

**DEVELOPING AN ALTERNATIVE ASSESSMENT
FRAMEWORK FOR UNDERGRADUATE ACCOUNTANCY
MODULES IN OPEN DISTANCE LEARNING (ODL)**

by

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LEARNING (ODL)**

I declare that the above thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



22 August 2019

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Signature

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Date

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ABSTRACT

Developing an alternative assessment framework for undergraduate accountancy modules in open distance learning (ODL)

Worldwide, students compete for a limited number of places at universities. By increasing the use of distance education, more students could have access to tertiary education. The problem addressed in this study related to the challenges faced by an ODL university to assess undergraduate modules in accounting sciences by way of technology-enhanced, non-venue-based alternative assessments, instead of the traditional venue-based examinations. The purpose of the current study was to develop an alternative assessment framework for ODL undergraduate accounting sciences modules as a possible solution to the assessment challenges faced by accounting graduates and universities in an ODL environment.

The legitimacy of qualifications was considered by reviewing the identity verification of students and other ethical issues, as well as the influence on the accreditation by professional and other regulatory and governing bodies. Institutional and neo-institutional theories were used within the ODL context as foundational principles. Design-based research was used to develop two conceptual frameworks – one based on the theoretical elements and the other on non-venue-based alternative assessments in the ODL context. The two conceptual frameworks were evaluated using interviews conducted with ODL lecturers and members of professional accounting bodies. Thereafter, the data were analysed using thematic analysis. Triangulation was used as a final evaluation of the conceptual frameworks by analysing comments from students included in reports from an alternative assessment pilot study. The two conceptual frameworks were combined in one final framework. This final framework demonstrates how the institutional theory affects the institution and, specifically, internal issues.

Due to the complexity of the ODL institution, external influences (such as technology) result in aspects of the neo-institutional theory becoming even more relevant to the current study. This complexity, together with the mimetic forces of technology and innovation, creates uncertainty. However, it became clear from the data analysis that coercive and normative forces result in 'more certainty'. The alignment of these

isomorphic forces resulted in legitimacy. Due to the importance of technology in the ODL environment, it became clear that technology should be anthropomorphically considered a stakeholder in the ODL institution. The inclusion of stakeholder theory created improved performance and the potential for innovation in order to ensure the legitimacy of qualifications.

Key terms:

accounting sciences; alternative assessment; design-based research; institutional theory; legitimacy; neo-institutional theory; non-venue-based; open distance learning (ODL); professional accounting bodies; stakeholder theory; technology

ABSTRAK

Ontwikkeling van 'n alternatiewe assesseringsraamwerk vir voorgraadse rekeningkundige modules in oop afstandsonderrig (OAO)

Studente ding wêreldwyd mee vir 'n beperkte aantal plekke in universiteite. Indien die gebruik van afstandsonderrig uitgebrei word, kan meer studente toegang tot tersiêre onderwys kry. Die probleem waarop hierdie studie fokus is die uitdagings van 'n OAO-universiteit om voorgraadse modules in rekeningkundige wetenskappe te assesseer deur middel van tegnologieë verbeterde, nie-lokaalgebaseerde alternatiewe assesserings in plaas van die tradisionele, lokaalgebaseerde eksamens. Die doel van die huidige studie was om 'n alternatiewe assesseringsraamwerk vir voorgraadse rekeningkundige wetenskapmodules in OAO te ontwikkel as 'n moontlike oplossing vir die assesseringsuitdagings van rekeningkundige gegradueerdes en universiteite in 'n OAO-omgewing.

Die geldigheid van kwalifikasies is oorweeg deur 'n oorsig te doen oor die identiteitsverifiëring van studente en ander etiese aangeleenthede, asook die invloed op die akkreditasie deur professionele en ander regulatiewe beheerliggame. Institusionele en neo-institusionele teorieë is in die OAO-konteks as grondbeginsels gebruik. Ontwerpgebaseerde navorsing is gebruik om twee konseptuele raamwerke te ontwikkel – een gebaseer op die teoretiese elemente en die ander op nie-lokaalgebaseerde alternatiewe assesserings in die OAO-konteks. Die twee konseptuele raamwerke is geëvalueer aan die hand van onderhoude met OAO-dosente en lede van professionele rekeningkundige liggame. Hierna is die data deur middel van tematiese analise ontleed. Triangulasie is gebruik as 'n finale evaluering van die konseptuele raamwerke deur die kommentaar van studente wat in verslae van 'n alternatiewe assesseringsvoorstudie ingesluit is, te evalueer. Die twee konseptuele raamwerke is in een finale raamwerk gekombineer. Hierdie finale raamwerk demonstreer hoe die institusionele teorie die instelling en, spesifiek, interne aangeleenthede beïnvloed.

As gevolg van die kompleksiteit van die OAO-instelling, veroorsaak eksterne invloede (soos tegnologie) dat die neo-institusionele teorie selfs meer relevant vir die huidige

studie word. Hierdie kompleksiteit, tesame met die mimetiese magte van tegnologie en innovasie, skep onsekerheid. Dit is egter duidelik uit die data-analise dat dwang- en normatiewe magte 'meer sekerheid' veroorsaak. Die belyning van hierdie isomorfiëse magte veroorsaak geldigheid. As gevolg van die belangrikheid van tegnologie in die OAO-omgewing, is dit duidelik dat tegnologie antropomorfies beskou moet word as 'n belanghebbende in die OAO-instelling. Die insluiting van die belanghebbende teorie het verbeterde prestasie en die potensiaal vir innovasie tot gevolg gehad, om sodoende die geldigheid van kwalifikasies te verseker.

Sleuteltermes:

rekeningkundige wetenskappe; alternatiewe assessering; ontwerpgebaseerde navorsing; institusionele teorie; geldigheid; neo-institusionele teorie; nie-lokaalgebaseerde; oop afstandsonderrig (OAO); professionele rekeningkundige liggame; belanghebbende teorie; tegnologie

IQOQO

Ukwakhiwa kwenye indlela yesakhiwo sohlelo lokuhlola amamojuli abafundi beziqo zokuqala ze-*accountancy* ohlelweni lokufunda ukude (ODL)

(Developing an alternative assessment framework for undergraduate accountancy modules in open distance learning) (ODL)

Emhlabeni wonke, abafundi bazabalazela ukuthola ithuba lokungena kwizindawo ezingamanyuvesi amancane ngenani. Ngokukhulisa izinga lokusetshenziswa kohlelo lokufunda ukude, abafundi abaningi bebangakwazi ukungena emazikweni ezemfundo aphakemeyo. Inkinga exazululwa kulolu cwaningo imayelana nezinselelo ezibhekene nenyuvesi yohlelo lwe-ODL ukuhlola amamojuli asesigabeni seziqo zokuqala kwisayensi ye-*accounting* ngendlela yoncedo lobuchwepheshe, ngezinye izinhlelo zokuhlola ezingenziwa endaweni eyodwa, kunokusebenzisa uhlelo olwejoywayelekile lokuhlolwa okwenziwa endaweni eyodwaethize. Inhloso yocwaningo lwamanje kwaye kungukwakha esinye isakhiwo sokuhlola samamojuli esayensi ye-*accounting* yeziqo zokuqala, lokhu kwenziwa njengekhambi elingaxazulula izinselelo zokuhlola ezibhekene nabafundi besifundo se-*accounting* kanye namanyuvesi akusizinda sohlelo lwe-ODL.

Udaba lokuba semthethweni kweziqo luye lwabhekwa ngokubuyekeza ukuqinisekiswa kwamagama abafundi kanye nezinye izindaba ezimayelana nemigomo yokuziphatha, kanye nomthelela phezu kokwamukelwa kwamaprofeshinali kanye nezinye izinhlaka eziqinisa umthetho kanye nezinye izinhlaka eziphethayo. Amathiyori eziko kanye nalawo ohlelo olusha lwamaziko asetshenziswe ngaphakathi kwesizinda se-ODL njengemigomo eyisisekelo. Ucwano olususelwa kwidizayini lusetshenziswe ukwakha izinhlaka ezimbili zegama – olunye uhlaka lususelwe kwizinto zethiyori kanye nakwezinye izinhlelo zokuhlola ezingasuselwa ezindaweni ezimile ngaphakathi kwesizinda se-ODL. Izinhlaka ezimbili zezakhiwo ziye zahlolwa ngokusebenzisa izinhlobo ezenziwa abafundisi be-ODL kanye namalungu wezinhlango eziprofeshinali zesifundo se-*accounting*. Ngemuva kwalokho, idatha ihlaziye ngokusebenzisa uhlelo lokuhlaziya isihloko. Unxantathu wezinhlolovo (*triangulation*) usetshenziswe njengohlelo lokugcina lokuhlola izakhiwo zegama ngokuhlaziya izimvo ezivela kubafundi ezixutshwe kwimibiko evela ohlelweni lokuhlolwa kwesivivinyo

socwaningo. Lezi zakhiwo zamagama ezimbili zihlanganiswe kuhlaka olulodwa lokugcina. Lolu hlaka lwesakhiwo lukhombisa indlela umqondo weziko othinta ngayo iziko, ikakhulu, izinto ezingaphakathi.

Ngenxa yengxubevange yeziko elinohlelo lwe-ODL, imithelela evela ngaphandle (enjengobuchwepheshe) idala izinto ezihambelana nomqondo omusha weziko oya ngokuya uhambisane nesifundo samanje socwaningo. Le ngxubevange indawonye nemimoya yobuchwepheshe kanye namaqhinga amasha, kuletha isimo esingenakuqinisekiswa. Yize kunjalo, kuya ngokucaca ukusukela ekuhlaziyweni kwedatha ukuthi imimoya ephoqayo kanye naleyo eyejwayelekile idala isimo esingaziwa. Ukuhambisana kwalawa mandla okudalwe yizinto ezisemthethweni. Ngenxa yokubaluleka kobuchwepheshe kwisizinda se-ODL, kuye kwacaca ukuthi ubuchwepheshe kufanele buthathelwe phezulu njengesidlalindima kwiziko le-ODL. Ukufakwa komqondo womdlalindima kudale umsebenzi omuhle othuthukile kanye namathuba okuveza amaqhinga amasha ukuze kuqinisekise isimo sokuqinisekisa iziqu ukuthi zibe semthethweni.

