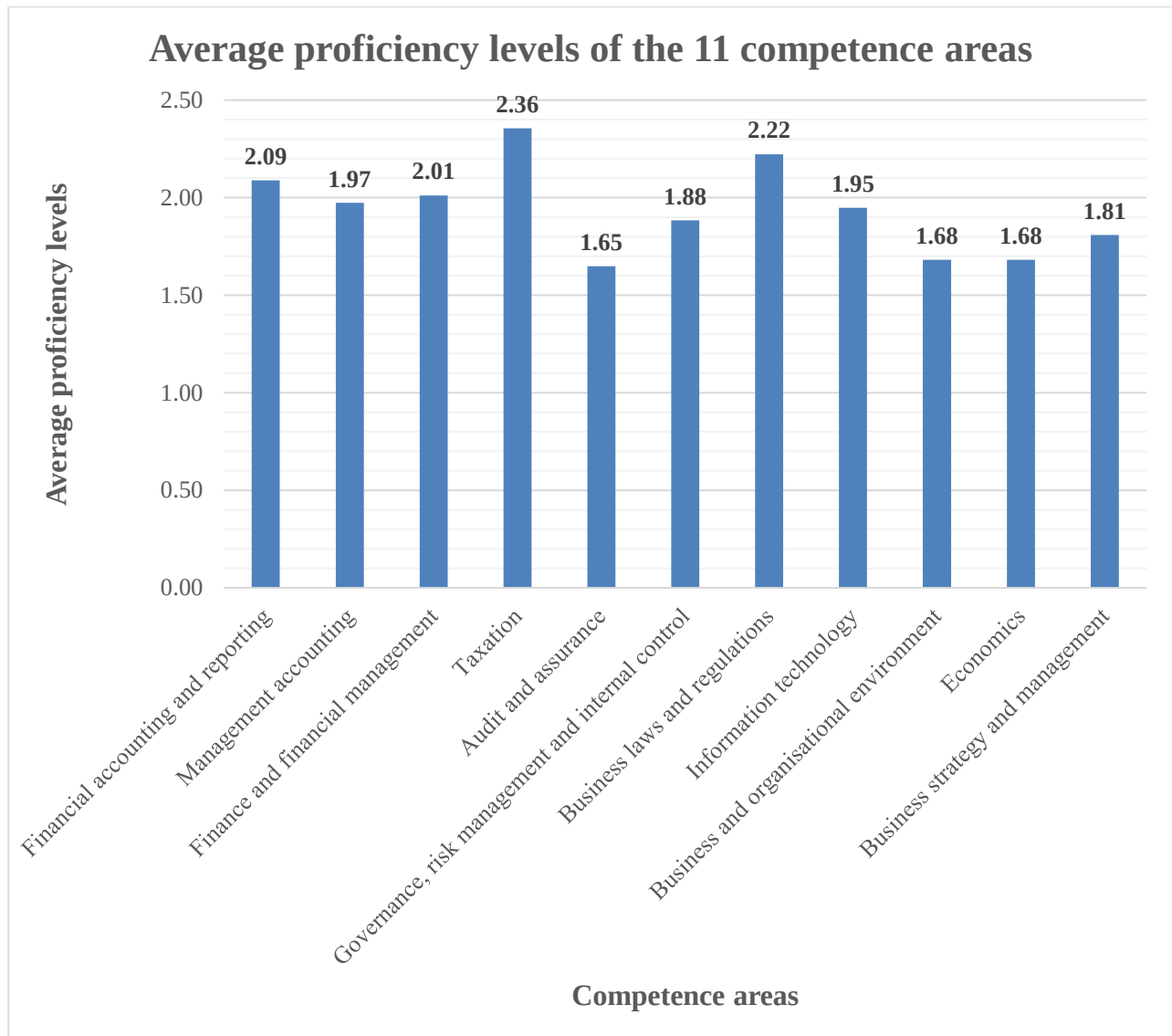


Figure 4.2: Average proficiency levels of the 11 competence areas

Six of the 11 competence areas evaluated, namely *taxation* ($\bar{x}$ = 2.36), *business laws and regulations* ($\bar{x}$ = 2.22), *financial accounting and reporting* ($\bar{x}$ = 2.09), *finance and financial management* ($\bar{x}$ = 2.01), *management accounting* ($\bar{x}$ = 1.97) and *information technology* ($\bar{x}$ = 1.95) each had a mean above the average mean ($\bar{x}$ = 1.94).

The other five competence areas that were evaluated had a mean ranked lower than the average mean ($\bar{x}$ = 1.94). These competence areas included *governance, risk management and internal control* ($\bar{x}$ =

1.88), *business strategy and management* ($\bar{X}$ = 1.81), *business and organisational environment* ($\bar{X}$ = 1.68), *economics* ($\bar{X}$ = 1.68) and *audit and assurance* ($\bar{X}$ = 1.65).

From table 4.21 and figure 4.2 it is clear that, in general, the respondents were of the opinion that an aspiring professional accountant's knowledge of the 11 competence areas should be on an intermediate level in order to perform the role of a professional accountant.

4.3.3 Statistical and practical significance of the demographic variables and proficiency levels of the competence areas

When conducting research, it is almost never practical to deal with an entire population. Therefore, a random sample is drawn from the population to study its characteristics with the available time and money (Ellis & Steyn, 2003). As a criterion, the researcher calculates the *p*-value to determine whether the results obtained from the measuring instrument are statistically significant (Ellis & Steyn, 2003). Results are considered statistically significant when the *p*-value is smaller than 0.05 (Ellis & Steyn, 2003). When results are statistically significant, it does not necessarily imply that the results are of an imperative nature in practice due to *p*-values that tend to yield smaller values as the size of the data set increases (Ellis & Steyn, 2003).

Although non-probability purposive sampling was used for this study, for the sake of completeness the *p*-values will be reported as if probability sampling was done. Ellis and Steyn (2003) report that data gathered from convenience sampling are occasionally analysed erroneously, as if they were gathered from probability sampling. They suggest that the researcher should consider a small population in cases for which statistical inference and *p*-values are irrelevant.

Due to the influence that the size of the sample has on statistical significance, effect sizes are calculated in addition to the *p*-value (Maree *et al.*, 2012e:210). The calculation of the effect size is a standardised, scale-free measure to determine the difference between two means or the relationships between variables (Maree *et al.*, 2012e:210-211). Furthermore, effect sizes are not affected by the sample size (Maree *et al.*, 2012e:211).

The researcher can report on the statistical and practical significance of the research results by the use of parametric methods or non-parametric (distribution-free) methods (Maree *et al.*, 2012g:225). Parametric methods are used when the researcher has knowledge of the variable's distribution in the population, while distribution-free methods are used when very little is known (Maree *et al.*, 2012g:225). The researcher has to consider the sample size and shape of the variable's distribution when he or she has to decide which method is more appropriate (Maree *et al.*, 2012g:225). According

to Ellis and Steyn (2003), the most frequently used methods to calculate and analyse p -values and effect sizes are: the difference between means, relationships in two-way frequency (contingency) tables and multiple regression fit.

Based on the population characteristics, the study's sample size and the variables' distribution, the researcher decided to calculate and analyse p -values and effect sizes using non-parametric methods. The researcher selected Levene's test for equality of variances and the t -test for equality of means, as well as the Kurskall-Wallis's test and the Chi-squared test to determine whether there were any differences between the selected datasets' means. The Spearman correlation coefficient was used to analyse relationships. Thus, the analysis of the questionnaires results will be discussed under two headings, namely (i) analysis of means and variables and (ii) analysis of relationships.

i Analysis of means and variables

a Differences between means

When looking at mean differences, the effect size is denoted by d . According to Cohen (1988:40), effect sizes are interpreted as follows:

Table 4.22: Interpretation of the magnitude of d

d	Effect
= 0.2	Small
= 0.5	Medium
= 0.8	Large

Source: Cohen (1988:40)

Therefore, when d is calculated to be greater than 0.8, the effect size is large and considered to be practically significant and of practical importance.

Levene's test for equality of variances and the t -test for equality of means were used to determine the applicable p -value, compare the relationship between the gender classification of participants and the proficiency levels of the 11 competence areas, and to determine whether there was a statistical significance between these two datasets. Levene's test for equality examines whether the variances' (spread) of the two datasets differ due to the validity of the t -test that relies on whether there is a difference in the spread. The effect sizes between the datasets were calculated as follows:

Equation 4.1: Calculation of d

$$d = \frac{|\bar{x}_1 - \bar{x}_2|}{s}$$

The researcher decided to calculate and analyse the correlation between gender as a demographic variable and the proficiency levels of the competence areas. The relationship between the proficiency levels of the 11 competence areas and participants' genders are presented in Table 4.23 below. The following data are included: the sample (n), mean ($\bar{x}$), standard deviation (s), t -test (p) and effect sizes (d).

Table 4.23: Correlation between the proficiency levels of the 11 competence areas and the respondents' genders

Competence areas	Male			Female			Comparison	
	n	$\bar{x}$	s	n	$\bar{x}$	s	p	d
Financial accounting and reporting	19	2.31	0.45	26	1.93	0.43	0.01*	0.84 [▲]
Management accounting	19	2.23	0.50	26	1.78	0.48	0.00*	0.89 [▲]
Finance and financial management	19	2.36	0.47	26	1.76	0.46	0.00*	1.29 [▲]
Taxation	19	2.61	0.44	26	2.17	0.57	0.01*	0.76 [▲]
Audit and assurance	19	1.68	0.63	26	1.62	0.52	0.72	0.10
Governance, risk management and internal control	19	2.14	0.57	26	1.69	0.56	0.01*	0.79 [▲]
Business laws and regulations	19	2.58	0.61	26	1.96	0.71	0.00*	0.87 [▲]
Information technology	19	2.30	0.55	26	1.69	0.55	0.00*	1.09 [▲]
Business and organisational environment	19	1.89	0.69	26	1.53	0.52	0.05*	0.53
Economics	19	1.95	0.71	26	1.49	0.58	0.02*	0.65
Business strategy and management	19	2.01	0.49	26	1.66	0.60	0.04*	0.59

* Statistically significant ($p \leq 0.05$)

[▲] Practically significant ($d \geq 0.80$)

The inspection of the relationship between the proficiency levels of the 11 competence areas and the participants' genders revealed that the data was normally distributed for both groups and that there was homogeneity of variance, as assessed by Levene's Test for Equality of Variances. Therefore, an independent *t*-test was run on the data, with a 95% confidence interval for the mean differences. Table 4.23 illustrates that there was a significant difference, at a 5% level, between the average score in the two groups for all the competence areas except for *audit and assurance*; that is, that the data suggests that males and females perceive the required learning outcomes to apply to differing proficiency levels (since $p \leq 0.05$).

The means of the 11 competence areas for males and females are graphically presented in a clustered column chart (Figure 4.3) below.

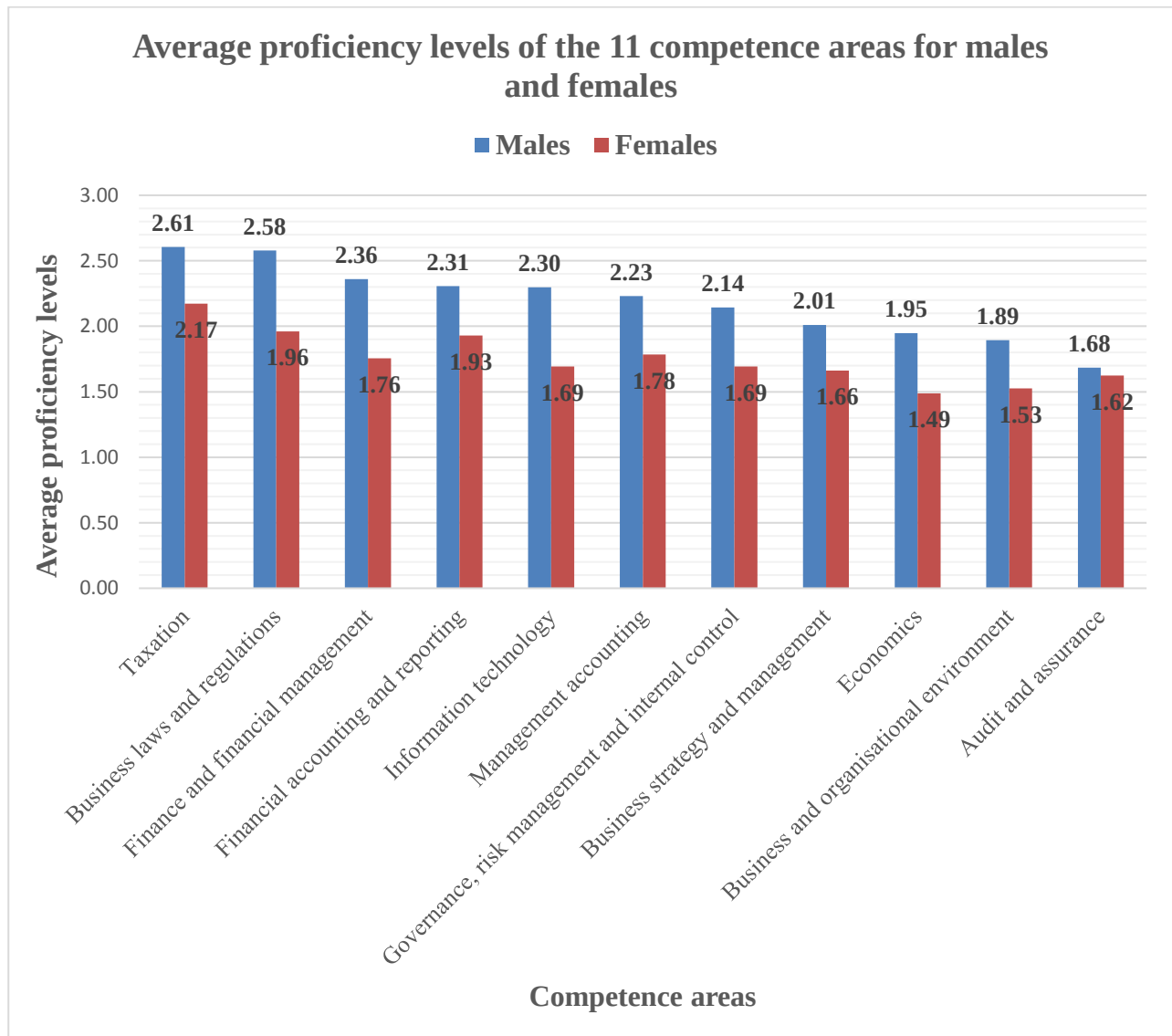


Figure 4.3: Average proficiency levels of the 11 competence areas for males and females

The means of the competence areas in Figure 4.3 illustrate that males considered all the required learning outcomes to apply to a higher proficiency level. *Taxation* ($\bar{X}$ = 2.61) was regarded as the most important competence area, while *audit and assurance* ($\bar{X}$ = 1.62) yielded the lowest mean value. Although each competence area yielded a different mean value for males and females, it is clear from the results shown in the figure that males and females considered the majority of the learning outcomes to be on an intermediate proficiency level.