Amagama asemqoka:

Isifundo sesayensi ye-*accounting*; enye indlela yokuhlola; ucwaningo olususelwa kwidizayini; umqondo/ithiyori yeziko; ukuba semthethweni; umqondo/ithiyori entsha yeziko; okungenziwa endaweni ethize; uhlelo lwefundo evulekile yokufunda ukude (ODL); izinhlaka zohlelo oluprofeshinali lwe-*accounting*; umqondo/ithiyori yabadlalindima; ubuchwepheshe/ithekinoloji

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LIST OF ABBREVIATIONS AND ACRONYMS

4IR	Fourth Industrial Revolution
5IR	Fifth Industrial Revolution
ACCA	Association of Chartered Certified Accountants
AICPA	American Institute of Certified Public Accountants
APC	Assessment of Professional Competence
CA(SA)	chartered accountant
CAQDAS	computer-assisted qualitative data analysis software program
CAS	College of Accounting Sciences
CBE	computer-based examination
CEO	chief executive officer
CFO	chief financial officer
CGMA	Chartered Global Management Accountant
CHE	Council on Higher Education
CIMA	Chartered Institute of Management Accountants
COL	Commonwealth of Learning
CPA	certified public accountant
CPD	continuing professional development
DHET	Department of Higher Education and Training
DIA	Department of Institutional Analysis
DTPS	Department of Telecommunications and Postal Services
GAA	Global Accounting Alliance
GNI	gross national income
GSMA	Groupe Speciale Mobile Association
HEI	higher education institution
ICT	information and communication technology
IP	internet protocol
IRBA	Independent Regulatory Board for Auditors
ISI	International Statistical Institute
ITC	Initial Test of Competence
LMS	learning management system

LSE	London School of Economics and Political Science Teaching and Learning Centre
MCQ	multiple-choice question
MRL	module responsible lecturer
NADEOSA	National Association of Distance Education and Open Learning in South Africa
NASBA	National Association of State Boards of Accountancy
NDP	National Development Plan
NIT	neo-institutional theory
NPC	National Planning Commission
NWU	North-West University
NQF	National Qualifications Framework
ODeL	open distance e-learning
ODL	open distance learning
PoPI	Protection of Personal Information
R&R	review and reconfiguration
RPL	recognition of prior learning
RSA	Republic of South Africa
SAICA	South African Institute of Chartered Accountants
SAQA	South African Qualifications Authority
SSI	Scientific Software International
Unisa	University of South Africa
UP	University of Pretoria
VUE	Virtual University Enterprises
WEF	World Economic Forum

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND INFORMATION

The skills shortage in South Africa prevents people from entering the labour market because students do not study the subjects required to develop complex skills (for instance problem solving, critical thinking, good judgement, decision-making and cognitive flexibility) (World Economic Forum [WEF] 2016a). In order to address the skills shortage, the National Planning Commission (NPC), consisting of 26 members chosen for their expertise in key areas, in collaboration and consultation with hundreds of South Africans, developed the 2030 long-term National Development Plan (NDP) for South Africa (NPC 2012:1). The NDP aims to reduce poverty and inequalities in South Africa where “opportunity is determined not by birth, but by ability, education and hard work” (NPC 2012:24). One of the highest priorities identified by the Commission was to improve the quality of education outcomes throughout the education system (NPC 2012:318). According to the NPC, enrolment in higher education institutions (HEIs) increased by 71% from 1994 to 2009 (NPC 2012:317). However, universities in South Africa have limited infrastructure that did not keep up with the exponential growth in numbers of tertiary students (NPC 2012:319).

Worldwide, students compete for scarce places in universities with the demand exceeding the supply, particularly in developing countries (Altbach, Reisberg & Rumbley 2009:14,123). Developing countries, according to the World Bank country classifications (see The World Bank 2018), are classified based on the gross national income (GNI) per capita, and include South Africa, neighbouring countries (Namibia, Botswana, Zimbabwe, Mozambique, Malawi and Angola) and numerous other African countries under the heading of ‘Sub-Saharan Africa’ (International Statistical Institute [ISI] 2017; The World Bank 2018). There were over 150 million tertiary education students in 2007 in the world (Altbach et al 2009:98; UNESCO Institute for Statistics 2009:10). The total number of students enrolled at public and private tertiary education increased to over 220 million students worldwide in 2017 (UNESCO Institute for Statistics 2019). Globally, the number of students enrolled at tertiary institutions

increased from 19% in 2000 to 25.9% in 2007 and to 37.9% in 2017 (Altbach et al 2009:98; UNESCO Institute for Statistics 2009:14; 2019). The lowest participation rate of 5% in the world in 2007, was in sub-Saharan Africa (Altbach et al 2009:38; Schofer & Meyer 2005:908). In order to address the capacity needs of students, one of the proposals in the NDP is for universities to expand the use of distance education (NPC 2012:318,320). Not only should these students receive tuition; they must also be assessed. Traditional assessment at a venue is becoming impossible due to the large numbers of students and their geographical locations. Although distance education could address the needs of growing and changing student populations, it can however not replace contact universities (Altbach et al 2009:124,168; Prinsloo & Coetzee 2013:1357–1358; Tung 2012:312). According to the White Paper for Post-School Education and Training (White Paper), contact universities may now choose to offer distance education programmes also (Department of Higher Education and Training [DHET] 2013:51; NPC 2012:320). In 2014, the “policy for the provision of distance education in South African universities in the context of an integrated post-school system” was approved by government (DHET 2014b:3). The purpose is to regulate distance education at South African universities by providing more clarity on terminology used in distance education and promoting greater access in distance education with a reasonable chance of success. Therefore, the quality assurance of tuition and assessment, as well as the improvement of retention, pass rates and throughput of distance education students, is critical in order to deliver successful graduates (DHET 2014b:6; Subotzky & Prinsloo 2011:177; Tung 2012:320).

The latest innovations in information and communication technology (ICT) vastly expand the distance education delivery potential (Altbach et al 2009:134,137; Prinsloo & Coetzee 2013:1357–1358). The DHET plans to improve ICT access in South Africa by developing an integrated ICT plan that will increase the technological potential for support in teaching and learning for distance education institutions (DHET 2013:53; Department of Telecommunications and Postal Services [DTPS] 2016:11–12,64–65). According to the White Paper, there were 23 public universities in South Africa in 2011, of which the total student headcount of full-time and part-time enrolments was 937 455 (DHET 2013:28). This had nearly doubled since 1994, when the headcount was 495 356 (DHET 2013:28). Of these nearly one million students, almost 60% were engaged in contact-based study, and the remainder were enrolled in distance

education, mainly at the University of South Africa (Unisa) (DHET 2013:28). By 2030, the estimated enrolment of students will be approximately 1.6 million (DHET 2013:30). According to a post-school education and training report published in 2019, the number of public universities in South Africa, increased to 26 during 2014 and 2015 (DHET 2019:3,26). The focus will be on the expansion of distance education at both Unisa and other mainly contact universities since the improvements in ICT can overcome infrastructure limitations (DHET 2013:51,53).

Since e-learning has become increasingly accessible in South Africa, especially at postgraduate level where most students cannot attend full-time classes because they are employed or because of their geographical distance from a university, all universities are encouraged to expand online and blended learning (DHET 2013:51; Subotzky & Prinsloo 2011:177–178). Blended learning can be defined as structured learning with a combination of contact, distance, and/or ICT-supported opportunities (Council on Higher Education [CHE] 2014:3; DHET 2014b:20; South African Qualifications Authority [SAQA] 2014:7). Distance education programmes can therefore include a variety of media, ranging from without any internet access to fully online programmes (DHET 2014b:8–9) with the aim to create a quality learning environment with student support (DHET 2014b:11). The use of distance education methods to realise open learning purposes and principles is referred to as open distance learning (ODL) (DHET 2014b:20). Unisa was founded in 1873 as the University of the Cape of Good Hope, and was dedicated to distance education from 1946 onward (Unisa 2019b). It is also Africa's largest ODL institution and in 2018, it had more than 380 000 registered students from various countries in Africa and other parts in the world (Unisa 2019a). A few traditional residential HEIs such as North-West University (NWU) and University of Pretoria (UP) also present distance learning programmes (NWU 2019; UP 2019).

Although there is a significant expansion in higher education student numbers worldwide (Schofer & Meyer 2005:917), the scarce skills dilemma has not necessarily been addressed yet. Following from the NDP and the White Paper, a list of the top 100 occupations in South Africa considered to be in short supply, was published by the DHET in 2014 (DHET 2014a). One of these top 100 occupations in demand includes that of chartered accountant. Chartered accountancy is an occupation that is highly in

demand in South Africa, and these professionals work in a range of occupations, such as accountants, chief executive officers (CEOs), chief financial officers (CFOs), financial managers, financial analysts, auditors, project managers and general managers (DHET 2014a:19; 2018:8–9). Education – specifically in accounting sciences, as a national priority – has the potential to alleviate poverty, reduce inequalities and unemployment through market-relevant educational opportunities (The World Bank 2018:64,67). Accounting sciences education has a strategic impact on corporate value creation through the teaching of Financial Accounting, Management Accounting, Auditing and Taxation, and is evident in the number of accounting graduates produced by the College of Accounting Sciences (CAS) at Unisa. CAS was established on 1 January 2014, and shows the strong commitment of Unisa to contribute towards the implementation of the NDP to increase the number of quality graduates in this scarce skills field. Producing quality graduates in accounting sciences, provides CAS with an opportunity to improve its standing, position and credibility in accounting sciences nationally and on the continent through its teaching and learning, research and community engagement practices (Unisa 2014a:3).

Assessment of the different types of accountancy qualifications, and specifically professional designations across the world, creates some challenges. In South Africa, the CHE is responsible for the accreditation of the programmes of public and private HEIs, which leads to qualifications registered on the National Qualifications Framework (NQF) and those registered by the DHET (CHE 2018). The National Qualifications Framework Act 67 of 2008 (the NQF Act) (Republic of South Africa [RSA] 2008) provides a mandate to SAQA to develop a national policy and criteria for designing and implementing assessment for NQF qualifications, part-qualifications and professional designations in South Africa (SAQA 2014:11). The purpose of this policy is to provide guidelines and set minimum criteria for effective, valid, reliable and consistent assessment, which is fair, transparent and appropriate (SAQA 2014:10). According to Bransford, Brown and Cocking (2000:143), the quality of activities students must be able to understand in assessments depend on its content and its application in the process of the required task.

There are a number of international and South African professional accounting bodies that make use of various methods of assessment. For instance, the American Institute

of Certified Public Accountants (AICPA) develops and grades the uniform Certified Public Accountant (CPA) examination inter alia to test higher-order cognitive skills by using task-based simulations (AICPA 2018c). These examinations are based on the revised Bloom's taxonomy (see Anderson & Krathwohl 2001), and are administered at computerised test centres in conjunction with the National Association of State Boards of Accountancy (NASBA) (NASBA 2016). Higher-order skills are required to measure reasoning, understanding and complex problem solving and attempt to align the skills students learn with what employers expect (Scully 2017:3).

Students should be able to demonstrate, through assessment, certain knowledge, skills and abilities required by the accountancy profession (Scully 2017:3). The Chartered Institute of Management Accountants (CIMA) is a professional body that has established the Chartered Global Management Accountant (CGMA) designation, setting a new standard for global recognition of management accounting (AICPA 2016). The CIMA Professional Qualification examinations include case-study examinations that can be written at Pearson VUE test centres worldwide (CIMA 2018b). In 2017, AICPA and CIMA formed the Association of International Certified Professional Accountants to strengthen the global professional accounting network by advancing the employability, reputation and quality of CPAs, CGMA designation holders and other accounting and finance professionals worldwide (CIMA 2018a; 2018d).

ACCA (Association of Chartered Certified Accountants) is a global professional accountancy body and has more than 219 000 qualified members and 527 000 students worldwide (ACCA 2019a). Knowledge and skills in financial and management accounting as well as finance form part of the knowledge base of professional members (ACCA 2019b; 2019g; 2019h). The 'new' ACCA qualification with new examination names, was launched in September 2018 and resulted in examination levels changing (ACCA 2018). The Applied Knowledge and Applied Skills examinations are online venue-based assessments offered on demand any time of the year (ACCA 2019i:9). The Strategic Professional examinations are online venue-based assessments in the form of case studies that are offered four times a year globally (ACCA 2019i:9). A limited number of these examinations are still offered four times a year as traditional paper-based assessments (ACCA 2019i:9).

The Independent Regulatory Board for Auditors (IRBA) is the statutory body formed in terms of the Auditing Profession Act 26 of 2005 (RSA 2005) and controls the public accountancy part of the accountancy profession in South Africa (IRBA 2016a). IRBA recognises the Initial Test of Competence (ITC) and Assessment of Professional Competence (APC) professional examinations set, marked and adjudicated by the South African Institute of Chartered Accountants (SAICA), as core assessment programmes. Electronic assessments (using Word and spreadsheet functionality) were tested for the first time in 2015 on a pilot group of APC students. As a result, partial implementation of electronic assessments followed in 2016 (SAICA 2016:3), and is mandatory for all candidates from 2018 (SAICA 2018b).

All the professional accounting bodies mentioned above make use of alternative assessments, for instance case studies and task-based simulations, to test real-life scenarios by making use of online or electronic assessments, as an alternative to the traditional venue-based examinations.

1.2 OVERVIEW

Chapter 1 comprises an introduction to the study by providing the background to the literature study and the research methodology. Figure 1.1 below depicts Chapter 1 graphically.

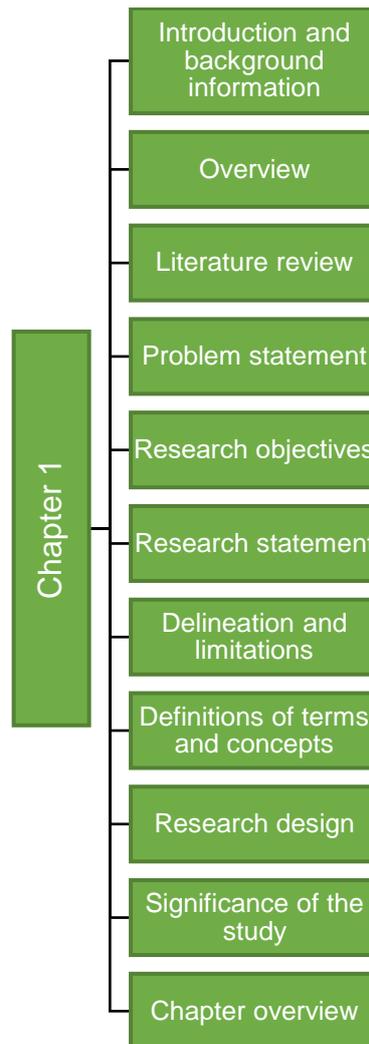


Figure 1.1: Chapter outlay

Source: Own compilation

1.3 LITERATURE REVIEW

In the literature review, the related aspects relevant to alternative assessments in an ODL environment – and specifically in accountancy – are discussed. Students in an ODL environment have to study through self-instruction, as they do not have the benefit of a full-time face-to-face lecturer. Students can study according to their own personal schedules and needs, making it easier to accommodate a university experience while working (CHE 2014:4,12; Fengliang 2018:243; Prinsloo & Coetzee 2013:1357–1358; Tung 2012:312). The technological changes and improvements in recent years unlocked the use of ICT for a more interactive engagement, or to provide the content more efficiently (CHE 2014:6,12; Fengliang 2018:245). Universities are encouraged to make use of online or blended learning (CHE 2014:3; DHET 2014b:20; SAQA 2014:7).

Unisa is Africa's largest ODL institution, and follows a blended learning approach (Unisa 2019b). According to the Unisa open distance e-learning (ODeL) policy, blended learning is accomplished by using multiple teaching and learning strategies, as well as a range of technologies in combination with face-to-face interaction and deploying both physical and virtual resources (DHET 2014b:8–9; Unisa 2018a:2). Study material is provided online on myUnisa, the Unisa online platform (learning management system [LMS]), which is used to communicate with registered students by way of official study material, learning units, additional resources, discussion forums, announcements, and so forth, in addition to printed material delivered via postal service and/or couriers (CHE 2014:13; DHET 2014b:11; Unisa 2018a:2).

Unisa and other distance learning HEIs encourage students to think and build knowledge at their own pace (Goolamally, Yusoff, Subramaniam & Latif 2010:3927). ODL requires self-motivation, commitment and persistence from students (Tung 2012:320). Unisa's ODeL policy (Unisa 2018a:2) describes ODL as a multi-dimensional concept that aims to bridge the economical, educational, geographical, social, time and communication distance between students and the institution, its academics, courseware and peers. Distance education can therefore be used to overcome the geographical or transactional distance between the students and their educators in an online environment (CHE 2014:4; DHET 2014b:11). The focus of ODL is to create a quality learning environment and to remove barriers that contribute to the success of students. Barriers include access to learning, the flexibility of learning, student-centeredness, support of students and learning programmes (CHE 2014:4–5; DHET 2014b:6–7).

Distance education is a method to teach students who are located in different geographical locations and who are therefore physically separated from the university, lecturers and other students (CHE 2014:11; DHET 2014b:4; Unisa 2018a:2). Various challenges are experienced, specifically by developing countries. From a study conducted by Musingafi, Mapuranga, Chiwanza and Zebron (2015:61,63–64) in a developing country, ODL challenges at the Zimbabwe Open University were divided into three categories namely:

- individual-related challenges (e.g. logistical experience; problems with access and use of ICT; financial constraints; support from work, family and friends);
- instructional-related challenges (e.g. limited face-to-face interaction; poor quality of study material; limited contact or feedback from lecturers); and
- institutional-related challenges (e.g. study material arriving late; access to administrative assistance; inadequate student support services).

Similar challenges were experienced at the University of Education, Winneba, Ghana, also regarded as a developing country (Ohene & Essuman 2014:163–169). Subotzky and Prinsloo (2011:179–183) discuss similar challenges experienced in South Africa, and trace it back to the challenges of student success in an ODL context.

ODeL extends the definition of ODL as it includes the use of online or e-learning (Unisa 2018a:2). According to a paper presented by Arinto (2016:173) on challenges experienced by academics at the University of the Philippines – Open University, it is clear that academics need technology-related training in content development, learning activities, teaching strategies and assessment in order to teach online or e-learning modules successfully. In South Africa, one of the biggest challenges experienced by distance-learning students relate to poor ICT infrastructure in rural areas. The White Paper (DHET 2013:53) attempts to address this issue by collaboration with the Department of Telecommunications and Postal Services and other relevant parties and stakeholders to improve bandwidth and reduce cost for educational purposes, specifically to reach more remote areas, as well as to establish learning support centres with internet access (DTPS 2016:1–4). The development of ICT also opens up possibilities to interact with students and allow for continuous assessments throughout the semester or year. Students can submit assignments online, and receive constructive feedback from tutors or lecturers, also online (DHET 2014b:15).

Feedback is an important part of the learning process because it provides students with information on how they performed in an assessment as well as clear guidance on areas to improve (Marriot 2009:252; SAQA 2014:9). Timely and constructive feedback is crucial for reflection and therefore also the success of accounting students (Marriot 2009:252; McChlery & Visser 2009:311; Van Rooyen 2015:450). Accounting

sciences consist of four core areas, namely Financial Accounting, Management Accounting, Auditing and Taxation. What makes the nature of the accountancy field and these subject areas unique is that international standards, theory and acts must be mastered and applied to scenarios. Furthermore, even though the subjects mentioned above are related, they have different learning outcomes and are assessed differently. Professional accounting bodies (for instance SAICA) and SAQA use Bloom's taxonomy as a guideline where the ratio of low- to high-level learning outcomes is considered to be 80:20 in the first year, gradually increasing to 20:80 by the fourth year (McChlery & Visser 2009:301,312). Accounting students in an ODL environment usually struggle to understand difficult concepts and calculations. This can be attributed to:

- instructional-related challenges (for example limited face-to-face interaction for discussion of difficult concepts; study material is of a poor quality; limited contact and/or feedback from lecturers);
- individual-related challenges (for example logistical experience; problems with access and use of ICT; pressure from work, family and friends; stress experienced when assessed; inability to apply higher-level learning objectives aligned with Bloom's taxonomy of learning objectives); or
- institutional-related challenges (for example study material arriving late; inadequate student support services) (Musingafi et al 2015:61,63–64; Ohene & Essuman 2014:163–169; Tung 2012:320).