The calculations performed for effect sizes are ranked in descending order in Table 4.24 below.

Table 4.24: Ranking of the competence areas according to Cohen's *d* effect sizes

Ranking	Competence areas	<i>d</i>
1	Finance and financial management	1.29 [▲]
2	Information technology	1.09 [▲]
3	Management accounting	0.89 [▲]
4	Business laws and regulations	0.87 [▲]
5	Financial accounting and reporting	0.84 [▲]
6	Governance, risk management and internal control	0.79 [▲]
7	Taxation	0.76 [▲]
8	Economics	0.65 [•]
9	Business strategy and management	0.59 [•]
10	Business and organisational environment	0.53 [•]
11	Audit and assurance	0.10 [♦]

- ♦ Small effect ($d = 0.20$)
- Medium effect ($d = 0.50$)
- ▲ Large effect and;
Practically significant ($d \geq 0.80$)

The ranking of the competence areas in descending order of effect sizes shows how the participants perceived the importance of the required learning outcomes. According to Steyn (2000:1), it can be difficult to quantify effect sizes using Cohen's *d*. However, due to the exploratory nature of this study, the researcher was able to rank the competence areas according to the participants' expectations rather than trying to analyse the differences in effect sizes between participants' gender as a demographic variable with regard to the proficiency levels of the 11 competence areas.

The effect sizes were found to vary between a high of 1.29 (*finance and financial management*) and a low of 0.10 (*audit and assurance*). The effect sizes for *finance and financial management* ($d = 1.29$), *information technology* ($d = 1.09$), *management accounting* ($d = 0.89$), *business laws and regulations*

($d = 0.87$), *financial accounting and reporting* ($d = 0.84$), *governance, risk management and internal control* ($d = 0.79$) and *taxation* ($d = 0.76$) can be regarded as large ($d \geq 0.8$) and thus of practical significance. The effect sizes of three of the competence areas were medium ($d = 0.5$), namely *economics* ($d = 0.65$), *business strategy and management* ($d = 0.59$) and *business and organisational environment* ($d = 0.53$), while only one competence area, *audit and assurance* ($d = 0.10$), had a small ($d = 0.2$) effect.

Based on the analysis of the p -values and effect sizes, it was clear that there was a significant and practical difference between the mean scores of males and females with regard to their perceptions of the proficiency levels of the 11 competence areas. These differences indicated that males and females perceived the required learning outcomes to apply to different proficiency levels (since $p \leq 0.05$ and $d \geq 0.8$). In addition, the analysis of the means of the competence areas for males and females indicated that males considered all the required learning outcomes to apply to a higher proficiency level.

b Relationship in a contingency table

A two-way frequency table is required when the relationship between two nominal variables needs to be analysed (Maree *et al.*, 2012e:212). The effect size is denoted by ω . According to Cohen (1988:40), effect sizes are interpreted as follows:

Table 4.25: Interpretation of the magnitude of ω

ω	Effect
= 0.1	Small
= 0.3	Medium
= 0.5	Large

Source: Cohen (1988:40)

Therefore, when ω is calculated to be greater than 0.5, the effect size is large and considered to be practically significant and of practical importance.

When the relationship between three or more independent groups needs to be compared, the Kruskal-Wallis test can be used. Although it cannot be assumed that the measured variables are normally distributed in the populations, it can be accepted that the shape of the distribution from which the independent samples were drawn is the same (Maree *et al.*, 2012g:235). The data are ranked to calculate a test statistic and a corresponding p -value (Maree *et al.*, 2012g:235). A Chi-squared (χ^2)

distribution is then used to test whether the means of the datasets are the same (Maree *et al.*, 2012g:235).

The effect sizes between the means of the datasets were calculated as follows:

Equation 4.2: Calculation of ω

$$\omega = \frac{\chi^2}{n}$$

The researcher decided to calculate and analyse the correlation between the provinces as demographic variables and the proficiency levels of the competence areas. The relationship between the proficiency levels of the 11 competence areas and the provinces are presented in Table 4.26 below. The following data are included: the sample (n), mean ($\bar{X}$), p -value (p) and effect sizes (ω).

Table 4.26: Correlation between the proficiency levels of the 11 competence areas and the participants' geographical location (province)

Province	n	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi
		$\bar{X}$										
Free State	9	24.50	28.22	23.00	15.78	26.39	25.39	18.94	19.72	26.50	24.61	19.44
Gauteng	6	20.58	10.92	9.92	13.92	19.00	11.17	14.25	15.00	9.67	13.00	8.42
North West	30	23.03	23.85	25.62	26.98	22.78	24.65	25.97	25.58	24.62	24.52	26.98
p		0.85	0.03*	0.03*	0.01*	0.54	0.05*	0.06	0.12	0.02*	0.11	0.00*
ω		0.01♦	0.39•	0.40•	0.44•	0.17♦	0.36•	0.36•	0.31•	0.42•	0.31•	0.51▲

* Statistically significant ($p \leq 0.05$)

♦ Small effect ($\omega = 0.10$)

• Medium effect ($\omega = 0.30$)

▲ Large effect and;

Practically significant ($\omega \geq 0.50$)

The 11 competence areas are represented by i to xi: (i) *financial accounting and reporting*; (ii) *management accounting*; (iii) *finance and financial management*; (iv) *taxation*; (v) *audit and assurance*; (vi) *governance, risk management and internal control*; (vii) *business laws and regulations*; (viii) *information technology*; (ix) *business and organisational environment*; (x) *economics*; and (xi) *business strategy and management*.

Due to the assumption of the Kurskal-Wallis test that all population medians are the same, an independent non-parametric test was done to test this statement. The Chi-squared test was used to calculate a corresponding p -value in order to determine whether there was a significant difference between the means of the population. Table 4.26 above illustrates that there is a significant difference, at a 5% level, between the average score of the three provinces, that is, that the data suggests that the participants from the different provinces perceived the required learning outcomes to apply to different proficiency levels (since $p \leq 0.05$). The participants considered the importance of the following competence areas on the following levels: *management accounting* ($p= 0.03$), *finance and financial management* ($p= 0.03$), *taxation* ($p= 0.01$), *governance, risk management and internal control* ($p= 0.05$), *business and organisational environment* ($p= 0.02$) and *business management* ($p= 0.00$). The respondents agreed on the importance of the remaining five (44%) competence areas.

The means of the competence areas for the Free State, Gauteng and North West Province are graphically presented in a clustered column chart (Figure 4.4) below.

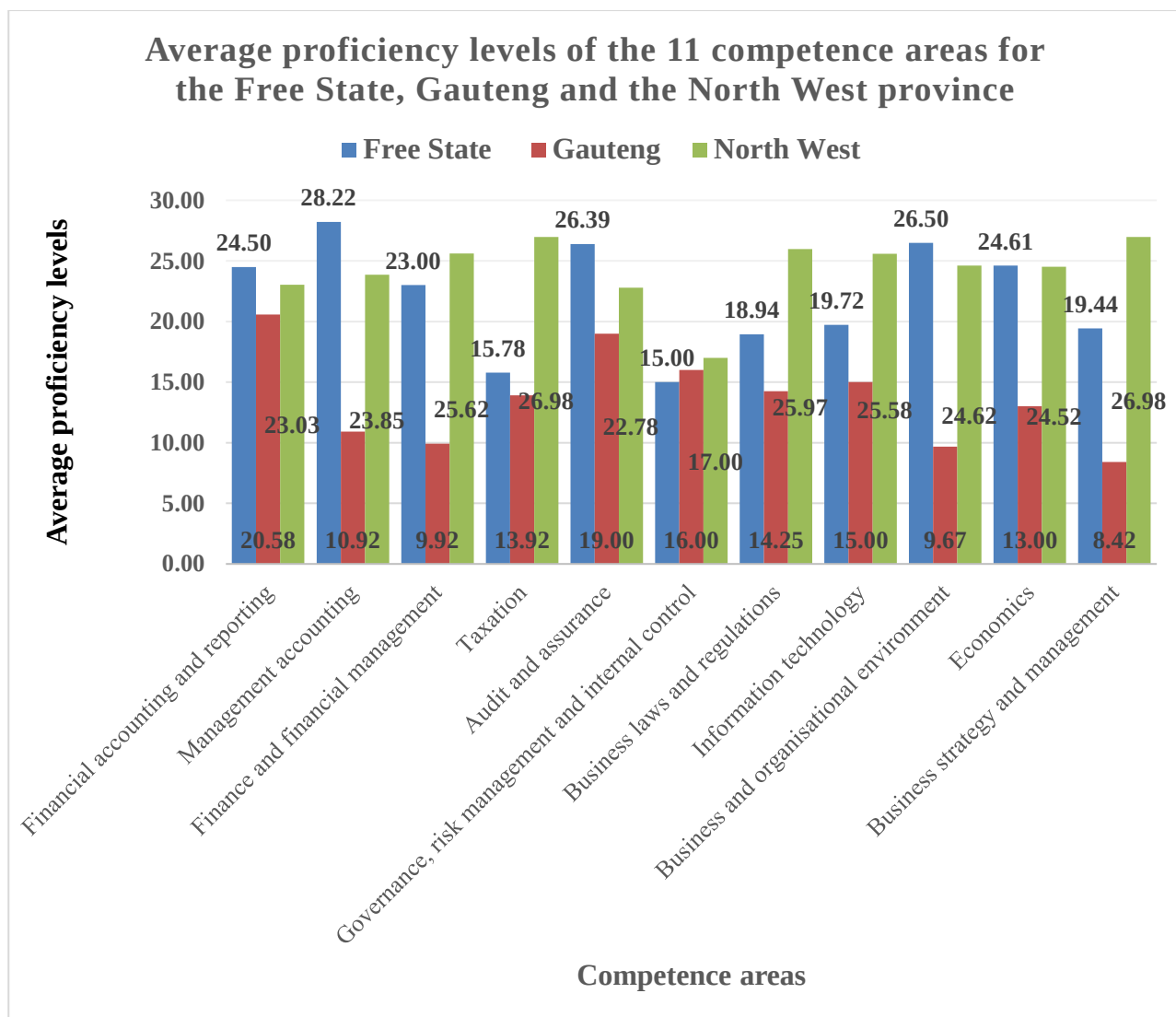


Figure 4.4: Average proficiency levels of the 11 competence areas for the Free State, Gauteng and the North West province

The means of the competence areas in Figure 4.4 illustrate that the participants from the Free State considered the following competence areas to be the most important: *management accounting* ($\bar{x}$ = 28.22), *organisational environment* ($\bar{x}$ = 26.50), *audit and assurance* ($\bar{x}$ = 26.39), *business and economics* ($\bar{x}$ = 24.61) and *financial accounting and reporting* ($\bar{x}$ = 24.50). At the same time, the participants from the North West province were of opinion that the following competence areas were also imperative: *taxation* ($\bar{x}$ = 26.98), *business strategy and management* ($\bar{x}$ = 26.98), *business laws and regulations* ($\bar{x}$ = 25.97), *finance and financial management* ($\bar{x}$ = 25.62), *information technology* ($\bar{x}$ = 25.58) and *governance, risk management and internal control* ($\bar{x}$ = 17). Participants from Gauteng believed *finance and financial management* ($\bar{x}$ = 20.58) to be the most important competence area, while *business strategy and management* ($\bar{x}$ = 8.42) were regarded to be of little importance. Although

the three samples yielded different mean values for every competence area, *management accounting* ($\bar{X}$ = 28.22) was generally regarded as the most important one, while *business strategy and management* ($\bar{X}$ = 8.42) yielded the lowest mean value.