Considering the various challenges students in an ODL environment experience, as well as its impact on student success, the NDP proposes that universities should create a learning environment that is welcoming to all. It should improve the quality of teaching and learning as well as offer extra support to students to help them cope with the demands of higher education (NPC 2012:319–320).

The national policy and criteria for designing and implementing assessment for NQF qualifications, part-qualifications and professional designations in South Africa (hereafter referred to as the 'national assessment policy'), aim to set minimum standards and to contribute to the quality of learning and assessment of all students (see SAQA 2014). The national assessment policy provides guidance for setting up

appropriate assessments with integrity, which are effective, valid, reliable, fair and aligned with the NQF Act (RSA 2008). This policy was implemented in 2014 and promotes lifelong learning (SAQA 2014:6,10). Assessment is defined in this national assessment policy as (SAQA 2014:4):

[T]he process used to identify, gather and interpret information and evidence against the required competencies in a qualification, part-qualification, or professional designation, in order to make a judgement about a learner's achievement. Assessment can be formal, non-formal or informal; assessment can be of learning already done, or towards learning to inform and shape teaching and learning still to be done.

The Unisa ODeL policy addresses assessment, which is central to student learning, and has a fundamental influence on the way students perform in modules (SAQA 2014:5; Unisa 2018a:4). In addition, the Unisa assessment policy provides for integrated assessment strategies in formative and summative assessments to ensure that students will develop effective cognitive, reflective, self-management and practical skills (Unisa 2015e:4–5). Formative and summative assessments form part of the continuous assessment process of students throughout the tuition period. **Formative** assessments are an important part of the learning process, and usually comprise assignments and self-assessments that take place during the tuition period towards the achievement of the outcomes of a module. **Summative** assessments take place at the end of the tuition period as the final assessment or evaluation to determine whether the outcomes of a module had been achieved successfully (Chaudhary & Dey 2013:211–212; Dunn & Mulvenon 2009:4; SAQA 2014:9,13,21; Unisa 2015e:5). Most of Unisa's summative assessments are traditional venue-based examinations that are written in venues located all over the world.

Limited venues and the astronomic costs (linked to the exchange rates) of securing examination venues all over the world, resulted in exploring different possibilities to assess Unisa's students and thus to move away from the traditional venue-based examinations (Swart 2015a:379). According to Meyen, Aust, Bui and Isaacson (2002:190), online assessments provide the opportunity for timely, frequent and meaningful feedback to students. In September 2013, the principal and vice-chancellor of Unisa initiated the review and reconfiguration (R&R) of Unisa's assessment systems

and practices (Unisa 2016a:8). The project was approved by Senate, and a steering committee in the form of a task team was established. One of the objectives of the R&R task team was to increase non-venue-based technology-enhanced summative assessments. With the improvement and rapid growth in technology, various types of ICT assessment tools are available (Altbach et al 2009:134,137). The following types of technology-enhanced non-venue-based alternative assessment types were identified by the Unisa R&R task team:

- take-home assessments;
- timed online assessments;
- multiple-choice questions (MCQs) generated by random selection;
- portfolios;
- e-portfolios;
- webinars;
- peer review; and
- continuous assessment.

The different alternative assessments were grouped into three groups, each with a task team responsible for defining and developing a relevant process for the alternative assessment types. The first task team considered take-home assessments and timed online assessments (including MCQs generated by random selection). The second task team was responsible for portfolios and e-portfolios. The third task team was responsible for webinars, peer review and continuous assessment. Kim, Smith and Maeng (2008:14) found that, in their research, the nature of every module (e.g. the history, purpose and student characteristics) determined the type of assessment methods used. Therefore, not all types of alternative assessment are suitable for all modules, and careful consideration should be given in the selection of the type of assessment.

1.3.1 Take-home assessments

In the ODL context, take-home assessments are defined as assessments that must be completed by students without assistance, over a longer period than the usual two-

hour examinations. This can be in the form of a case study, an essay or answers that may require a longer duration. Take-home assessments are downloaded from the LMS and do not necessarily have to be completed online, but the answer must be submitted online, at or before a prescheduled time (Swart 2015b:1). According to a guideline compiled by the London School of Economics and Political Science Teaching and Learning Centre (LSE) (2013), take-home assessments can be very useful in testing certain skills – for example in law and management qualifications – due to their vocational nature. In addition, it may even allow for more ‘authentic’ assessments over a longer period (e.g. 48 or 72 hours) to replicate the environment in which the students’ knowledge and skills would be used. In a study by Norcini, Lipner and Downing (1996:72), it was found that candidates who completed a take-home examination for recertification purposes appeared to take modules seriously, and they preferred this type of alternative assessment. In addition, the scores these candidates obtained were comparable to many closed-book (venue-based) examinations.

1.3.2 Timed online assessments

Timed online assessments are arranged for a set period. These assessments are similar to take-home assessments but open and close at a predefined time and are completed online on the LMS, in an uninterrupted manner (Swart 2015b:1). Khare and Lam (2008:399) emphasise that it is important to align the examination design and process with the purpose of the examination. They also mention that MCQs can be appropriate where a question has only one answer and where examinations are held at invigilated or proctored centres. However, where a higher level of learning is needed, essay-type questions can be asked without being proctored. Proctoring allows students to take an online examination at home or at the office while being monitored online by an offsite proctor. The student must have a webcam and microphone. In a number of studies (Buchanan 2000:193–194; Oraifige, Heesom & Felton 2009:61) it was found that online formative assessment has a number of advantages. For instance, students can assess their own progress and understanding of the subject. They can also remedy weaknesses identified in the assessment feedback.

Timed online assessments can be in the form of MCQs, short or long questions where a pre-determined timing requirement is added to the online assessment. Examples of online formative assessment techniques include concept mapping, determination of

prior knowledge, blogging or learning journals, surveys, practice quizzes, rubrics and assignments (Watwood, Nugent & Deihl 2009:93–108). Oraifige et al (2009:65) specifically mention that online tasks should include summative assessments as an incentive to increase student participation. Several methods can be used for online summative assessment, namely quizzes, tests and examinations (Watwood et al 2009:108–109).

1.3.3 Portfolios

A portfolio is defined as a compilation of a variety of documents and artefacts that demonstrate the achievement of outcomes and their associated assessment criteria so that assessors can judge the competence of students from the evidence submitted. Knowledge, skills and values from all aspects of a module are integrated in a portfolio. It can also provide evidence of the successful application of what was learnt in a module. Portfolios provide the opportunity for students to demonstrate their innovation and creativity (Dreyer 2016:1). Traditionally, portfolios have been used widely in the visual and performing arts to demonstrate the artist's work. In recent years, the use of portfolios and performance-based assessments have been used in business and various professions to provide evidence of the students' depth and breadth of knowledge and skills (Meyen et al 2002:194).

1.3.4 E-portfolios

An e-portfolio is used to develop digital literacy among students. The e-portfolio facilitates the management of documents, media, artefacts and communication between different students and between lecturers and students. It is a tool used to create innovations and creativity in teaching and learning, and integrates a whole range of media representing different dimensions of learning, such as videos, audio, photographs, web links and text-based documents (Van Niekerk 2015:1). It was confirmed by Alexiou and Paraskeva (2010:3053) that the e-portfolio can be used as a tool to promote students' learning, and it can also be seen as a scaffolding approach, leading to understanding and engagement of skills learned. E-portfolios facilitate both formative and summative evaluations. In the case of formative assessment, e-portfolios can be used to identify strengths and weaknesses. It can also provide reflection on ways in which students can improve on their professional development

and training (Meyen et al 2002:194). Summative portfolios provide a retrospective function, and it documents the student's achievements and professional skills (Meyen et al 2002:194).

1.3.5 Webinars

A webinar is defined as a web-enabled interactive session linking students and assessors from different sites, using computer networks to transmit audio, video and text data for assessment purposes (Symington & Steyn 2015:1). In a study by Wang and Hsu (2008:175,186), it was found that a “webinar provides a nearly face-to-face environment that increases participants' social presence and facilitates multi-level interaction”. They found that the number of participants should not be more than ten, and that the students should have a similar level of technology skills. In addition, they also found that the webinar tool is not sufficient to learn hands-on skills. Khechine, Lakhal, Pascot and Bytha (2014:47) suggest that shorter sessions should be recorded as such shorter sessions will allow the students to visit the course material weekly to improve their quality, efficiency and productivity.

1.3.6 Peer review

A peer review assessment is defined as an arrangement for peers to consider the level, value, worth, quality or success of the products or learning outcomes for other students. It means that students assess and provide online feedback on the work of other students registered in the same semester or year for the same module (Rapoo 2016:1). If peer review is used in all online collaborative learning environments, it can empower students and enrich their learning experience when exploratory talk is encouraged (Watwood et al 2009:115–116). However, Taylor, Ryan and Pearce (2015:1267) warn that, in order to achieve the levels of reflective review, students need carefully scaffolded support. This will, through independent self-management, lead to improved practice.

1.3.7 Continuous assessment

Continuous assessment is defined as an approach to assessment where the student is aware of the quality of his or her own learning when the learning takes place (Mentz 2016:1). To put it in different terms, continuous assessment recognises that the proof

of learning is ongoing as opposed to at the end of a learning period. Students are therefore assessed while they proceed along the learning path (Mentz 2016:1). In a study by Isaksson (2008:5) on the effect of continuous assessment on student learning, a statistically significant correlation was found between the grades of the students and the time into the course when the assessment took place. Isaksson used “five-minute” essays on the content of every lecture to increase the students’ participation in class. It enabled him to follow the progress of students and their higher level of thinking as the course progressed. In a recent article, De Lisle (2015:80) suggests that the summative and formative purposes of continuous assessments can be successfully integrated or combined synergistically, if the alignment between summative and formative is high.

1.3.8 Challenges with non-venue-based alternative assessments

In an online environment, it is difficult to verify the identity of the student. Advanced technology, such as fingerprint or voice recognition, retinal scans and thermographs, is available but it is extremely expensive, and most students will not be able to afford it (Khare & Lam 2008:387). Khare and Lam also refer to computer programs that can compare documents with previous submitted documents to check for plagiarism. In order to reduce plagiarism or cheating with alternative assessments, it should be considered to make use of proctoring sites, monitoring of internet protocol (IP) addresses and honesty declarations (Watwood et al 2009:108). According to Khare and Lam (2008:388–389), the presence of an honesty declaration or honour code statistically lowers the level of dishonesty as unethical behaviour is explained to the students in order to reduce misunderstanding. Students can then be held accountable because ignorance, due to a lack of communication of the policies and procedures, is eliminated.

1.3.9 Assessment practices of professional accounting associations

Professional accounting associations in South Africa and over the world already make use of, or are planning to make use of, online or electronic assessments (ACCA 2019c; CIMA 2018b; SAICA 2016; 2018a). Most of the candidates who take part in these professional examinations already have postgraduate qualifications (ACCA 2019b; 2019i:5; SAICA 2018d). The professional accounting associations therefore test a

higher level of cognitive skills and, in a number of cases, the assessments consist of case studies that require a high level of application and integration (SAICA 2016; 2018a). These professional accounting associations focus mainly on the alternative assessment of postgraduate students at test centres (ACCA 2019c; CIMA 2018b; SAICA 2018a). Professional accounting bodies are already making use of online or electronic examinations, and this raises the question why universities are not making use of technology to a greater extent. The focus of this study was on the various non-venue-based alternative assessment methods concerning undergraduate qualifications that were acceptable to both lecturers and professional accounting bodies, as these qualifications provided access to the examinations of the professional bodies. The aim was to create a final framework to assess undergraduate ODL students in the accounting sciences optimally by way of using alternative (non-venue-based) assessment methods instead of the traditional (venue-based) examinations.

1.4 PROBLEM STATEMENT

Unisa, as an ODL institution, mainly conducted traditional venue-based examinations in the past. The problem addressed in this study relate to the challenges faced by an ODL university when assessing undergraduate modules in accounting sciences by way of technology-enhanced non-venue-based alternative assessments and selecting the most appropriate methods to address such challenges in order to be acceptable for the professional accounting bodies.

The questions that were addressed by the study were:

- Should ODL universities in South Africa introduce technology-enhanced non-venue-based alternative assessments to replace traditional venue-based examinations for undergraduate accounting sciences modules?
- Which type of alternative assessments should be used to assess accounting sciences effectively in an ODL environment?
- How will the identity of students be verified in an ODL environment?
- What are the implications for accreditation by professional accounting bodies if non-venue-based alternative assessment methods are used?

1.5 RESEARCH OBJECTIVES

The overall objective of the current study was to develop an alternative assessment framework for undergraduate accounting sciences modules in an ODL institution.

The additional objectives of this study were to:

- determine whether ODL universities in South Africa should introduce technology-enhanced non-venue-based alternative assessments to replace traditional venue-based examinations for undergraduate modules in accounting sciences;
- determine the type of alternative assessments that should be used to assess accounting sciences effectively in an ODL environment;
- suggest ways to verify the identity of students in an ODL environment; and
- determine whether non-venue-based alternative assessment methods will influence the accreditation of professional accounting bodies.

1.6 RESEARCH STATEMENT

Developing a non-venue-based alternative assessment framework for ODL undergraduate accounting sciences modules is a possible solution to the assessment challenges faced by accounting graduates and universities in an ODL environment.

1.7 DELINEATION AND LIMITATIONS

Unisa is the largest ODL institution in South Africa and on the African continent. A few traditional residential universities have recently entered the distance education market such as UP (UP 2019) and NWU (NWU 2019). The findings and results of the current study are not applicable to all universities as the study focused on one large distance education institution in South Africa. The study included only the three largest professional bodies in accounting sciences in South Africa (e.g. SAICA) and internationally (e.g. ACCA and CIMA).

In addition, the focus was specifically on the undergraduate accounting sciences area, which includes Financial Accounting, Management Accounting, Auditing and Taxation.

As the different subject areas are quite different from each other, results cannot be generalised, and each subject area was investigated individually.

1.8 DEFINITIONS OF TERMS AND CONCEPTS

Alternative assessments	Assessments done alternatively to traditional venue-based examinations
Anthropomorphism	Attributing human characteristics or behaviour to an object or aspect
Coercive forces or isomorphism	Results from political influence (from government or other organisations) and legitimacy (rules and regulations) (DiMaggio & Powell 1983:150; González & Hassall 2008:15; Karataş Acer & Güçlü 2017:1914–1915; Lawrence & Shadnam 2008:2290)
Distance education	Learning situation where the student and facilitator are separated by location and/or time. Distance education makes use of print or electronic media to connect the facilitator, student and content.
Isomorphic forces	Forces similar in form and practice to each other
Mimetic forces or isomorphism	The result of standard reactions to uncertainty (DiMaggio & Powell 1983:150–151). It is associated with the uncertainty in the environment, goals, technology or market dynamics (Lawrence & Shadnam 2008:2290)
Non-venue-based	Not linked to a specific predetermined or arranged venue
Normative forces or isomorphism	Related to professionalisation. This results from the standards and conceptual frameworks created and controlled by professions and other regulators that determine standards (DiMaggio & Powell 1983:150,152; González & Hassall 2008:15; Karataş Acer & Güçlü 2017:1915; Lawrence & Shadnam 2008:2290)
Venue-based	Limited to a specific venue for example an examination centre in the case of an examination

1.9 RESEARCH DESIGN

A thorough literature review of books, the websites of professional accounting bodies, theses and articles in academic journals was conducted in order to determine the possible alternative assessments available worldwide and specifically in accounting sciences in ODL. Assessment through recognition of prior learning (RPL) was also investigated.

Institutional (see Weber 1905), neo-institutional (see DiMaggio & Powell 1983; Meyer & Rowan 1977) and stakeholder (see Mitroff 1983) theories were applied as

foundational theories in the study. Two conceptual frameworks were developed based on coordinated and controlled activities where formal structures result in social or institutional behaviour. Institutional theory is usually an explanation of the stability and similarity of organisations in a certain population or field (Greenwood & Hinings 1996:1023; Lawrence & Shadnam 2008:2288–2289; Meyer & Rowan 1977:340,342). The current study was based primarily on the neo-institutional theory that evolved from the original institutional theory. Organisational changes are the response of the institution to various individual and combined isomorphic forces (similar in form and practice to each other), which include coercive (political influence and legitimacy), normative (professionalisation) and mimetic (environmental uncertainty) forces (Meyer & Rowan 1977:360; Tolbert & Zucker 1996:177) resulting in a homogenous structure, culture and output (DiMaggio & Powell 1983:147). To summarise, the institutions may copy or imitate practices (whether these relate to legal requirements, environmental conditions or requirements of professional networks or bodies) of similar institutions, if they are to be perceived as successful. Specifically, professionalisation is the result of formal education provided by universities and the growth in professional networks that influence the rapid change in technology, and was applicable to this study as technology influences the method of assessment. Stakeholder theory was also used in the study because various stakeholders may have an influence on the ODL institution.

A design-based research approach was applied in this study. Design-based research can be described as the design and development of an intervention (e.g. a framework, in this case) to find a solution to a complex educational problem or with the purpose to develop or validate theories (Plomp 2013:15). The current study was conducted in three phases, namely the preliminary, development or prototyping and assessment phases. In every phase, design and development took place, which were evaluated (similar to action research) before the next phase began (Plomp 2013:30). In the **preliminary phase**, the needs and context analysis, review of the literature and the development of the two conceptual frameworks for the study took place. In this phase, there was a strong focus on relevance (content validity) and consistency (construct validity). In the **development or prototyping phase**, there were various iterations of evaluation in order to amend the conceptual frameworks. There was a strong focus on consistency and practicality in this phase. In the **assessment phase**, a final framework

was presented, and a summative evaluation was done to conclude whether the framework met the pre-determined specifications. Recommendations for further contributions were included. In the assessment phase, there was a strong focus on practicality and effectiveness (Nieveen & Folmer 2013:155; Plomp 2013:16,19,29–30). The design-based research method applied in this study is graphically presented in Figure 1.2.