The calculations performed for effect sizes are ranked in descending order in Table 4.27 below.

Table 4.27: Ranking of the competence areas according to Cohen's ω effect sizes

Ranking	Competence areas	ω
1	Business strategy and management	0.51 [▲]
2	Taxation	0.44 [•]
3	Business and organisational environment	0.42 [•]
4	Finance and financial management	0.40 [•]
5	Management accounting	0.39 [•]
6	Governance, risk management and internal control	0.36 [•]
7	Business laws and regulations	0.36 [•]
8	Information technology	0.31 [•]
9	Economics	0.31 [•]
10	Audit and assurance	0.17 [♦]
11	Financial accounting and reporting	0.01 [♦]

- ♦ Small effect (ω = 0.10)
- Medium effect (ω = 0.30)
- ▲ Large effect and;
Practically significant ($\omega \geq 0.50$)

The ranking of the competence areas in descending order of effect sizes shows how the participants perceived the importance of the required learning outcomes. According to Steyn (2000:1), it can be difficult to quantify effect sizes using Cohen's ω . However, due to the exploratory nature of this study, the researcher was able to rank the competence areas according to the participants' expectations rather than trying to analyse the differences in effect sizes between them.

Effect sizes were found to vary between a high of 0.51 (*business strategy and management*) and a low of 0.01 (*financial accounting and reporting*). The effect size for *business strategy and management* (ω = 0.51) can be regarded as large ($\omega \geq 0.5$) and thus of practical significance. The effect sizes of eight of the competence areas were medium (ω = 0.3): *taxation* (ω = 0.44), *business and organisational environment* (ω = 0.42), *finance and financial management* (ω = 0.40), *management accounting* (ω = 0.39), *governance, risk management and internal control* (ω = 0.36), *business laws and regulations* (ω = 0.36), *information technology* (ω = 0.31) and *economics* (ω = 0.31). Only two competence areas,

audit and assurance ($\omega = 0.17$) and *financial accounting and reporting* ($\omega = 0.31$), had a small ($\omega = 0.1$) effect.

Based on the analysis of the p -values and effect sizes, it was clear that there was a significant and practical difference between the mean scores of participants' geographical locations (provinces) with regard to the proficiency levels of the 11 competence areas. These differences indicated that the participants from the different provinces perceived the required learning outcomes to be applicable to different proficiency levels (since $p \leq 0.05$ and $d \geq 0.8$). In addition, the analysis of the means of the competence areas for the Free State, Gauteng and North West Province supported these findings.

ii Analysis of relationships

Spearman's correlation coefficient can be used with any ordinal scale. It uses ranks instead of actual values and it does not make any assumptions about the distribution of the two variables (Maree *et al.*, 2012g:241). The coefficient is denoted by r_s . According to Maree *et al.* (2012g:240), a correlation (r) can be interpreted as follows:

Table 4.28: Interpretation of the magnitude of r

r	Relationship
Values close to +1 or -1	Strong
Values close to 0.5	Moderate
Values close to 0	Weak
+ 1	Perfect positive
- 1	Perfect negative

Source: Maree *et al.* (2012g:240)

a *Non-parametric relationships between demographic variables and the proficiency levels of the competence areas*

The researcher chose the respondents' highest qualification, years of experience in practice and the sector sizes of the majority of their clients as demographic variables. The researcher wanted to determine whether there were any correlations between these variables and the proficiency levels of the competence areas. The relationship between the proficiency levels of the 11 competence areas and the demographics are presented in Table 4.29 below. The following data are included: the population (N) and p -value (Sig. (2-tailed)).

Table 4.29: Non-parametric relationships between demographic variables and the proficiency levels of the competence areas

Competence areas		Qualification	Experience	Sector size
Financial accounting and reporting	Correlation Coefficient	.185	.260	.213
	Sig. (2-tailed)	.295	.084	.160
	N	34	45	45
Management accounting	Correlation Coefficient	.225	.414**	.163
	Sig. (2-tailed)	.202	.005	.284
	N	34	45	45
Finance and financial management	Correlation Coefficient	.360*	.580**	.254
	Sig. (2-tailed)	.037	.000	.092
	N	34	45	45
Taxation	Correlation Coefficient	.225	.326*	.031
	Sig. (2-tailed)	.202	.029	.840
	N	34	45	45
Audit and assurance	Correlation Coefficient	-.031	.029	.363*
	Sig. (2-tailed)	.864	.850	.014
	N	34	45	45
Governance, risk management and internal control	Correlation Coefficient	.223	.343*	.097
	Sig. (2-tailed)	.205	.021	.525
	N	34	45	45
Business laws and regulations	Correlation Coefficient	.376*	.410**	.044
	Sig. (2-tailed)	.028	.005	.776
	N	34	45	45
Information technology	Correlation Coefficient	.139	.294*	.376*
	Sig. (2-tailed)	.432	.050	.011
	N	34	45	45
	Sig. (2-tailed)	.969	.113	.074
	N	34	45	45

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.29: Non-parametric relationships between demographic variables and the proficiency levels of the competence areas (continued)

Competence areas		Qualification	Experience	Sector size
Business and organisational environment	Correlation Coefficient	.007	.239	.269
	Sig. (2-tailed)	.969	.113	.074
	N	34	45	45
Economics	Correlation Coefficient	-.017	.122	.288
	Sig. (2-tailed)	.924	.424	.055
	N	34	45	45
Business strategy and management	Correlation Coefficient	.116	.339*	.036
	Sig. (2-tailed)	.512	.023	.814
	N	34	45	45

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

As indicated in Table 4.29, there is a weak positive correlation between the participants' highest qualification and the proficiency level of *finance and financial management* ($r = 0.360$; $p = 0.037$) and *business laws and regulations* ($r = 0.376$; $p = 0.028$). Since the p -values of the two competence areas are less than 0.05, it can be said that there is a significant relationship between these competence areas' proficiency levels and the participants' highest qualifications.

There is a weak positive correlation between the participants' years of experience and the proficiency level of *taxation* ($r = 0.326$; $p = 0.029$), *governance, risk management and internal control* ($r = 0.343$; $p = 0.021$), *information technology* ($r = 0.294$; $p = 0.050$) and *business strategy and management* ($r = 0.023$). Since the p -values of the four competence areas are less than 0.05, it can be said that there is a significant relationship between these competence areas' proficiency levels and the participants' highest qualification.

Furthermore, there is a weak positive correlation between the participants' years of experience and the proficiency level of *management accounting* ($r = 0.414$; $p = 0.005$) and *business laws and regulations* ($r = 0.410$; $p = 0.000$), while there is a moderate positive correlation between the demographic variable and *finance and financial management* ($r = 0.580$; $p = 0.005$). Since the p -values

of the three competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and the participants' highest qualifications.

Table 4.29 illustrates that there is a weak positive correlation between the size of the sector to which the majority of the participants' clients belong and the proficiency levels of *audit and assurance* ($r=0.363$; $p=0.014$) and *information technology* ($r=0.294$; $p=0.011$). Since the p -values of the two competence areas are less than 0.05, it can be said that there is a significant relationship between these competence areas' proficiency levels and the size of the sector to which the majority of the participants' clients belong.

Significant relationships between the selected demographics and the competence areas' proficiency levels are graphically presented in a clustered column chart (Figure 4.5) below.

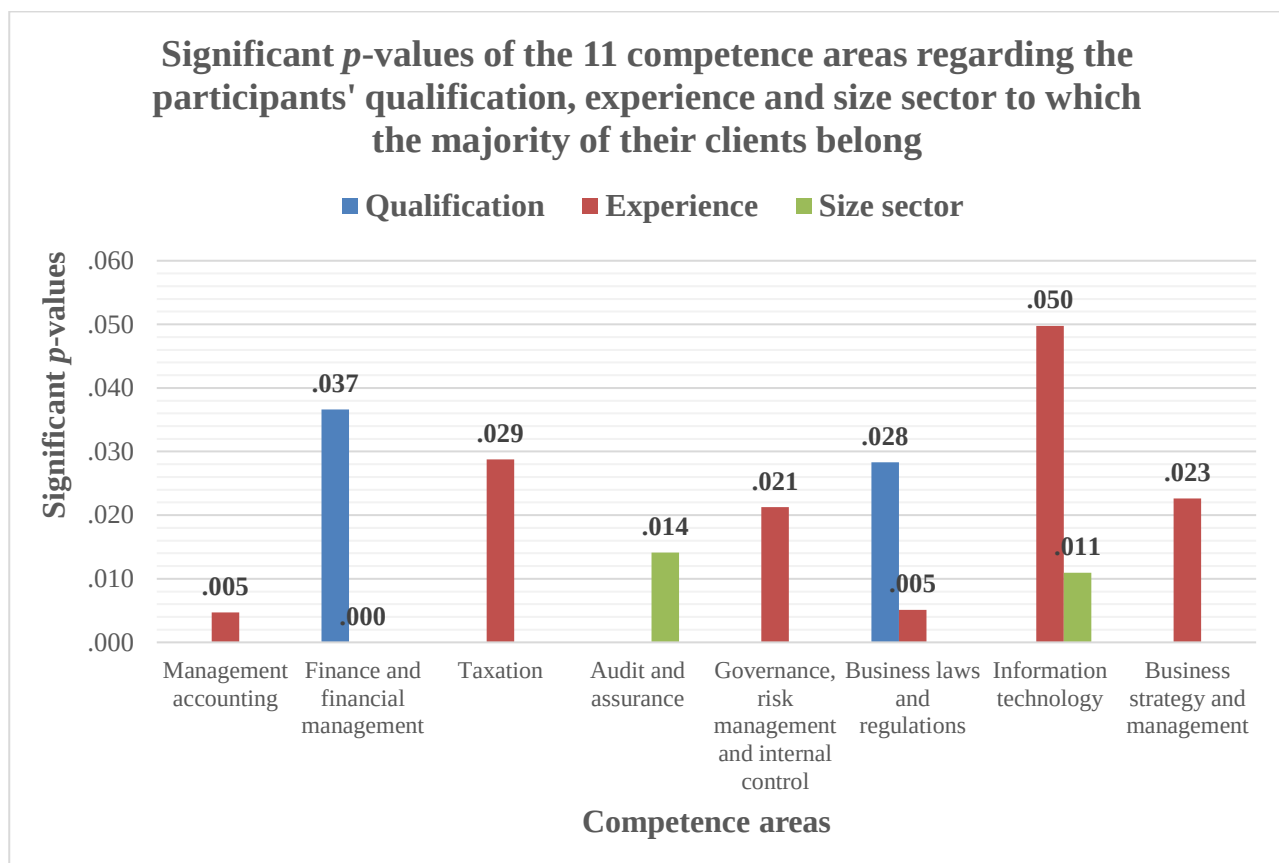


Figure 4.5: Significant p -values of the 11 competence areas regarding the participants' qualification, experience and size sector to which the majority of their clients belong

The purpose of the analysis was to determine whether there was a correlation between the selected demographic variables and the proficiency levels of the competence areas. Based on this analysis, it

was clear that there was a significant correlation between the selected demographics and particular competence areas' proficiency levels.

b Non-parametric relationships between the proficiency levels of the competence areas

In the following part of the study, the researcher wanted to determine whether there were any correlations between the proficiency levels of the 11 competence areas. The relationships between the proficiency levels of the 11 competence areas are presented in Table 4.30 below. The following data are included: Spearman's correlation coefficient (r_s), p -value (p) and the population (N).

Table 4.30: Non-parametric relationships between the proficiency levels of the competence areas

Competence areas		i	ii	iii	iv	v	vi	vii	viii	ix	x	xi
i	r_s	1.000	.595**	.550**	.213	.325*	.319*	.373*	.411**	.397**	.180	.349*
	p		.000	.000	.160	.029	.032	.012	.005	.007	.237	.019
	N	45	45	45	45	45	45	45	45	45	45	45
ii	r_s	.595**	1.000	.730**	.343*	.534**	.521**	.382**	.420**	.555**	.246	.445**
	p	.000		.000	.021	.000	.000	.010	.004	.000	.103	.002
	N	45	45	45	45	45	45	45	45	45	45	45
iii	r_s	.550**	.730**	1.000	.545**	.311*	.480**	.445**	.617**	.594**	.383**	.534**
	p	.000	.000		.000	.038	.001	.002	.000	.000	.009	.000
	N	45	45	45	45	45	45	45	45	45	45	45
iv	r_s	.213	.343*	.545**	1.000	.042	.264	.469**	.609**	.353*	.412**	.404**
	p	.160	.021	.000		.785	.080	.001	.000	.017	.005	.006
	N	45	45	45	45	45	45	45	45	45	45	45
v	r_s	.325*	.534**	.311*	.042	1.000	.398**	.269	.365*	.691**	.460**	.378*
	p	.029	.000	.038	.785		.007	.073	.014	.000	.001	.011
	N	45	45	45	45	45	45	45	45	45	45	45
vi	r_s	.319*	.521**	.480**	.264	.398**	1.000	.536**	.344*	.648**	.497**	.717**
	p	.032	.000	.001	.080	.007		.000	.021	.000	.001	.000
	N	45	45	45	45	45	45	45	45	45	45	45
vii	r_s	.373*	.382**	.445**	.469**	.269	.536**	1.000	.546**	.485**	.408**	.644**
	p	.012	.010	.002	.001	.073	.000		.000	.001	.005	.000
	N	45	45	45	45	45	45	45	45	45	45	45

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.30: Non-parametric relationships between the proficiency levels of the competence areas (continued)

Competence areas		i	ii	iii	iv	v	vi	vii	viii	ix	x	xi
viii	r_s	.411**	.420**	.617**	.609**	.365*	.344*	.546**	1.000	.651**	.661**	.463**
	p	.005	.004	.000	.000	.014	.021	.000		.000	.000	.001
	N	45	45	45	45	45	45	45	45	45	45	45
ix	r_s	.397**	.555**	.594**	.353*	.691**	.648**	.485**	.651**	1.000	.771**	.683**
	p	.007	.000	.000	.017	.000	.000	.001	.000		.000	.000
	N	45	45	45	45	45	45	45	45	45	45	45
x	r_s	.180	.246	.383**	.412**	.460**	.497**	.408**	.661**	.771**	1.000	.570**
	p	.237	.103	.009	.005	.001	.001	.005	.000	.000		.000
	N	45	45	45	45	45	45	45	45	45	45	45
xi	r_s	.349*	.445**	.534**	.404**	.378*	.717**	.644**	.463**	.683**	.570**	1.000
	p	.019	.002	.000	.006	.011	.000	.000	.001	.000	.000	
	N	45	45	45	45	45	45	45	45	45	45	45

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

As noted above in subsection *ii* of section 4.3.3, the 11 competence areas are denoted by i to xi. The results shown in Table 4.30 illustrate the following (i – xi):

i Financial accounting and reporting

There is a weak positive correlation between the proficiency level of *financial accounting and reporting* and the proficiency levels of *audit and assurance* ($r_s = 0.325$; $p = 0.029$), *governance, risk management and internal control* ($r_s = 0.319$; $p = 0.032$), *business laws and regulations* ($r_s = 0.373$; $p = 0.012$) and *business strategy and management* ($r_s = 0.349$; $p = 0.019$). Since the p -values of the four competence areas are less than 0.05, it can be said that there is a significant relationship between these competence areas' proficiency levels and *financial accounting and reporting's* proficiency level.

Furthermore, there is a moderate positive correlation between the proficiency level of *financial accounting and reporting* and the proficiency levels of *management accounting* ($r_s = 0.595$; $p = 0.000$) and *finance and financial management* ($r_s = 0.550$; $p = 0.000$). There is a weak positive correlation between the proficiency level of *financial accounting and reporting* and the proficiency levels of *information technology* ($r_s = 0.411$; $p = 0.005$) and *business and organisational environment* ($r_s = 0.397$; $p = 0.007$). Since the p -values of the four competence areas are less than 0.01, it can be said

that there is a significant relationship between these competence areas' proficiency levels and *financial accounting and reporting's* proficiency level.

ii Management accounting

There is a weak positive correlation between the proficiency level of *management accounting* and the proficiency level of *taxation* ($r_s = 0.343$; $p = 0.021$). Since the p -value of the competence area is less than 0.05, it can be said that there is a significant relationship between this competence area's proficiency level and *management accounting's* proficiency level.

Furthermore, there is a moderate positive correlation between the proficiency level of *management accounting* and the proficiency levels of *finance and financial management* ($r_s = 0.730$; $p = 0.000$), *audit and assurance* ($r_s = 0.534$; $p = 0.000$), *governance, risk management and internal control* ($r_s = 0.521$; $p = 0.000$), *business and organisational environment* ($r_s = 0.555$; $p = 0.000$) and *business strategy and management* ($r_s = 0.445$; $p = 0.002$). There is a weak positive correlation between the proficiency level of *management accounting* and the proficiency levels of *business laws and regulations* ($r_s = 0.382$; $p = 0.010$) and *information technology* ($r_s = 0.420$; $p = 0.004$). Since the p -values of the seven competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and *management accounting's* proficiency level.

iii Finance and financial management

There is a weak positive correlation between the proficiency level of *finance and financial management* and the proficiency level of *audit and assurance* ($r_s = 0.311$; $p = 0.038$). Since the p -value of the competence area is less than 0.05, it can be said that there is a significant relationship between this competence area's proficiency level and *finance and financial management's* proficiency level.

Furthermore, there is a moderate positive correlation between the proficiency level of *finance and financial management* and the proficiency levels of *taxation* ($r_s = 0.545$; $p = 0.000$), *governance, risk management and internal control* ($r_s = 0.480$; $p = 0.001$), *business laws and regulations* ($r_s = 0.445$; $p = 0.002$), *information technology* ($r_s = 0.617$; $p = 0.000$), *business and organisational environment* ($r_s = 0.594$; $p = 0.000$) and *business strategy and management* ($r_s = 0.534$; $p = 0.000$). There is a weak positive correlation between the proficiency level of *finance and financial management* and the proficiency level of *economics* ($r_s = 0.383$; $p = 0.009$). Since the p -values of the seven competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and *finance and financial management's* proficiency level.

iv Taxation

There is a weak positive correlation between the proficiency level of *taxation* and the proficiency level of *business and organisational environment* ($r_s = 0.353$; $p = 0.017$). Since the p -value of the competence area is less than 0.05, it can be said that there is a significant relationship between this competence area's proficiency level and *taxation's* proficiency level.

Furthermore, there is a moderate positive correlation between the proficiency level of *taxation* and the proficiency levels of *business laws and regulations* ($r_s = 0.469$; $p = 0.001$) and *information technology* ($r_s = 0.609$; $p = 0.000$). There is a weak positive correlation between the proficiency level of *taxation* and the proficiency levels of *economics* ($r_s = 0.412$; $p = 0.005$) and *business strategy and management* ($r_s = 0.404$; $p = 0.006$). Since the p -values of the four competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and *taxation's* proficiency level.

v Audit and assurance

There is a weak positive correlation between the proficiency level of *audit and assurance* and the proficiency levels of *information technology* ($r_s = 0.365$; $p = 0.014$) and *business strategy and management* ($r_s = 0.378$; $p = 0.011$). Since the p -values of the two competence areas are less than 0.05, it can be said that there is a significant relationship between these competence areas' proficiency levels and *audit and assurance's* proficiency level.

Furthermore, there is a moderate positive correlation between the proficiency level of *audit and assurance* and the proficiency levels of *business and organisational environment* ($r_s = 0.691$; $p = 0.000$) and *economics* ($r_s = 0.460$; $p = 0.001$). There is a weak positive correlation between the proficiency level of *audit and assurance* and the proficiency level of *governance, risk management and internal control* ($r_s = 0.398$; $p = 0.007$). Since the p -values of the three competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and *audit and assurance's* proficiency level.

vi Governance, risk management and internal control

There is a weak positive correlation between the proficiency level of *governance, risk management and internal control* and the proficiency level of *information technology* ($r_s = 0.344$; $p = 0.021$). Since the p -value of the competence area is less than 0.05, it can be said that there is a significant relationship

between this competence area's proficiency level and *governance, risk management and internal control's* proficiency level.

Furthermore, there is a moderate positive correlation between the proficiency level of *governance, risk management and internal control* and the proficiency levels of *business laws and regulations* ($r_s = 0.536$; $p = 0.000$), *business and organisational environment* ($r_s = 0.648$; $p = 0.000$), *economics* ($r_s = 0.497$; $p = 0.001$) and *business strategy and management* ($r_s = 0.717$; $p = 0.000$). Since the p -values of the four competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and *governance, risk management and internal control's* proficiency level.

vii Business laws and regulations

There is a moderate positive correlation between the proficiency level of *business laws and regulations* and the proficiency levels of *information technology* ($r_s = 0.546$; $p = 0.000$), *business and organisational environment* ($r_s = 0.485$; $p = 0.001$) and *business strategy and management* ($r_s = 0.644$; $p = 0.000$). There is a weak positive correlation between the proficiency level of *business laws and regulations* and the proficiency level of *economics* ($r_s = 0.408$; $p = 0.005$). Since the p -values of the four competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and *business laws and regulation's* proficiency level.

viii Information technology

There is a moderate positive correlation between the proficiency level of *information technology* and the proficiency levels of *business and organisational environment* ($r_s = 0.651$; $p = 0.000$), *economics* ($r_s = 0.661$; $p = 0.000$) and *business strategy and management* ($r_s = 0.563$; $p = 0.001$). Since the p -values of the three competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and *information technology's* proficiency level.

ix Business and organisational environment

There is a moderate positive correlation between the proficiency level of *business and organisational environment* and the proficiency levels of *economics* ($r_s = 0.771$; $p = 0.000$) and *business strategy and management* ($r_s = 0.683$; $p = 0.000$). Since the p -values of the two competence areas are less than 0.01, it can be said that there is a significant relationship between these competence areas' proficiency levels and *business and organisational environment's* proficiency level.

x Economics

There is a moderate positive correlation between the proficiency level of *economics* and the proficiency level of *business strategy and management* ($r_s = 0.570$; $p = 0.000$). Since the p -value of the competence area is less than 0.01, it can be said that there is a significant relationship between this competence areas' proficiency level and *economics*' proficiency level.

xi Business strategy and management

The relationship between the proficiency level of *business strategy and management* and the proficiency levels of the other competence areas has already been noted.

Significant relationships between the competence areas' proficiency levels at the 5% level are graphically presented in a stacked column chart (Figure 4.6) below.

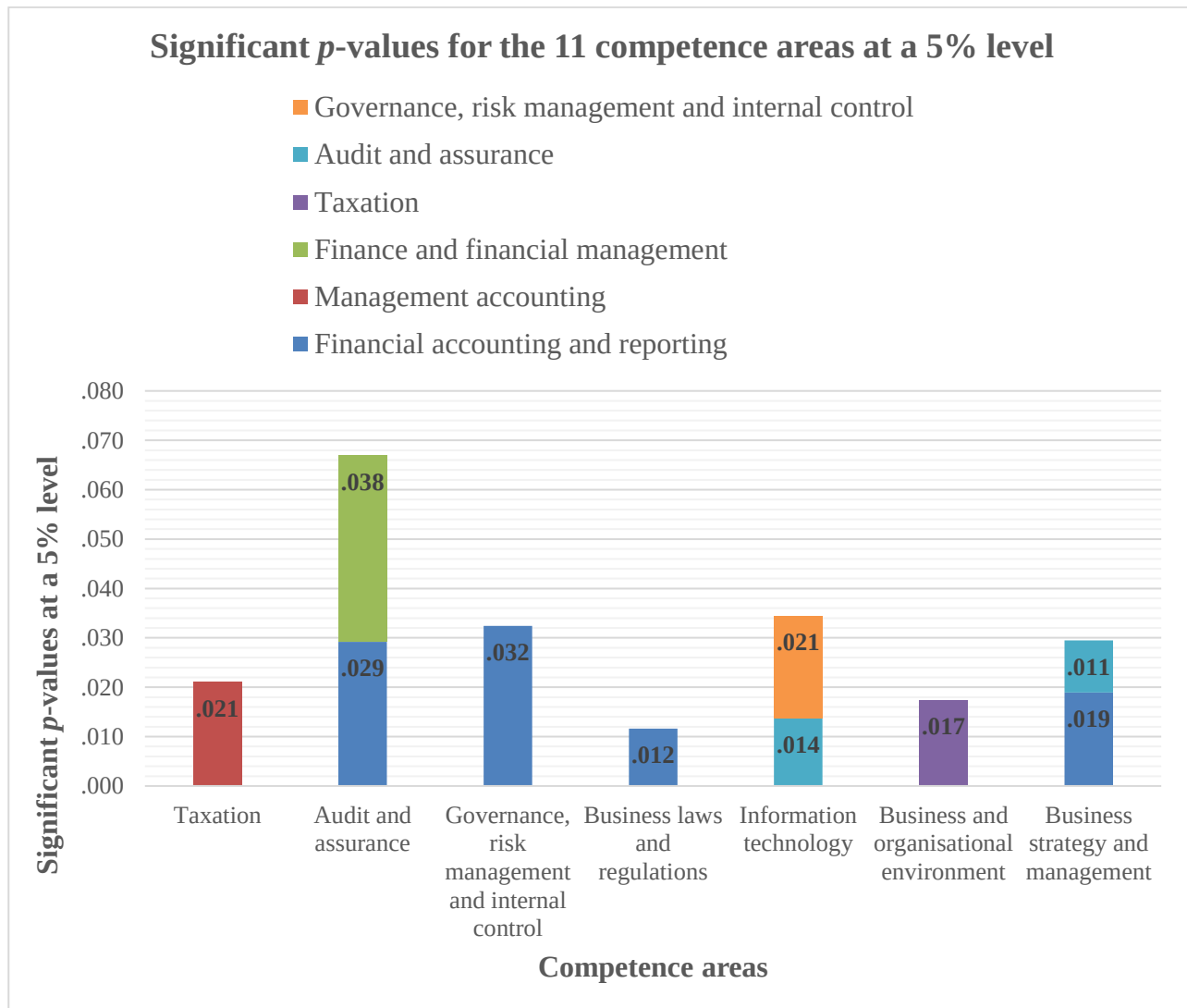


Figure 4.6: Significant p -values for the 11 competence areas at a 5% level

Significant relationships between the competence areas' proficiency levels at the 1% level are graphically presented in a stacked column chart (Figure 4.7) below.