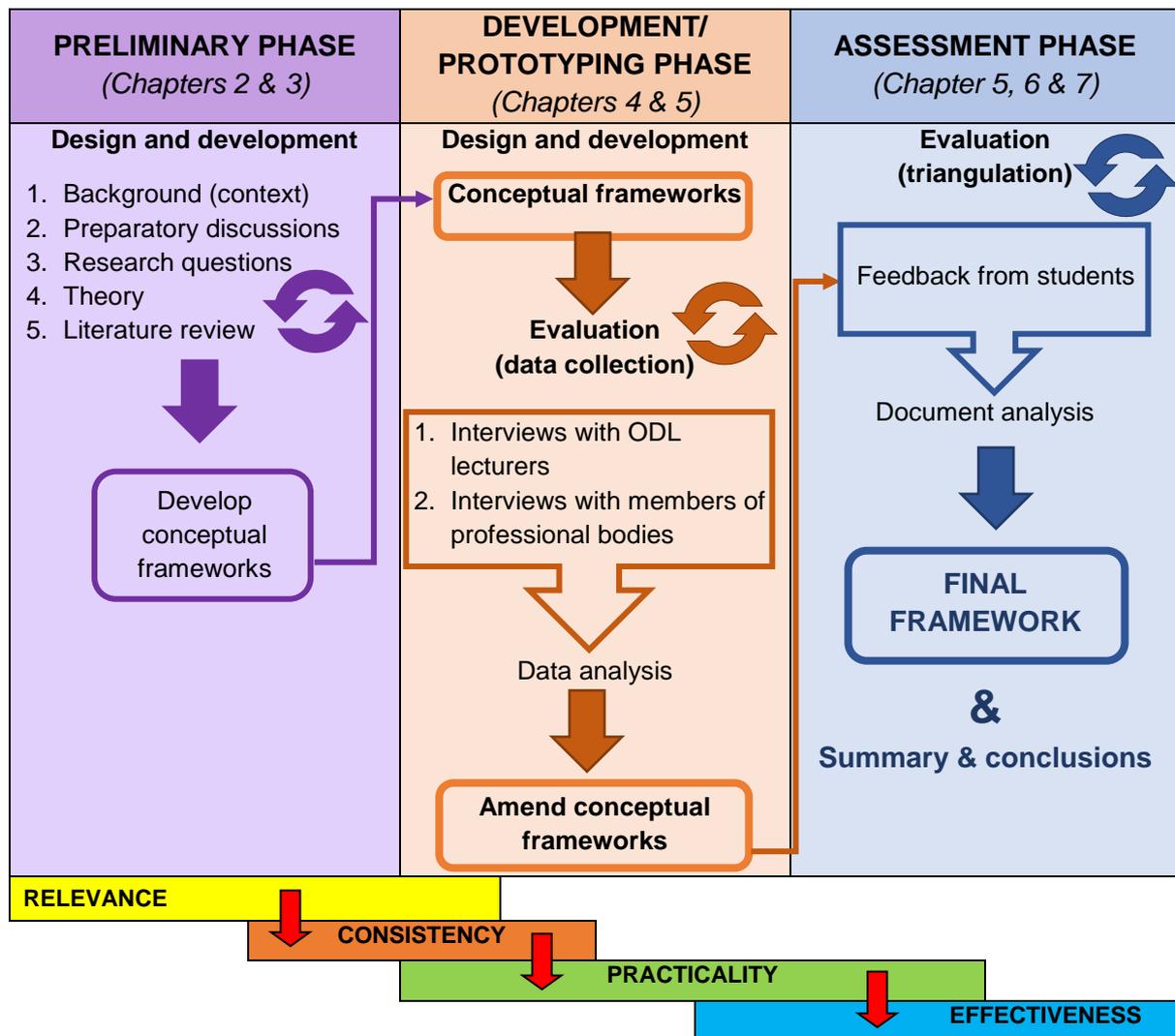


Figure 1.2: Diagram demonstrating the design-based research method

Source: Own compilation (based on Goff & Getenet 2017:111,115; Nieveen & Folmer 2013:154–165; Plomp 2013:19,30).

Figure 1.2 demonstrates the three phases of the design-based research method. During the **preliminary phase**, two conceptual frameworks were designed and

developed from preliminary discussions and the literature review. These conceptual frameworks were evaluated in the **development/prototyping phase** through one-on-one interviews conducted with CAS undergraduate module responsible lecturers (MRLs) (at least three lecturers per main subject area). Members of South African (e.g. SAICA) and international professional accounting bodies (e.g. ACCA and CIMA) were also interviewed through one-on-one interviews to evaluate the conceptual frameworks. All interviews conducted were recorded, transcribed, and were coded and analysed in ATLAS.ti™ 8. The conceptual frameworks were amended with the contributions from the data analysis. In the **assessment phase**, a final framework was developed. The framework was finalised after final evaluation through triangulation. This was done by way of document analysis of comments from students regarding their experiences on an alternative assessment project conducted at Unisa during 2014–2015 (Unisa 2014b). Comments from students were coded and analysed in ATLAS.ti™ 8.

Informed consent was obtained from ODL personnel, including module leaders, as well as from members of professional accounting bodies before the interviews commenced. Interviewees were informed that their privacy and confidentiality were guaranteed and that they could withdraw or choose not to participate at any time during the interview. The sampling, data gathering and processing of the relevant data were undertaken in a manner that was respectful of the rights and integrity of all parties as stipulated in the Unisa policy on research ethics (Unisa 2016b) and the Unisa policy for conducting research involving Unisa employees, students or data (Unisa 2016a).

1.9.1 Credibility and trustworthiness

The trustworthiness of qualitative data was established in terms of the qualitative components of this study. Lincoln and Guba (1985:328; 2013:104–105) introduced the concept of trustworthiness to substitute ‘reliability’ and ‘validity’ in qualitative research. According to them, trustworthiness has four aspects, namely credibility, transferability, dependability and confirmability. These aspects were also discussed by Cope (2014:89) and Sreejesh and Mohapatra (2014:58). Table 1.1 depicts the trustworthiness criteria of the qualitative research conducted in this study.

Table 1.1: Trustworthiness of qualitative research

Trustworthiness criteria		Explanation of how trustworthiness was confirmed
Credibility	The rate at which the generated results appear to represent data (confidence in findings and interpretations)	In-depth one-on-one interviews were conducted with lecturers and members of professional accounting bodies.
Transferability	Extent of application of findings in different contexts or to other groups or subjects	Purposeful sampling was used. Reflection of the context also ensured transferability.
Dependability	Stability and consistency of findings	Finding stability and similarities in opinions of participants. Checked for consistency.
Confirmability	Ability to demonstrate participant's interpretations (free from researcher bias)	Quotations from the participants are provided. An audit trail was kept.

Source: Adapted from Sreejesh and Mohapatra (2014:58).

The trustworthiness criteria explained in a table compiled by Sreejesh and Mohapatra (2014:58) was adapted in Table 1.1 to include the specific application to the current study. Semi-structured one-on-one interviews were conducted with lecturers and members of professional accounting bodies. The interview schedule included key questions and allowed for comments to open the discussion with a few prompts to promote further in-depth discussions. One of the questions, specifically applicable to the systems of Unisa, was omitted when the interviews with the members of the professional accounting bodies were conducted since, as external stakeholders, they would not have had any knowledge of the operations of the institution (Saunders, Lewis & Thornhill 2016:391). A second coder was used to code transcriptions. The second coding contributed to the trustworthiness of the findings.

1.9.2 Ethical considerations

Ethical clearance and permission to conduct the study were obtained from the College of Accounting Sciences Research Ethics Review Committee.

The following Unisa policies were adhered to in order to protect the rights of all interviewees, but in particular the Unisa staff and students:

- Policy for conducting research involving Unisa staff, students and data (Unisa 2016a);

- Policy on research ethics (Unisa 2016b);
- Research and innovation policy (Unisa 2012); and
- Intellectual property policy (Unisa 2018b).

1.9.3 Protection and security of information or data collected

All information collected through surveys or interviews that related to the study will be kept confidential and no person is referred to at individual level. Data were only available to the researcher, transcriber, second coder and supervisor. All interviews and transcriptions were anonymised before it was made available to the transcriber and second coder.

1.10 SIGNIFICANCE OF THE STUDY

Researching the use of various non-venue-based alternative methods of assessment in undergraduate ODL accounting sciences modules will contribute towards the existing body of knowledge. There is a need to train ethical accountants in South Africa and globally. It is therefore important to establish an acceptable assessment framework that could demonstrate accounting students' expected ethical behaviour during the assessment process to lecturers and professional accounting bodies.

At theoretical level, the findings of this study are significant because they contribute to the existing body of knowledge by focusing on the use of various non-venue-based alternative assessment methods in accounting sciences in the South African context. The literature was mostly silent on accounting sciences students who do assessments alternatively to the traditional venue-based examinations. Alternative assessments in this particular discipline were therefore regarded as a fairly unexplored area. In addition, there were a number of student protests in the last semester of 2016 relating to the #FeesMustFall campaign, which created a specific need to assess students in an alternative way to venue-based examinations, as the examination venues were not accessible. Therefore, technology-enhanced alternative assessments seem to be a possible solution for students to complete their studies.

A study on the use of alternative assessment methods in undergraduate accounting sciences modules in ODL, and the perception of professional bodies, lecturers and

students on the challenges and benefits of implementing these alternative assessment methods towards becoming a professional accountant, will enable accounting educators in ODL to extend the use of innovative methods further to assess students. It will also provide a valuable contribution to professional accounting bodies where the accreditation of institutions is dependent on quality qualifications. A final framework was developed to determine the best non-venue-based alternative assessment methods for accounting sciences that would be acceptable for both lecturers and professional bodies.

1.11 CHAPTER OVERVIEW

Chapter 1: Introduction

In Chapter 1, the background to the study is discussed and the research problem is identified. The significance of the study and the broader context are justified. In addition, the reasons for conducting the specific study and the aim of the research are provided.

Chapter 2: Theorising the ODL institution and its role in producing and assessing professional accountants

From the literature review conducted, it was clear that there are various methods of alternative assessments available but not all methods are suitable to assess students in an ODL environment. The literature review provided an overview of recent literature worldwide focusing on the different alternative assessment methods available. The underlying theory of the envisaged conceptual frameworks were also discussed.

Chapter 3: Contextualising alternative assessments in accounting sciences in ODL

The various methods of alternative assessments identified are discussed in detail in Chapter 3. These methods are placed in context to determine which alternative methods will be suitable to assess accounting sciences students in an ODL environment. Ethical considerations are also discussed by considering the academic integrity of students in technology-enhanced environments. The different assessment methods applicable to accounting sciences are discussed.

Chapter 4: Research design

The focus in Chapter 4 is on the research design followed in this study. A description of the literature review is followed by a discussion of the design-based research approach employed in the study. An empirical survey was conducted through semi-structured interviews. The context in which the study was conducted, together with the aim of the research, is discussed.

Chapter 5: Presentation and analysis of data gathered

Chapter 5 focuses on the presentation of the research findings and an analysis of the data. The research findings relating to the acceptable or not acceptable alternative assessment methods are discussed.

Chapter 6: Presentation and analysis of theoretical contributions resulting from data gathered

Chapter 6 includes the theoretical contributions that resulted from the data analysis. Additional theoretical contributions are discussed.

Chapter 7: Contribution – Summary, conclusions and recommendations

Finally, in Chapter 7, conclusions are drawn and the recommendations resulting from the study are discussed by providing a final framework to propose the best non-venue-based alternative assessment methods for accounting sciences that are acceptable for both lecturers and professional accounting bodies.

CHAPTER 2

THEORISING THE ODL INSTITUTION AND ITS ROLE IN PRODUCING AND ASSESSING PROFESSIONAL ACCOUNTANTS

2.1 INTRODUCTION

South Africa is a developing country with a growing economy. Advanced skills are needed to increase the number of people entering the labour market in order to reduce poverty in the country. Worldwide students compete for scarce places in universities where the demand exceeds the supply (Altbach et al 2009:14,123). One of the options to address this issue in South Africa is to expand distance education to address the needs of growing and changing student populations. Innovations in ICT allow for this expansion, as e-learning has become more accessible in South Africa and therefore, also the need for online assessment of students. Students should be assessed by using innovative techniques to allow for their individual growth instead of limiting assessments to available venues and venue-based assessments.

2.2 OVERVIEW

Chapter 2 comprises a discussion of the theory and application in terms of the macro and micro context of the study. This chapter includes a discussion of the applicable theory and its effect on the institution. The neo-institutional theory was used as basis to explain the following aspects and issues that had an influence on the study:

- The context of distance education and ODL is provided as background for the higher ODL institution, namely Unisa.
- The legitimacy of assessment in accounting sciences and the influence on accreditation of the ODL university and with professional accounting bodies are discussed.
- The chapter comprises a discussion on the changing environment and the influence of technology and innovation on non-venue-based assessments.