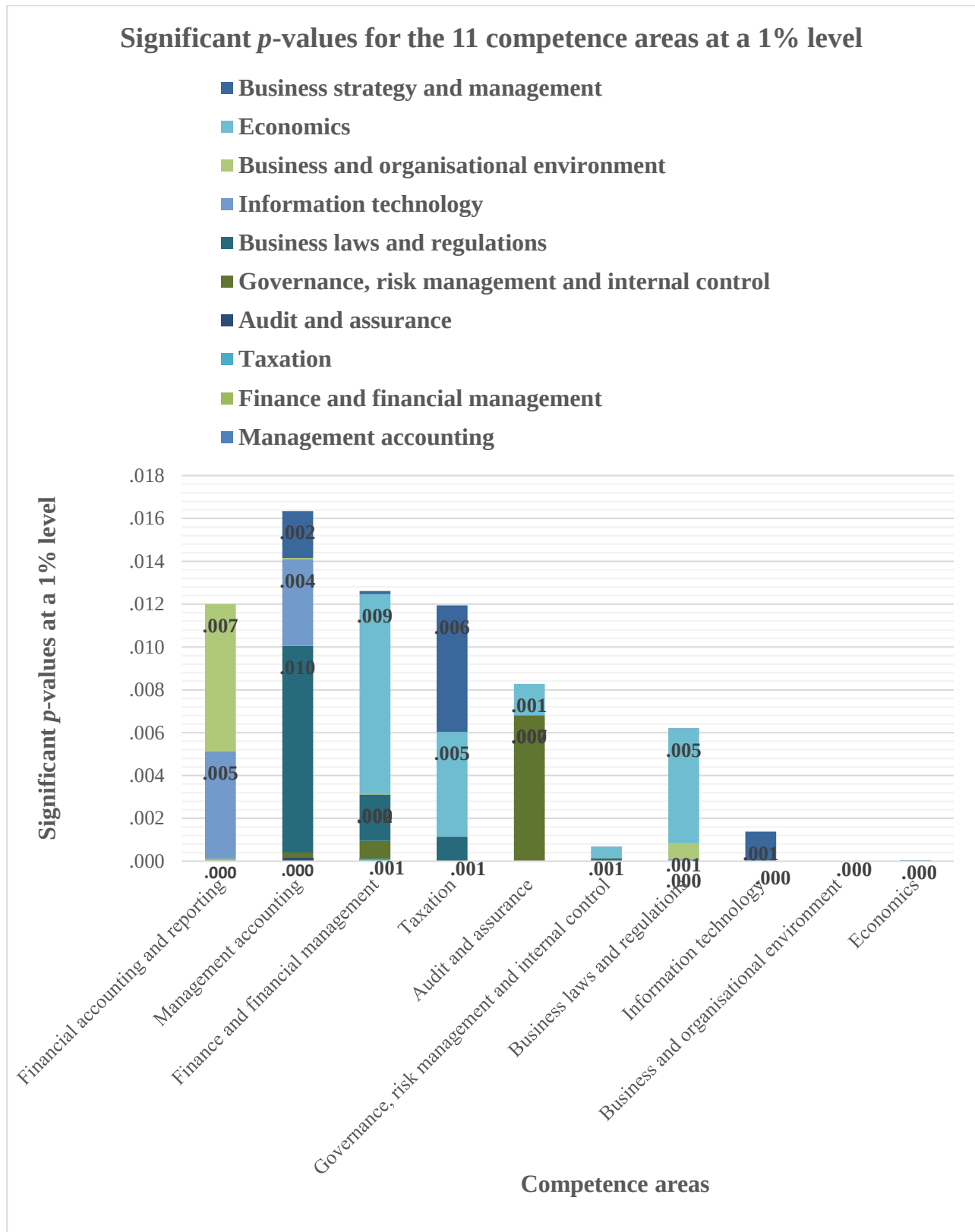


Figure 4.7: Significant p -values for the 11 competence areas at a 1% level

The correlations between the proficiency levels of the competence areas at 5% and 1% levels are summarised in Table 4.31 below.

Table 4.31: Summary of significant relationships between competence areas' proficiency levels at a 0.05 level and 0.01 level

Competence areas	Correlated on a 5% level	Correlated on a 1% level
Management accounting		Financial accounting and reporting
Finance and financial management		Financial accounting and reporting
		Management accounting
Taxation	Management accounting	Finance and financial management
Audit and assurance	Financial accounting and reporting	Management accounting
	Finance and financial management	
Governance, risk management and internal control	Financial accounting and reporting	Management accounting
		Finance and financial management
		Audit and assurance
Business laws and regulations	Financial accounting and reporting	Management accounting
		Finance and financial management
		Taxation
		Governance, risk management and internal control
Information technology	Audit and assurance	Financial accounting and reporting
	Governance, risk management and internal control	Management accounting
		Finance and financial management
		Taxation
		Business laws and regulations

Table 4.31: Summary of significant relationships between competence areas' proficiency levels at a 0.05 level and 0.01 level (continued)

Competence areas	Correlated on a 5% level	Correlated on a 1% level
Business and organisational environment	Taxation	Financial accounting and reporting
		Management accounting
		Finance and financial management
		Audit and assurance
		Governance, risk management and internal control
		Business laws and regulations
		Information technology
Economics		Finance and financial management
		Taxation
		Audit and assurance
		Governance, risk management and internal control
		Business laws and regulations
		Information technology
		Business and organisational environment
Business strategy and management	Financial accounting and reporting	Management accounting
	Audit and assurance	Finance and financial management
		Taxation
		Governance, risk management and internal control
		Business laws and regulations
		Information technology
		Business and organisational environment
		Economics

Based on Table 4.31, it was clear from the significant correlations between the competence areas' proficiency levels that the 11 competence areas were integrated. This might indicate that professional accountants are required to have a fair amount of knowledge of each competence area, although one competence area could be considered to be more important than another.

4.3.4 Recommendations to improve the skills shortages of entry-level SAIPA trainees

Training providers for SAIPA graduates can be categorised into small, medium and large businesses. The SAIPA trainee's experience is based on the size of the firm and its client base. Small firms offer a wide range of services that enable the SAIPA trainee to gain general experience in a client's entire business. A small firm's client base varies from small- to medium-sized businesses, including entrepreneurs, private individuals, local retailers and manufactures, and close corporations (Coetzee, Joubert & Oberholzer, 2009; SAICA, 2016). The client profiles for medium-sized businesses are similar, except that these clients deliver a wider range of products and service larger sectors (Coetzee *et al.*, 2009; SAICA, 2016). Large firms are more specialised and team orientated, and trainees are exposed to more complex transactions (Coetzee *et al.*, 2009; SAICA, 2016). Although different sized training firms might require their trainees to have different skills, a basic set of required skills should be the same or similar, as discussed in chapters two and three.

Section C of the questionnaire required the respondents to make recommendations that they felt would be of assistance in terms of overcoming the skills shortages of first-year SAIPA trainees when entering a practice. This question was purposefully designed to support the findings of Section B.

Only nine out of the 45 participants took the time to recommend how the entry level SAIPA trainee's skills could be improved. This amounted to a 20% response rate. In addition to their recommendations, they briefly motivated why they had made these suggestions, which enabled the researcher to identify a few skill shortages in entry level SAIPA trainees from their point of view.

The SAIPA practitioners' main opinion was that first-year SAIPA trainees lacked practical experience and were unable to apply theory to practice. Therefore, they suggested that practical experience should be incorporated into the professional accounting education programme during the students' three years of undergraduate studies.

Furthermore, the SAIPA practitioners identified the following skills shortages among first-year SAIPA trainees who first entered a practice:

- Soft skills
- Professional skills;
- Writing skills;
- Communication skills;
- Basic accounting principles; and
- Computer literacy skills, e.g. Pastel, Caseware, E-filing, U-filing, Easyfile and Excel.

Another skills shortage identified was the inability to complete Income Tax, PAYE and VAT returns.

In general, the results suggested that first-year SAIPA trainees lacked certain skills and practical experience, which contributed to the existence of a gap between theory and practice. The researcher can use the SAIPA practitioners' feedback to make useful recommendations in the following chapter regarding ways to improve the skills development of SAIPA trainees.

4.4 SUMMARY CONCLUSION

The purpose of the empirical study was to evaluate the learning outcomes and competence areas that the researcher had identified during the literature review in Chapter 3, in order to determine whether they were relevant to practising accountants in a South African environment. Therefore, the first part of the chapter (see section 4.2) served to provide an overview of the research design and methods that were implemented in this study and the second part of the chapter served to provide an overview of the data analysis and results (see section 4.3) in order to meet the objective of this chapter.

The researcher made use of a mixed-methods research approach, that is, one that consisted of both quantitative and qualitative research methods. This approach was thoroughly discussed and the reason for its implementation in this study was explained in section 4.2.2. The qualitative phase (first phase) of the study took the form of a literature review in chapters one, two and three. A questionnaire was selected as the research instrument to collect the data during the quantitative phase (second phase) of the study. The purpose and design of the questionnaire was discussed in detail and its reliability and validity was accounted for (see sections 4.2.3 and 4.2.6). The study population and sample were identified and the sampling methods were justified (see sections 4.2.4 and 4.2.5). In addition to validating the questionnaire, the researcher conducted a pilot study. The pre-tested survey was

discussed in detail in section 4.2.7 followed by the discussion of the final survey (see sections 4.2.8 and 4.2.9).

In the second part of this chapter (section 4.2), the analysis of the quantitative research questionnaire was thoroughly explained. It was analysed with the assistance of the Statistical Consultation Services of the North-West University, Potchefstroom Campus. After the demographic information was provided (see section 4.3.1), the learning outcomes and competence areas included in Section B of the questionnaire were analysed according to their mean values (see section 4.3.2). The sampling adequacy for two and more datasets were then determined and the researcher selected non-parametric methods to calculate and analyse the p -values and effect sizes of these datasets (see section 4.3.3). The researcher selected Levene's test for equality of variances and the t -test for equality of means, as well as the Kurskall-Wallis's test and the Chi-squared test to determine an applicable p -value, compare the relationship and determine whether there was a statistical significance between the selected datasets. In addition, Cohen's d and ω was used to calculate effect sizes to determine whether there was any practical significance between the selected datasets. These measures enabled the researcher to identify whether there were any differences between the defined groups to conclude whether the participants' perception regarding the proficiency levels of the competence areas differed. Furthermore, Spearman's correlation coefficient was used to analyse relationships between selected datasets in order to determine the level of consistency. Finally, the researcher compiled the SAIPA practitioners' recommendations regarding ways to overcome the skills shortages of first-year SAIPA trainees when entering a practice (see section 4.3.4). The findings from the empirical research done in this chapter will be discussed further in the next chapter, including whether the purpose of the empirical study was met.

In the next chapter, the major findings, conclusions, recommendations, limitations and recommendations for further research are provided.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this concluding chapter, a general overview of the study is provided in order to indicate that the research objectives, as stated in section 1.2, have been addressed. Conclusions are drawn, the limitations pertaining to this study are discussed and recommendations for further research opportunities are provided.

5.2 OBJECTIVES OF THIS STUDY

The determination of the success of the study depends on a critical evaluation of the achievement of the research objectives discussed in section 1.2. It was clear from the discussion about the demands imposed by globalisation and the rapid change in today's professional world that there is a pressing need to standardise the key competencies required by graduates in order to address the existing gap between theory and practice (see section 1.1). Therefore, the first research objective of this study was to establish, from the literature (Chapter 2), how and why a competency framework is a suitable approach to both narrowing the knowledge-skills gap among graduates and to facilitating the adequate development of professionals, in particular professional accountants. In addition, the researcher identified (Chapter 3) and evaluated (Chapter 4) the competence areas that are required of aspiring professional accountants with a view to determining whether they were relevant to practising accountants in a South African environment (research objectives 2 and 3 respectively).

In this chapter, conclusions are drawn regarding the objectives of this research. These conclusions are based on the findings in Chapters two to four.

5.3 LITERATURE STUDY

The literature study started with a discussion of the demands imposed by globalisation and the effect of rapid change on today's professional accountant with a view to establishing the theoretical background and rationale for the study. Globalisation highlighted the need for a single set of high quality standards to set a benchmark and encourage unity amongst international participants. In

addition, the importance of possessing the professionals' skills, understandings and personal attributes needed to be employable and to develop successfully in their field, with particular reference to professional accountants, was noted. With this in mind, a competency framework, defined as a high level description of competencies (knowledge, skills and attributes) that individuals should possess at the entry point to a particular profession, was introduced. Due to the fact that success depends on the identification of specific skills and competencies required of employees in the working environment, theorists suggested that a competency framework was a suitable approach to providing a foundation upon which professions are developed because they would facilitate a clear understanding of the required competencies a prospective employee should possess when embarking a career. Furthermore, it was noted that theorists have argued that knowledge can be applied only when it has been reflected on due to a gap that exists between the students' knowledge after graduation and the practical application thereof in real-world business.

With particular reference to the necessity for accountants to possess a defined set of skills to be employable and successful in practice, the researcher investigated SAIPA's response to the existing gap, since this institute represents professional accountants practising mainly in the small and medium enterprise business sector in South Africa. It was found that a number of accounting governing bodies, including SAIPA, had adopted the competency requirements of IES 2, with the main purpose of addressing the challenges arising from the rapidly changing complex environment in order to narrow the gap between theory and skills, and to enable students to reflect on and apply their theoretical knowledge when applying this knowledge in the business environment.

Consequently, the researcher turned to an investigation, in Chapter 2, of how and why the competency approach informed selected models with a view to demonstrating that this model was a suitable approach to both narrowing the knowledge-skills gap among graduates and facilitating the adequate development of professionals in various sectors (research objective 1). With this in mind, the OECD's competency framework, which defines the key skills graduates and professionals in any field need to possess in order to be able to adapt to various workplace environments, was described. Particular emphasis was placed on the need to be adept at using several tools, to be an effective communicator in diverse contexts and to be able to act autonomously. However, research done by the OECD and partner organisations highlighted fact that there was a gap between knowledge and technical competence among graduates.

The researcher then looked at a selection of competency frameworks that had been developed to suit various objectives in a variety of sectors. It was noted that there were a wide variety of views

regarding the significance of competencies and an equally wide variety of frameworks in the general working environment. In light of globalisation, the integrated nature of business today and the fact of job migration, this variety highlights the fact that a generic framework of standardised competencies also needs to be recognised globally for each sector.

The many significant benefits of formulating competency frameworks were illustrated by examples from selected sectors, including their use with respect to addressing specific business needs and in the education, training and development areas, such as assisting companies to shift their orientation from a task-based to a competency-based people management system, defining and guiding the development of leadership, managerial and inter-professional skills, serving as a standard of competencies or as a guideline for the development of curricula, hiring staff and for the appropriate monitoring of practices, as a measure for assessment purposes and, in particular, defining the skills needed to narrow the gap between the various dimensions of theory and practice.

The latter need was again identified in studies conducted in the accounting sector. Among the solutions posited, the need for some form of on-the-job training stood out as a means of enabling accounting graduates to acquire the competencies needed to make the transition from academia to real-world accounting situations, the effectiveness of which was demonstrated by an experiment with an SBL project in the US.

A study done in the professional accounting sector in the US found that the AICPA competency framework would serve as the most useful guideline to achieve the purpose of adopting a competency approach to developing technically competent graduates who have the ability to keep learning, applying their knowledge creatively and adjusting to changes in their environment. The proposed outcomes-based assessment method proposed in another example indicates a shift towards the encouragement of sound practices to assist this development process. Furthermore, measuring students' performance against skills-based competencies rather than content-based competencies, using the AICPA competency framework as a guideline, was found to be particularly effective in the development of technically competent and adaptable graduates.

Since the second research objective of this study was to identify the competencies needed for professional accountants to be employable and to survive in today's global economy, the researcher turned to an examination of IES 2, which identifies the competence and learning outcomes aspiring professional accountants should possess by the end of the learning and development process through which competence is developed in order to perform a professional accountant's role to a defined standard.

The IAESB was introduced in Chapter 3 because its vision is to develop and enhance high quality accounting education standards. Furthermore, its education standards (IES1 to IES8) comprise the principles individuals need in order to learn and develop as professional accountants, and to achieve and maintain an agreed upon level of competence. Therefore, the IAESB and its standards, in particular IES 2, were discussed and explained in this chapter with the aim of supporting the assertion made in Chapter 2 that a competency framework can be implemented in any working environment in order to gain skilled and professional employees. Furthermore, IES 2 was introduced and explained in detail because it enabled the researcher to identify the learning outcomes and competence areas required of aspiring professional accountants in order to perform the role as a professional accountant to a defined standard. Eleven competence areas were recognised but the learning outcomes related to these competence areas were listed only in the next chapter, in which the results were detailed.

The main body of chapter three was devoted to describing the process by which the IAESB redrafted IES 1 to IES 8 in a more consistent manner and finalised its revised IES 2, as well as the results of that process. This project had been undertaken due to the ever-changing environment and the IAESB's goal to improve the clarity of its standards to ensure consistency across borders. The fact that the 2014-2016 IAESB strategy and work plan were implemented with the goal of setting, maintaining and measuring the current IESs and to consider the need for additional IESs was discussed. In addition, the comments and results of the eight questions relating to the proposed IES 2 (Revised) that were posed to the public were briefly explained and discussed, followed by a summary of the major conceptual changes that were made to the revised IESs. The validity of the revised IES 2 was established by the fact that the proposed learning outcomes and competence areas were evaluated and accepted by international stakeholders, while its validation by South African accounting bodies (SAIPA and SAICA) indicated that this standard was applicable to South African stakeholders. Keeping in mind that two of the major conceptual changes included shifting from a rule-based to a competence-based approach and that pre- and post-qualification that were no longer needed because IPD and CPD were now required, and the argument posited by several theorists that such a competency-based set of standards would be an appropriate solution to the existing knowledge-skills gap, this background made it clear that evaluating the applicability of the revised and finalised IES 2 in a South African context was a suitable subject for this study. In addition, the change from four levels of proficiency to three proficiency levels indicated the context in which the relevant learning outcomes were expected to be demonstrated. In other words, the objectives of the IAESB, the process by which it finalised its IES 2 (Revised) and the reformulation of the standards from being

knowledge based to competency based informed the third objective, which will be dealt with in the next section.

In relation to the first two objectives, it was clear from the literature that a competency framework was indeed a suitable approach to both narrowing the knowledge-skills gap among graduates and to facilitating adequate development of professionals in various sectors. Furthermore, IES 2 enabled the researcher to identify a set of key competencies required of aspiring professional accountants in order to perform the role of a professional accountant to a defined standard. Eleven competence areas were recognised but the learning outcomes related to these competence areas were detailed only in the next section. Therefore, it can be said that the first two objectives of this study were successfully achieved.

5.4 EMPIRICAL STUDY

In order for the researcher to evaluate the relevance of the learning outcomes and competence areas that were identified during the literature review in Chapter 3 for South African accounting graduates, it was necessary to conduct an empirical study. A quantitative research questionnaire was developed in order to address this objective.

It was developed in consultation with the Statistical Consultation Services of the North-West University, Potchefstroom campus, which also assisted with the data analysis thereof. The reliability and validity of the data was confirmed by the Cronbach's alpha coefficient and a pilot study (refer to sections 4.2.6 and 4.2.7). Its validity was also confirmed by the literature review (Chapter 3), in which established that the competency standards assessed in the empirical study had been globally accepted.

Section A of the questionnaire served to elicit an overview of the biographical information of the participants in order to make comparisons. Section B of the questionnaire served to gather the participants' assessments of the learning outcomes' proficiency levels. The respondents had the option to rate each statement at a foundational (number 1), intermediate (number 2) or advanced (number 3) level of proficiency. Section C of the questionnaire was intended to support the findings of Section B and, therefore, gather the participants' recommendations on how to overcome the skills shortages of first-year SAIPA trainees when they entered a practice.

The findings and conclusions relating to research objective 3 are discussed in the following two sections.

5.4.1 Descriptive and inferential statistics of the demographic variables and the 11 competence areas

The researcher performed various statistical analyses for completeness sake and to substantiate the consistency of the results in addition to the standardisation of the questionnaire.

The results of the statistical analysis will be discussed under two headings, namely (i) summary of the demographic information of the participants and (ii) statistical and practical significance of the demographic variables and proficiency levels of the competence areas.

i Summary of the demographic information of the participants

The questionnaire required the participants to provide information regarding their gender, highest qualification, years of experience in practice, the province in which the participant worked and the size of the sector to which the majority of the participant's clients belonged. The following results were obtained regarding SAIPA practitioners' demographical profile (refer to 4.3.1):

The highest qualification of the participants was either a B. Com degree (or equivalent qualification) or an Honours degree (see Table 4.5) and the majority of the participants had had more than 10 years' experience in practice (see Table 4.7). These results indicated that, regardless of the respondents' qualifications or any other factors, they could be considered suitable candidates who would provide reliable answers to the questions posed in the questionnaire based on their many years' experience in practice, in light of several theorists' argument that knowledge is gained by combining theory and practice.

In addition, a large number of the participants' clients fell into the small- and medium-sized sectors (see Table 4.8). These results support IFAC's (2016) report, which stated that the accountancy institute was represented mainly by Professional Accountants (SA) practising in the small- and medium-enterprise business sector in South Africa. Since professional accountants are regularly the preferred source of advice for SMEs (refer to section 4.2.4), the perceptions of the SAIPA practitioners were deemed to be valid with regard to whether the learning outcomes and competence areas required of aspiring professional accountants were relevant to South African graduates.

ii Statistical and practical significance of the demographic variables and proficiency levels of the competence areas

The researcher selected Levene's test for equality of variances and the *t*-test for equality of means, as well as the Kurskall-Wallis's test and the Chi-squared test to determine whether there were any

differences between the selected datasets means. It was clear from the analysis done that responding males and females, as well as participants from different provinces, perceived the required learning outcomes to be applicable to different proficiency levels (refer to subsection *i* of section 4.3.3). These results might indicate that the demographics of responding SAIPA practitioners have an influence on their perception regarding the proficiency levels of the learning outcomes. In other words, the perceived relevance of competency standards might be context driven. Thus, what appears to be relevant in one environment might be more or less relevant in another. In addition to the analysis of the datasets mean values, the researcher used Spearman's correlation coefficient to examine the relationships between selected demographic variables and the proficiency levels of the competence areas (refer to subsection *ii* of section 4.3.3). Based on this analysis, it was found that, in general, there were positive and significant relationships between these datasets, which indicated a high level of consistency. Therefore, it can be said that, although the relevance of the learning outcomes to practising accountants in a South African environment might be limited to the context in which they are applied, it should be considered that the participants' responses to the posed questions were reliable. Furthermore, the researcher used Spearman's correlation coefficient to examine the relationships between the proficiency levels of the competence areas (refer to subsection *ii* of section 4.3.3). Based on the results of this analysis, it was clear that the 11 competence areas are integrated, which might indicate that professional accountants are required to have a fair amount of knowledge of each competence area, although one competence area can be considered more important than another.

In short, the researcher considered the SAIPA practitioners fit to provide reliable feedback based on their ability to reflect on knowledge due to their many years' experience in practice. Moreover, the statistical analyses indicated that their perceptions could be regarded as valuable insights that could enable one to determine whether the learning outcomes and competence areas were relevant to South African graduates, although they might have been limited to the context that informed them. In addition, it was noted that the competence areas were integrated, even though their required levels of proficiency differed. In other words, it was clear from the analyses done that the results were reliable based on the high levels of consistency.

In the section that follows, the researcher will discuss the results obtained from SAIPA practitioners' observations regarding the proficiency levels of the learning outcomes and competence areas, and recommendations to overcome skill shortages that exist in first-year SAIPA trainees when entering a practice.

5.4.2 SAIPA practitioners' observations regarding the competencies required of aspiring professional accountants

Since the second section (Section B) of the questionnaire served to gather the participants' assessments of the learning outcomes' proficiency levels, the ratings were used to determine a mean value for all the learning outcomes in order to measure the importance of these learning outcomes, including the competence areas to which they were related. Conclusions are drawn based on the mean values calculated for both learning outcomes and competence areas (refer to 4.3.2).

The learning outcome that yielded the lowest mean value ($\bar{x}$ = 1.53) overall, was a learning outcome associated with the *business and organisational environment* ($\bar{x}$ = 1.68). SAIPA practitioners were of the opinion that it was more essential for South African professional accountants to have the ability to describe the environment, and the aspects thereof, in which the organisation operates than to be able to identify the features of globalisation and international markets. These results did not indicate that local professional accountants were not that interested in global trends. The majority of SAIPA practices are operating in the small and medium business sector, which does not necessarily have an international focus (Dixon, Thompson & McAllister, 2002:27). The SAIPA practitioners observed that, in general, the most important learning outcome for professional accountants to achieve was the ability to explain national taxation compliance and filing requirements ($\bar{x}$ = 2.47). This result supported their view that *taxation* was the most important competence area ($\bar{x}$ = 2.36). Furthermore, *audit and assurance* yielded the lowest mean value ($\bar{x}$ = 1.65). The learning outcomes and competence areas that were considered less important did not indicate that they were not relevant to practising accountants in a South African environment. The order in which SAIPA practitioners ranked the competence areas (refer to Table 4.21) can be used by tertiary institutions to determine whether the focus and content of the subjects of their professional education programmes are updated accordingly.

The average mean of all the competence areas evaluated by the participants was $\bar{x}$ = 1.94. The score of 1.94 out of three on the Likert scale (1 = Foundation; 2 = Intermediate; 3 = Advanced) indicates that the average participant regarded the competence areas to be on an intermediate level. Despite the mean differences between the learning outcomes and competence areas, it was clear that, in general, the participants were of the opinion that an aspiring professional accountant's knowledge of the 11 competence areas should be on an intermediate level in order to perform the role of a professional accountant to a defined standard.