Figure 2.1 depicts the outlay of Chapter 2 visually.

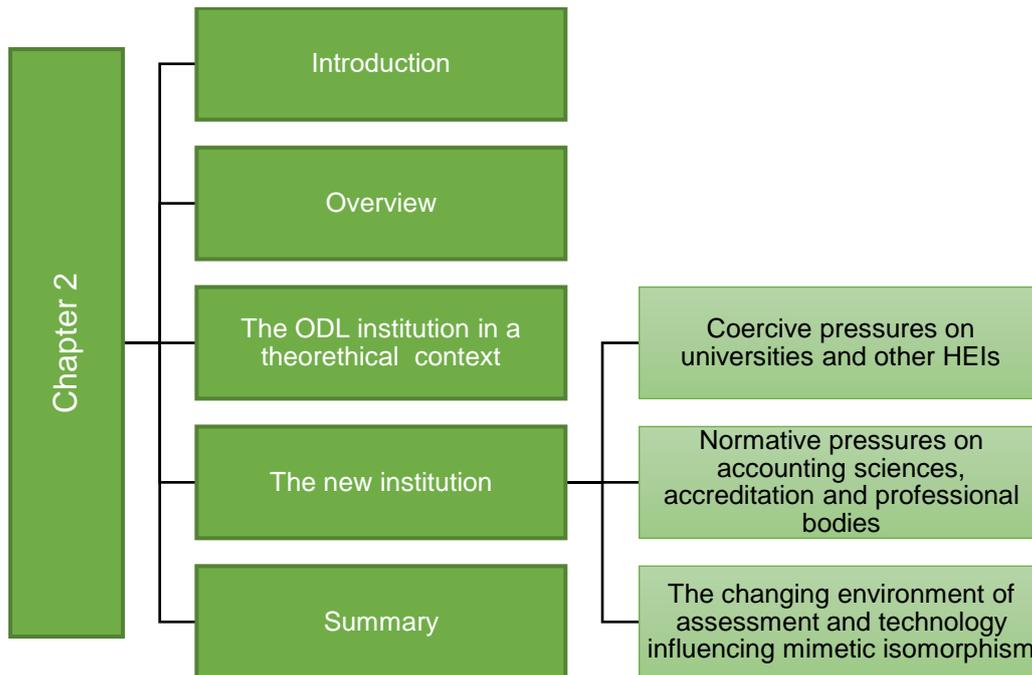


Figure 2.1: Chapter outlay

Source: Own compilation

In Chapter 2, the context of distance education and the ODL institution, the role professional bodies play in the accreditation of accounting sciences programmes in the age of technology, and non-venue-based alternative assessments, are put in perspective. These accounting sciences programmes and qualifications form the basis to qualify for professional designations, and therefore form an integral part of the conceptual alternative assessment frameworks for accountancy modules in ODL. Assessments and specifically the non-venue-based alternative assessment of accountancy modules are discussed in more detail in Chapter 3.

Based on the literature, this chapter commences with an overview of applicable theories. The background to ODL and its role and limitations in non-venue-based assessments at an HEI also needed to be examined together with accounting sciences and the role of the professional accounting bodies in the accreditation of these qualifications at universities. The key issue was the selection of the most appropriate methods to address challenges faced by an ODL university to assess undergraduate modules in accounting sciences by way of technology-enhanced non-venue-based

alternative assessments and to produce ethical professional accountants in an ODL educational environment.

2.3 THE ODL INSTITUTION IN A THEORETICAL CONTEXT

An institution is defined as “an organisation, establishment, foundation, society, or the like, devoted to the promotion of a particular cause or programme, especially one of a public, educational, or charitable character” (DHET 2014b:20). The use of distance education methods allows for the realisation of open learning purposes and principles. Students in an ODL environment study through self-instruction, as they do not have the benefit of a face-to-face lecturer. Distance learning is available to students wherever they live or wish to study according to their own personal schedules and needs, and does not require them to assemble in a particular location. Students can therefore have a university experience while working, making it a cost-effective and flexible method for further education (Altbach et al 2009:125,137; CHE 2014:4,12; DHET 2014b:20; Subotzky & Prinsloo 2011:177–178; Tung 2012:312).

Unisa became the first public university in the world in 1946, to teach exclusively by way of tertiary distance education (Commonwealth of Learning [COL] 2017:7). All open universities in the COL also make use of ODL as their primary mode of teaching and learning (COL 2017:8). At Unisa (2018a:2), ODL is defined as:

[A] multi-dimensional concept aimed at bridging the time, geographical, economic, social, educational and communication distance between student and institution, student and academics, student and courseware and student and peers. Open distance e-learning focuses on removing barriers to access learning, flexibility of learning provision, student-centredness, supporting students and constructing learning programmes with the expectation that students can succeed.

These aspects all play a role in an ODL institution and it is therefore important to make use of a strong theoretical basis to support the study. A grand theory forms the cornerstones or building blocks of most social sciences where the formal organisation and related arrangements have priority over the social world (Mills 1959). Foundational theory can explain the similarity of the actual structure of the study, because of its relationship with or similarity to the real structure (Sklar 2003:426). Various theories

were applicable to the current study, for example stakeholder and institutional theories. In Table 2.1 below, the most relevant seminal articles on stakeholder and institutional theories are summarised to support the decision to use the institutional theory as a foundational theory in this study.

Table 2.1: Summary of the most relevant articles on institutional and stakeholder theories

Author/s	Article/book/terminology	Year	Theory	
			Institutional/ neo-institutional theory	Stakeholder theory
Weber	The term “iron cage”	1905	X	
Meyer and Rowan	Institutionalised organisations: Formal structure as myth and ceremony	1977	X	
DiMaggio and Powell	The iron cage revisited: Institutional isomorphism and collective rationality in organisational fields	1983	X	
Mitroff	Stakeholders of the organisational mind	1983		X
Freeman	Strategic management: A stakeholder approach	1984		X
Powell and DiMaggio	The new institutionalism in organisational analysis	1991	X	

Source: Own compilation

Institutional theory developed in the early 1900s where it originated in the social sciences with Max Weber, using the term ‘iron cage’ (as translated by Talcott Parsons in 1930), to discuss the increased inherent rationalisation of fundamental forces in social life (Cole 2018). As indicated in Table 2.1 above, institutional theory was refined over the last century into the neo-institutional theory by DiMaggio and Powell (1983), and Meyer and Rowan (1977). Stakeholder theory was originally detailed by Ian Mitroff (1983) and is based on the moral and ethical values in the management of an organisation. It can include various parties, such as employers, employees, financiers and communities. Freeman (1984:25) defines a stakeholder as “any group or individual who can affect or be affected by the decisions and the achievement of corporate objectives”. Stakeholder theory tends to use stakeholders’ needs as the focus of any action, and has recently become a popular theory in higher education (Leisyte &

Westerheijden 2014:83). According to Bjørkquist (2009:30–33), in the case of higher education, the term ‘stakeholders’ refers to anyone (internal and external) with an authentic interest in education with a right to intervene, and could include government, professional bodies, students, academics and employers. Stakeholder theory assumes the manipulation of logic to increase self-interest of the institution (Mahmood & Ahmad 2015:143). It therefore corresponds with coercive pressures of the neo-institutional theory. Whereas stakeholder theory focuses on stakeholders, institutional theory includes a wider basis, focusing on the institution itself, and includes stakeholders as one of the areas addressed. Institutional and neo-institutional theories were therefore chosen as the main foundational theories. Stakeholder theory was also considered as a foundational concept.

In the current study, institutional and neo-institutional theories were used as foundational theories, because they explain the combination and integration of external and internal factors and thereby expand stakeholder theory into a larger theoretical perspective (Mahmood & Ahmad 2015:142–143). Institutional theory is a theoretical framework based on coordinated and controlled activities where formal structures result in social or institutional behaviour (Lawrence & Shadnam 2008:2288–2289; Meyer & Rowan 1977:340). It is usually an explanation of the stability and similarity (‘isomorphism’) of organisations in a certain population or field (Greenwood & Hinings 1996:1023). Formal structures arise from an institutionalised context and may include symbolic and action-generating properties such as schemes, routines, practices, rules and norms (Lawrence & Shadnam 2008:2288–2289; Meyer & Rowan 1977:340; Tolbert & Zucker 1996:177). Highly institutionalised contexts result in the formation of professions, policies, technologies and programmes that are created in conjunction with products and services (Meyer & Rowan 1977:340,344). Institutional pressures – for instance the ideas, beliefs and values that originate in the institutional context – result in rationalised institutional behaviours (Meyer & Rowan 1977:342).

In the second half of the 20th century, the state and the professions became the prominent rationalisers of structuring organisational fields (Meyer & Rowan 1977:342,344). The incorporation of the policies and procedures to regulate the rationalised institutional behaviours, increases the legitimacy of the organisations as well as their survival prospects (Martínez, Fernández & Fernández 2016:10; Meyer &

Rowan 1977:340). 'Legitimacy' can be defined as "a generalised perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman 1995:574). Conformity among universities and their institutional structures increases due to universities mimicking others that are perceived as having the highest degree of legitimacy (Croucher & Woelert 2016:443). However, the efficiency of the organisation is affected by the conformity to institutional rules, resulting in the legitimacy of the organisation being sacrificed (Meyer & Rowan 1977:341).

In order to gain legitimacy, resources, stability and better chances at survival, organisations align their structures with the institutional context to adopt practices. As a result these organisations sacrifice the efficiency of task-performing functions and performance (Lawrence & Shadnam 2008:2290; Meyer & Rowan 1977:341; Suddaby, Seidl & Lê 2013:331). The traditional role and institutional legitimacy of universities are constantly challenged by political, economic and technological pressure in the operational environment (Croucher & Woelert 2016:442). Organisations usually respond in ways that contradict the normal expectation of economic influences. In fact, organisations respond to pressures in the social and symbolic environment and not only to economic pressures (Meyer & Rowan 1977:346). These observations formed the foundation of the old institutionalism (Suddaby et al 2013:330).