The IAESB (IFAC, 2014a:10) has assigned a level of proficiency to each competence area to illustrate the context in which the outcomes should be achieved and to guide IFAC member bodies when designing their professional accounting education programmes. IFAC member bodies can include additional competence areas and outcomes, and/or increase a proficiency level when designing these programmes in order to prepare the aspiring professional accountant for a particular industry or role (IFAC; 2014a:10). The IAESB requires all the competence areas to be achieved on an intermediate level, except for *economics*, which has been assigned to be achieved at a foundational level (IFAC; 2014a:5-8). Apart from the *economics* proficiency level, it can be said that the participants' perception of the importance of the 11 competence areas agrees with the proficiency level that the IAESB assigned to each competence area.

Based on the reliability of the results obtained from the statistical analysis and the aforesaid, it appears that the learning outcomes and competence areas that are set out in IES 2 are relevant to practising accountants in a South African environment. Thus, research objective 3 of the study has been met.

In addition, SAIPA practitioners made recommendations on how to overcome the skills shortages of first-year SAIPA trainees when they enter a practice (refer to 4.3.4). They also briefly motivated why they made these suggestions and enabled the researcher to identify several skill shortages that entry-level SAIPA trainees lacked when entering the profession. The results indicated the need for some form of on-the-job training. Consequently, the SAIPA practitioners' main opinion was that first-year SAIPA trainees lacked practical experience and were unable to apply theory to practice. Therefore, they suggested that practical experience should be incorporated into the professional accounting education programme during the students' three years of undergraduate studies.

The empirical findings support the results of the literature review regarding the existence of a gap between theory and knowledge, the appropriateness of a competency-based approach to address this gap and the relevance of IES 2 with regard to South African stakeholders.

5.5 SUMMARY CONCLUSION

With regard to the existing gap, it has been established from the literature that a competency framework can be implemented in any working environment or institute in order to address the knowledge-skills gap and gain skilled and successful professionals. In addition, the researcher was able to identify the learning outcomes and competence areas that an aspiring professional accountant should demonstrate when embarking on a career in order to be able to adapt to the fast-changing

environment and perform the role of a professional accountant to a defined standard. Moreover, it was clear from the literature that the proposed learning outcomes and competence areas of IES 2 (Revised) had been evaluated and accepted by international stakeholders, including South Africa. The rationale behind evaluating the applicability of the revised and finalised competency-based standards of the IES 2 to a South African accountancy context was also established.

An empirical study was conducted by means of a questionnaire in order to evaluate the learning outcomes and competence areas that were identified by the researcher during the literature review to determine whether they were relevant to practising accountants in a South African environment. The results obtained from the survey indicated, that in general, SAIPA practitioners' agreed with the proficiency levels that had been assigned to each competence area by the IAESB. *Taxation* was regarded as the most important competence area, while *audit and assurance* was not considered to be that important. The learning outcomes and competence areas that were considered less important did not indicate that they were not relevant to practising accountants in a South African environment. These results should rather be considered as a useful guideline to tertiary institutions when determining whether the focus and content of the subjects of their professional education programmes have been updated in a relevant manner. Furthermore, statistical analyses revealed that the differences of opinion regarding which competencies were the most important seemed to be related to demographics, which indicates that the standards can and should be applied creatively in differing contexts. In addition, high levels of consistency were found, which indicated that the results were reliable. Based on the aforesaid, it was clear that the competency-based standards of IES 2 are relevant to practising accountants in a South African environment.

The questionnaire also highlighted the skills shortages that exist among first-year SAIPA trainees when they enter a practice, as well as SAIPA practitioners' recommendations on how to overcome this problem. These results suggested that first-year SAIPA trainees lacked certain skills and practical experience and were in need of some form of on-the-job training.

From both the literature study and empirical findings, it was established that the competency requirements of IES 2 can be adapted and implemented by any institute or organisation, in particular in South Africa, that supports the learning and development of aspiring professional accountants, in order to have a clear understanding of the technical competence, professional skills, values, ethics and attitudes that an aspiring professional accountant should demonstrate when embarking on a career.

5.6 LIMITATIONS AND RECOMMENDATIONS

As with every study, this study was subjected to certain limitations, which are outlined below:

- The majority of the questionnaire's respondents were from the North West province, since it was a regional North West forum. There were very few respondents from nearby provinces. This means that these results are limited to the perceptions of SAIPA practitioners from the North West province and cannot be generalised to the total population of national SAIPA practitioners.
- SAIPA practitioners' perceptions regarding the importance and relevance of the learning outcomes for technical competence were determined only by means of a quantitative research questionnaire.
- The empirical study elicited only the perspectives of graduates; educators were not consulted.

Future research opportunities might include the following:

- As a future research opportunity, the importance and relevance of the learning outcomes required of aspiring professional accountants to be technically competent according to IES 2 can be tested among SAIPA practitioners at different occasions to ensure that they represent all the provinces in South Africa.
- In future research studies, additional qualitative measures, e.g. interviews, could be used to gain a deeper insight into the SAIPA practitioners' perceptions.
- Further studies could also be conducted to determine the factors that prevent professional accounting educators from providing their students with the ability to reflect on and apply their knowledge in real world scenarios. It is also recommended that accounting educators should be better equipped with knowledge regarding different strategies, functions and methods to teach theory in a practical manner.

In the light of the skills gap that has been identified, both in the literature and by the respondents who participated in this study, the following recommendations are made:

Although IES 2 has been revised, this framework and professional accounting education programmes have to be reviewed and updated on a regular basis in order to take into account changes due to the fast-changing social, political and business environment within which professional accountants operate. The literature reviewed in chapter one highlighted the fact that skills shortages exist among first-year trainee accountants when entering a practice due to the fact that tertiary institutes do not

update their accounting programmes on a regular basis to keep abreast of the rapid changes occurring. Furthermore, it should be kept in mind that practical experience is not incorporated into professional education programmes, resulting in the existing gap and the fact that knowledge can only be applied when it has been reflected on. The literature reviewed in chapter two revealed four solutions that had been posited to enable accounting graduates to narrow the gap between theory and practice, namely the formulation of a learning plan, mind-mapping, internships and the adoption of a competency approach. In other words, the final version of IES 2 (Revised) will be able to contribute to narrowing the knowledge-skills gap and enable professional accounting educators to prepare students to make the transition from academia to real-world accounting situations only when educational organisations review and update their professional accounting education programmes on a regular basis and when some form of on-the-job training is incorporated in the professional accounting education program during the students three years of undergraduate studies.

In the light of the need to re-evaluate IES 2 and professional accounting education programmes from time to time, it is recommended that IFAC, SAIPA and tertiary institutes work together to incorporate compulsory training hours for students during their three years of undergraduate studies. It is also recommended that practical scenarios, assessments and subjects in the educational programme be included to enhance soft skills, professional skills, writing skills, communication skills, computer literacy skills and the ability to complete different types of tax returns. Furthermore, it is suggested that SAIPA consider re-evaluating its professional evaluation examination to shift from a task-based to a competency-based approach to ensure that graduates are equipped with basic accounting and professional skills to deal with unusual and complex situations.

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CICA **see** Canadian Institute of Chartered Accountants.

CICPA **see** Chinese Institute of Certified Public Accountants.

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ICAEW **see** Institute of Chartered Accountants in England and Wales.

ICAI **see** Institute of Chartered Accountants of India.

ICPAK **see** Institute of Certified Public Accountants of Kenya.

ICPAS **see** Institute of Certified Public Accountants of Singapore.

ICPAU **see** Institute of Certified Public Accountants of Uganda.

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ANNEXURES

6.1 Appendix A: Research questionnaire

RESEARCH QUESTIONNAIRE

Dear Participant,

Thank you for taking the time to complete this questionnaire.

There are 3 sections that will follow;

Part A- Demographic information

Part B- Level of technical competencies

Part C- Open questions

PART A – DEMOGRAPHIC INFORMATION

Please answer the following questions (for statistical purposes only):

a) My gender is:

Male

Female

b) My race/ethnicity is:

African/Black

Coloured/Brown

Indian/Asian

White

Other (no need to specify)

c) My home language is:

Afrikaans

English

Sesotho

Setswana

IsiXhosa or IsiZulu

IsiNdebele, Sepedi, SiSwati, Tshivenda or Xitsonga

Other (no need to specify)

d) My highest qualification is:	
Diploma	
B. Com degree (or equivalent)	
Honours degree	
Master's degree	
Doctoral degree	
Other (no need to specify)	

e) How many years of experience do you have in practice? Please select the applicable range:	
1 - 5 years	
6 - 10 years	
10 years and more	

f) In which province are you working?	
Eastern Cape	
Free State	
Gauteng	
KwaZulu-Natal	
Limpopo	
Mpumalanga	
North West	
Northern Cape	
Western Cape	

g) The majority of our/my clients is from a _____ sector. Please choose one:	
Small	
Medium	
Large	

PART B- LEARNING OUTCOMES FOR TECHNICAL COMPETENCE

Please classify the following competence areas from the final revised version of the International Education Standard 2:

For this purpose, we require that you consider the points from the background of your own practical environment by using the following scale:

1 = Foundation (define, explain, low levels of complexity)
2 = Intermediate (apply, analyse, moderate levels of complexity)
3 = Advanced (integrating theories and principles, act, advise, evaluate)

(a) Financial accounting and reporting	1	2	3
(i) Apply accounting principles to transactions and other events.			
(ii) Apply International Financial Reporting Standards (IFRSs) or other relevant standards to transactions and other events.			
(iii) Evaluate the appropriateness of accounting policies used to prepare financial statements.			
(iv) Prepare financial statements, including consolidated financial statements, in accordance with IFRSs or other relevant standards.			
(v) Interpret financial statements and related disclosures.			
(vi) Interpret reports that include non-financial data, for example sustainability reports and integrated reports.			

(b) Management accounting	1	2	3
(i) Apply techniques to support management decision making, including product costing, variance analysis, inventory management, and budgeting and forecasting.			
(ii) Apply appropriate quantitative techniques to analyse cost behaviour and the drivers of costs.			
(iii) Analyse financial and non-financial data to provide relevant information for management decision making.			
(iv) Prepare reports to support management decision making, including reports that focus on planning and budgeting, cost management, quality control, performance measurement and benchmarking.			
(v) Evaluate the performance of products and business segments.			

(c) Finance and financial management	1	2	3
(i) Compare the various sources of financing available to an organisation, including bank financing, financial instruments, and bond, equity and treasury markets.			
(ii) Analyse an organisation's cash flow and working capital requirements.			
(iii) Analyse the current and future financial position of an organisation, using techniques including ratio analysis, trend analysis, and cash flow analysis.			
(iv) Evaluate the appropriateness of the components used to calculate an organisation's cost of capital.			
(v) Apply capital budgeting techniques in the evaluation of capital investment decisions.			
(vi) Explain income, asset-based, and market valuation approaches used for investment decisions, business planning, and long-term financial management.			

(d) Taxation	1	2	3
(i) Explain national taxation compliance and filing requirements.			
(ii) Prepare direct and indirect tax calculations for individuals and organisations.			
(iii) Analyse the taxation issues associated with non-complex international transactions.			
(iv) Explain the differences between tax planning, tax avoidance, and tax evasion.			

(e) Audit and assurance	1	2	3
i) Describe the objectives and stages involved in performing an audit of financial statements.			
(ii) Apply relevant auditing standards (for example, International Standards on Auditing), and applicable laws and regulations to an audit of financial statements.			
(iii) Assess the risks of material misstatement in the financial statements and consider the impact on the audit strategy.			
(iv) Apply quantitative methods that are used in audit engagements.			
(v) Explain the key elements of assurance engagements and applicable standards that are relevant to such engagements.			

(f) Governance, risk management and internal control	1	2	3
(i) Explain the principles of good governance, including the rights and responsibilities of owners, investors, and those charged with governance; and explain the role of stakeholders in governance, disclosure, and transparency requirements.			
(ii) Analyse the components of an organisation's governance framework.			
(iii) Analyse an organisation's risks and opportunities using a risk management framework.			
(iv) Analyse the components of internal control related to financial reporting.			

(g) Business laws and regulations	1	2	3
(i) Explain the laws and regulations that govern the different forms of legal entities.			
(ii) Explain the laws and regulations applicable to the environment in which professional accountants operate.			

(h) Information technology	1	2	3
(i) Analyse the adequacy of general information technology controls and relevant application controls.			
(ii) Explain how information technology contributes to data analysis and decision making.			
(iii) Use information technology to support decision making through business analytics.			

(i) Business and organisational environment	1	2	3
(i) Describe the environment in which an organisation operates, including the main economic, legal, political, social, technical, international and cultural forces.			
(ii) Analyse aspects of the global environment that affect international trade and finance.			
(iii) Identify the features of globalisation, including the role of multinationals, e-commerce and emerging markets.			

(j) Economics	1	2	3
(i) Describe the fundamental principles of micro-economics and macro-economics.			
(ii) Describe the effect of changes in macro-economic indicators on business activity.			
(iii) Explain the different types of market structures, including perfect competition, monopolistic competition, monopoly and oligopoly.			

(k) Business strategy and management	1	2	3
(i) Explain the various ways that organisations might be designed and structured.			
(ii) Explain the purpose and importance of different types of functional and operational areas within organisations.			
(iii) Analyse the external and internal factors that might influence the strategy of an organisation.			
(iv) Explain the processes that might be used to implement the strategy of an organisation.			
(v) Explain how theories of organisational behaviour might be used to enhance the performance of the individual, teams, and the organisation.			

PART C- RECOMENDATIONS

c) Please make any recommendations you feel will help address the skills shortages among first-year SAIPA trainees when they enter practice. These can include interventions at university level.
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Please motivate thoroughly:

6.2 Appendix B: Pilot questionnaire

PILOT QUESTIONNAIRE

Dear SAIPA North West Member,

Please classify the following competence areas from the Proposed International Education Standard 2.

For this purpose, we require that you consider the points from the background of your own practical environment and that the following legends are used:

F = Foundation (define, explain, low levels of complexity)

I = Intermediate (apply, analyse, moderate levels of complexity)

A = Advanced (integrating theories and principles, act, advise, evaluate)

M = Mastery (integrate technical competence, high levels of complexity)

(a) Financial accounting and reporting

(i) Apply accounting principles to transactions and other events.

(ii) Apply IFRS or other relevant standards to a range of transactions and other events.

(iii) Classify financial data appropriately in financial statements.

(iv) Prepare primary financial statements, including consolidated financial statements, in accordance with laws and regulations.

(v) Evaluate the appropriateness of accounting policies used to prepare financial statements.

(vi) Interpret specialised reports, including sustainability reports and integrated reports.

(b) Management accounting	
(i) Apply techniques such as product costing, variance analysis, inventory management, and budgeting and forecasting to improve the performance of an organisation.	
(ii) Analyse and integrate financial and nonfinancial data to provide relevant information for managerial decision making.	
(iii) Prepare reports to support managerial decision making, including reports that focus on planning and budgeting, cost management, quality control, performance measurement and benchmarking.	
(iv) Compare and evaluate the performance of products and business segments.	

(c) Finance and financial management	
(i) Compare the various sources of finance available to an organisation, including banking finance, financial instruments and different capital markets.	
(ii) Analyse an organisation's cash flow and working capital requirements.	
(iii) Analyse the current and future financial position of an organisation, using techniques such as ratio analysis, trend analysis and cash flow analysis.	
(iv) Evaluate the appropriateness of the components used to calculate an organisation's cost of capital.	
(v) Apply appropriate capital budgeting techniques to the evaluation of capital investment decisions.	

(d) Taxation	
(i) Explain domestic taxation compliance and filing requirements.	
(ii) Prepare tax calculations for direct and indirect taxes for individuals and organisations.	
(iii) Analyse the taxation issues associated with non-complex international transactions.	
(iv) Explain the difference between tax planning, tax avoidance and tax evasion.	
(v) Identify when it is appropriate to refer matters to taxation specialists.	

(e) Audit and assurance	
(i) Analyse the risk profile of an entity to identify the components of audit risk.	
(ii) Describe the objectives of an audit of financial statements.	
(iii) Describe the activities involved in performing an audit of financial statements.	
(iv) Identify applicable auditing standards (e.g., ISAs), laws and regulations relevant to an audit engagement.	
(v) Understand the key elements of assurance service engagements.	

(f) Governance, risk management and internal control	
(i) Explain the principles of good governance, including the rights and responsibilities of owners, and the role of stakeholders in governance, disclosure and transparency requirements.	
(ii) Analyse the components of an organisation's governance structure.	
(iii) Analyse an organisation's risks and opportunities within a risk management framework.	
(iv) Analyse the components of internal control.	

(g) Business laws and regulations	
(i) Explain the laws and regulations that are relevant to the environment in which professional accountants operate.	
(ii) Explain different legal forms of businesses and the legislation and regulations that govern each form.	
(iii) Identify when it is appropriate to refer matters to legal specialists for help.	

(h) Information technology	
(i) Describe the basic hardware and software components of information systems.	
(ii) Identify general computer controls and application controls required for effective accounting information systems.	
(iii) Analyse the adequacy of controls for relevant application systems.	
(iv) Explain the components of an information systems continuity plan.	

(i) Business and organisational environment	
(i) Describe the environment in which an organisation operates, including the main economic, legal, political, social, technical, international and cultural forces, and their influences and values.	
(ii) Analyse key features in the global environment that affect international trade and finance.	
(iii) Explain the impact of legal, political, cultural, and technological contexts on the processes of internationalisation of an organisation.	
(iv) Identify the characteristic features of globalisation, including the role of multinationals, e-commerce and emerging markets.	

(j) Economics	
(i) Describe the fundamental principles of microeconomics and macroeconomics.	
(ii) Interpret the effect of movements in key indicators of microeconomic and macroeconomic activity.	
(iii) Explain the competitive environment facing organisations under different types of market structures, including competitive markets, monopoly, monopolistic competition and oligopoly.	

(k) Business management	
(i) Explain the various ways that organisations might be designed and structured.	
(ii) Explain the purpose and importance of functional areas, such as human resource management, project management, procurement, technology management and marketing.	
(iii) Explain the external and internal factors that might influence the formulation of an organisation's strategy.	
(iv) Analyse relevant factors in the internal and external business environment that impact on managerial work and organisational performance.	
(v) Compare how various theories of organisational behaviour might be used to enhance the performance of the individual, teams and the organisation.	

6.3 Appendix C: Descriptive statistics of the pilot study

(a) Financial accounting and reporting	Mean	Min	Max	Variance	Standard Deviation
(i) Apply accounting principles to transactions and other events.	3.36	3.00	4.00	0.23	0.48
(ii) Apply IFRS or other relevant standards to a range of transactions and other events.	3.09	2.00	4.00	0.63	0.79
(iii) Classify financial data appropriately in financial statements.	3.18	2.00	4.00	0.51	0.72
(iv) Prepare primary financial statements, including consolidated financial statements, in accordance with laws and regulations.	2.91	1.00	4.00	0.81	0.90
(v) Evaluate the appropriateness of accounting policies used to prepare financial statements.	3.00	2.00	4.00	0.73	0.85
(vi) Interpret specialised reports, including sustainability reports and integrated reports.	1.64	1.00	3.00	0.78	0.88

(b) Management accounting	Mean	Min	Max	Variance	Standard Deviation
(i) Apply techniques such as product costing, variance analysis, inventory management, and budgeting and forecasting to improve the performance of an organisation.	1.91	1.00	3.00	0.45	0.67
(ii) Analyse and integrate financial and nonfinancial data to provide relevant information for managerial decision making.	2.09	1.00	3.00	0.45	0.67
(iii) Prepare reports to support managerial decision making, including reports that focus on planning and budgeting, cost management, quality control, performance measurement and benchmarking.	2.09	1.00	3.00	0.45	0.67
(iv) Compare and evaluate the performance of products and business segments.	1.73	1.00	3.00	0.38	0.62

(c) Finance and financial management	Mean	Min	Max	Variance	Standard Deviation
(i) Compare the various sources of finance available to an organisation, including banking finance, financial instruments and different capital markets.	2.09	1.00	3.00	0.63	0.79
(ii) Analyse an organisation's cash flow and working capital requirements.	2.27	1.00	3.00	0.38	0.62
(iii) Analyse the current and future financial position of an organisation, using techniques such as ratio analysis, trend analysis and cash flow analysis.	2.18	1.00	3.00	0.51	0.72
(iv) Evaluate the appropriateness of the components used to calculate an organisation's cost of capital.	2.09	1.00	3.00	0.63	0.79
(v) Apply appropriate capital budgeting techniques to the evaluation of capital investment decisions.	1.64	1.00	3.00	0.41	0.64

(d) Taxation	Mean	Min	Max	Variance	Standard Deviation
(i) Explain domestic taxation compliance and filing requirements.	3.27	2.00	4.00	0.56	0.75
(ii) Prepare tax calculations for direct and indirect taxes for individuals and organisations.	3.27	2.00	4.00	0.38	0.62
(iii) Analyse the taxation issues associated with non-complex international transactions.	2.45	1.00	4.00	0.61	0.78
(iv) Explain the difference between tax planning, tax avoidance and tax evasion.	3.45	2.00	4.00	0.43	0.66
(v) Identify when it is appropriate to refer matters to taxation specialists.	2.45	1.00	3.00	0.43	0.66

(e) Audit and assurance	Mean	Min	Max	Variance	Standard Deviation
(i) Analyse the risk profile of an entity to identify the components of audit risk.	2.36	1.00	4.00	1.32	1.15
(ii) Describe the objectives of an audit of financial statements.	2.45	1.00	4.00	1.16	1.08
(iii) Describe the activities involved in performing an audit of financial statements.	2.27	1.00	4.00	1.47	1.21
(iv) Identify applicable auditing standards (e.g., ISAs), laws and regulations relevant to an audit engagement.	2.09	1.00	4.00	1.72	1.31
(v) Understand the key elements of assurance service engagements.	2.18	1.00	4.00	1.60	1.27

(f) Governance, risk management and internal control	Mean	Min	Max	Variance	Standard Deviation
(i) Explain the principles of good governance, including the rights and responsibilities of owners, and the role of stakeholders in governance, disclosure and transparency requirements.	2.55	1.00	4.00	0.98	0.99
(ii) Analyse the components of an organisation's governance structure.	2.27	1.00	4.00	1.11	1.05
(iii) Analyse an organisation's risks and opportunities within a risk management framework.	2.09	1.00	4.00	1.17	1.08
(iv) Analyse the components of internal control.	2.45	1.00	4.00	1.16	1.08

(g) Business laws and regulations	Mean	Min	Max	Variance	Standard Deviation
(i) Explain the laws and regulations that are relevant to the environment in which professional accountants operate.	2.91	2.00	4.00	0.26	0.51
(ii) Explain different legal forms of businesses and the legislation and regulations that govern each form.	2.55	1.00	4.00	0.79	0.89
(iii) Identify when it is appropriate to refer matters to legal specialists for help.	2.36	1.00	3.00	0.60	0.77

(h) Information technology	Mean	Min	Max	Variance	Standard Deviation
(i) Describe the basic hardware and software components of information systems.	1.91	1.00	4.00	0.99	1.00
(ii) Identify general computer controls and application controls required for effective accounting information systems.	2.18	1.00	3.00	0.51	0.72
(iii) Analyse the adequacy of controls for relevant application systems.	1.91	1.00	3.00	0.45	0.67
(iv) Explain the components of an information systems continuity plan.	1.64	1.00	3.00	0.41	0.64

(i) Business and organisational environment	Mean	Min	Max	Variance	Standard Deviation
(i) Describe the environment in which an organisation operates, including the main economic, legal, political, social, technical, international and cultural forces, and their influences and values.	2.00	1.00	3.00	0.36	0.60
(ii) Analyse key features in the global environment that affect international trade and finance.	1.45	1.00	2.00	0.25	0.50
(iii) Explain the impact of legal, political, cultural, and technological contexts on the processes of internationalisation of an organisation.	1.55	1.00	3.00	0.43	0.66
(iv) Identify the characteristic features of globalisation, including the role of multinationals, e-commerce and emerging markets.	1.36	1.00	2.00	0.23	0.48

(j) Economics	Mean	Min	Max	Variance	Standard Deviation
(i) Describe the fundamental principles of microeconomics and macroeconomics.	1.09	1.00	2.00	0.08	0.29
(ii) Interpret the effect of movements in key indicators of microeconomic and macroeconomic activity.	1.09	1.00	2.00	0.08	0.29
(iii) Explain the competitive environment facing organisations under different types of market structures, including competitive markets, monopoly, monopolistic competition and oligopoly.	1.45	1.00	3.00	0.43	0.66

(k) Business management	Mean	Min	Max	Variance	Standard Deviation
(i) Explain the various ways that organisations might be designed and structured.	2.27	1.00	3.00	0.56	0.75
(ii) Explain the purpose and importance of functional areas, such as human resource management, project management, procurement, technology management and marketing.	2.27	1.00	3.00	0.56	0.75
(iii) Explain the external and internal factors that might influence the formulation of an organisation's strategy.	2.27	1.00	4.00	1.29	1.14
(iv) Analyse relevant factors in the internal and external business environment that impact on managerial work and organisational performance.	2.09	1.00	3.00	0.81	0.90
(v) Compare how various theories of organisational behaviour might be used to enhance the performance of the individual, teams and the organisation.	2.00	1.00	3.00	0.73	0.85

6.4 Appendix D: Letter of confirmation of language editing

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04-11- 2016

Dear Bianca Lovecchio

Language editing

This is to confirm that I edited your master's dissertation, *An investigation of the relevance of IFAC's Competency Framework for practising accountants*, and that I indicated the necessary grammatical corrections.

Although I took all reasonable precautions to ensure that all grammatical and stylistic corrections are indicated, you remain responsible for the final product. Therefore, please check these suggested corrections before applying them and, if possible, again perform a spell check after you have implemented them, in order to eliminate typing errors.

Please contact me if there are any queries or if I can be of further assistance.

Yours sincerely



Michelle Coetzee