Challenges with using institutional theory as a basis may include focusing on limited macro factors and missing or undervaluing important micro factors such as political, economic, social, technological, legal and environmental factors. It is mostly micro processes that result in institutionalism in organisations and the greater the degree of institutionalisation, the greater the influence of the micro processes (Zucker 1977:742). Therefore, the events occurring in the environment of the organisation are used to explain how the organisation reacts, usually resulting in a considerable gap between the actual behaviour of organisations and how the behaviour is explained (Suddaby 2010:16; Suddaby et al 2013:332). These factors, their function and their interaction, have an impact on the application of the macro factors to the organisational structure and contribute to the formation of the neo-institutional theory (Lenz & Hahn 2015:20).

2.4 THE NEW INSTITUTION

Neo-institutionalism evolved from the old institutionalism with a strong theoretical basis over decades. Two seminal works by DiMaggio and Powell (1983) and Meyer and Rowan (1977) formed the basis of the neo-institutional theory. Formal organisations in a modern society are in a highly institutionalised context of professions, policies and programmes along with products and services (Meyer & Rowan 1977:340). These organisations should align their structures with the institutional context to increase legitimacy, resources, stability and better chances on survival independently from the acquired practices (Lawrence & Shadnam 2008:2290). The influence of broader social structures of the organisation on its social action, and how this results in the organisational structures and practices, are the primary concerns of neo-institutionalism (Mahmood & Ahmad 2015:140,143). There is thus a stronger focus with neo-institutionalism on the relationship between stability and legitimacy (Powell & DiMaggio 1991:12). Meyer and Rowan (1977:360) propose a radical new way of thinking about formal structures and the decision-making that resulted in these structures. Formal structures should have both symbolic properties and practical activities that inform internal and external stakeholders of the causes and consequences of structure (Meyer & Rowan 1977:360; Tolbert & Zucker 1996:177).

Structural organisational changes are the response of the institution to various isomorphic forces (DiMaggio & Powell 1983:148). Isomorphic forces are forces that are similar in form and practice to each other and can be grouped into coercive, normative and mimetic forces (DiMaggio & Powell 1983:150; González & Hassall 2008:15–16; Karataş Acer & Güçlü 2017:1915; Lawrence & Shadnam 2008:2290). Refer to Figure 2.2 for a diagram summarising these forces.

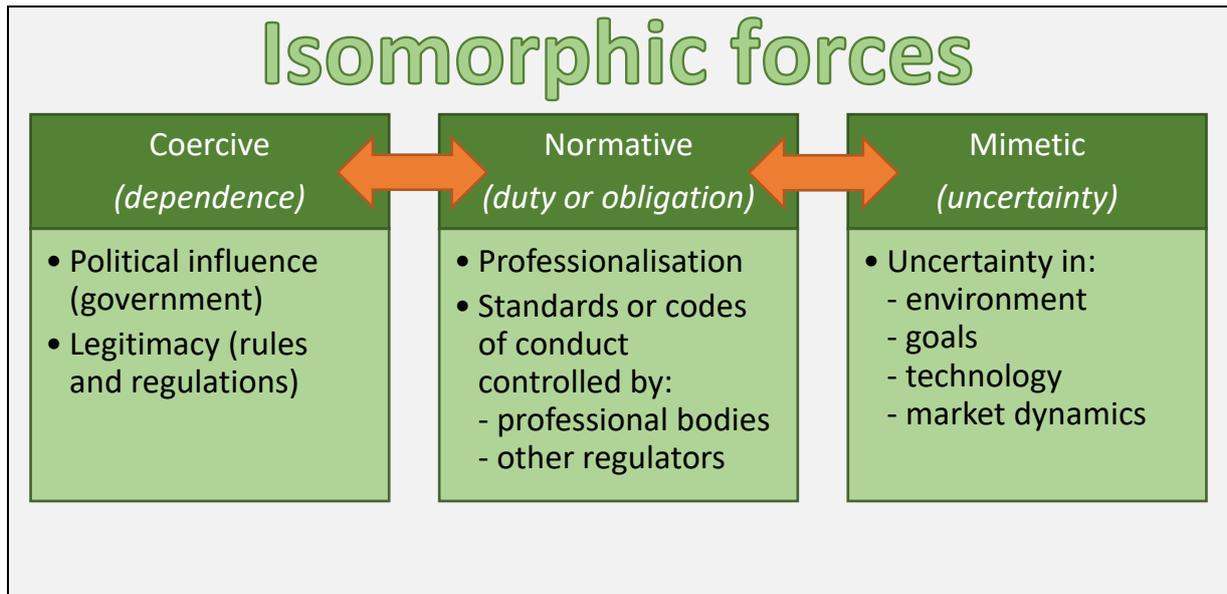


Figure 2.2: Summary of isomorphic forces

Source: Own compilation from DiMaggio and Powell (1983:150); González and Hassall (2008:15); Karataş Acer and Güçlü (2017:1915) and Lawrence and Shadnam (2008:2290).

The coercive, normative and mimetic changes as indicated in Figure 2.2 are a result of the individual or combined forces (DiMaggio & Powell 1983:147; Karataş Acer & Güçlü 2017:1915) as explained below:

- Coercive isomorphism results from political influence and legitimacy (rules and regulations). It results from both formal and informal pressures from government or other organisations on whom they depend for resources as well as the expectations for cultural and social support within the environment within which the organisation functions (DiMaggio & Powell 1983:150; González & Hassall 2008:15; Karataş Acer & Güçlü 2017:1914–1915; Lawrence & Shadnam 2008:2290). According to Mahmood and Ahmad (2015:143), institutional theory complements stakeholder theory, as stakeholder theory assumes the manipulation of logic to increase self-interest of the institution. Stakeholder theory therefore corresponds with coercive pressures of the institutional theory.
- Normative isomorphism is related to professionalisation. This results from the standards and conceptual frameworks created and controlled by professions and other regulators that determine standards (DiMaggio & Powell 1983:150,152; González & Hassall 2008:15; Karataş Acer & Güçlü 2017:1915; Lawrence & Shadnam 2008:2290). Professionalisation is the result of formal

education provided by universities and other educational institutions as well as the growth in professional networks that influences the development of standards in the institution (DiMaggio & Powell 1983:152; González & Hassall 2008:15).

- Mimetic isomorphism is the result of standard reactions to uncertainty (DiMaggio & Powell 1983:150–151). It is associated with the uncertainty in the environment, goals, technology or market dynamics (Lawrence & Shadnam 2008:2290). This results in institutions implementing structures and practices that model or mimic other prominent organisations in their fields (DiMaggio & Powell 1983:150–151; González & Hassall 2008:16). The institutions may copy or imitate practices of similar organisations, if these organisations are perceived to be successful (González & Hassall 2008:15; Lawrence & Shadnam 2008:2290).

The result of the isomorphism mechanisms implies that different institutions react in very similar ways to environmental behaviours to ensure the legitimacy of the organisation (González & Hassall 2008:15; Martínez et al 2016:10; Meyer & Rowan 1977:352). The application of the neo-institutional theory on the HEI, professional bodies and technology, and specifically coercive pressures, is discussed below.

2.4.1 Coercive pressures on universities and other higher education institutions

Over the last two decades, the traditional role of universities globally, as well as the legitimacy of the university as an institution, experienced political, economic and technological pressures (Croucher & Woelert 2016:442; Krücken 2014:1439). During the late 1980s, there was a radical national policy reform of the university system in Australia (Croucher & Woelert 2016:440). The government policy changes, as well as external pressures, resulted in many uncertainties. These coercive pressures had a significant effect on the organisational change in universities in Australia (Croucher & Woelert 2016:442–443). The change in policy was intended to create increased diversity in higher education in Australia (Croucher & Woelert 2016:440,452). However, based on empirical studies, Croucher and Woelert (2016:452) claim that this change in policy had the opposite effect on the formal features of the institution and

provided evidence of the institutional isomorphism and converging characteristics in Australian universities.

There was also a remarkable transformation of higher education in Europe over the last two decades, and specifically in Germany, in the last decade (Krücken 2014:1439). This was the result of new national and European policies with the purpose of increasing the national and global competitiveness of these universities. Strong state regulation and academic self-governance regulated the universities in the past, but with accreditation and evaluation bodies, and university boards playing a bigger role in the regulations, the transformation of the organisation resulted in management playing a more important role in these integrated, goal-orientated, competitive entities (Krücken 2014:1439). These coercive organisational changes can be viewed from the perspectives of the neo-institutional theory. There was also a rapid expansion in HEIs in Turkey between 2006 and 2016 (Karataş Acer & Güçlü 2017:1912,1914). Due to the financial support for public universities and the governance and supervisory role of the Turkish Council of Higher Education, the emphasis was placed on coercive isomorphism with homogeneity and centralisation as a result (Karataş Acer & Güçlü 2017:1915–1916,1926).

In 1983, coercive pressures resulted in the educational policy being changed in Spain, with the introduction of the University Reform Organic Law (González & Hassall 2008:14). The purpose of the introduction of the new law was to allow the establishment of private universities. In addition, it allowed universities to offer their own degree programmes with a greater autonomy in terms of finance, as well as curriculum development. Previously, these universities were under direct control of the government. Student numbers more than doubled between 1983 and 2001 but the number of graduates did not increase accordingly (González & Hassall 2008:14). In 2001 the new University Organic Law (see Chamber of Deputies 2001) was introduced with the purpose of increasing legitimacy by way of coercive pressure, thereby causing important changes in Spanish higher education (González & Hassall 2008:14–15, 22).

Due to the skills shortage in South Africa (see WEF 2016a), coercive pressure is applied by the NPC through the 2030 NDP (see NPC 2012) from outside the institution, to improve the quality of teaching and learning and the educational outcomes throughout the education system (NPC 2012:318). Universities do not have enough

capacity to meet the needs of the increasing numbers of students, and one of the proposals of the NDP is to extend the use of distance education by expanding the university infrastructure (NPC 2012:318,320). The number of public universities in South Africa, increased from 23 in 2011 to 26 during 2014 and 2015 to allow for more HEI enrolments (DHET 2019:3,26). Students worldwide compete for scarce places in universities, especially in developing countries (Altbach et al 2009:14,123). Distance education is extremely important to expand higher education in order to meet the growing needs of students for higher education and the ambitious national development agendas of countries (Altbach et al 2009:123–124). Following the requirements set by the NDP (NPC 2012:320), the White Paper for Post-School Education and Training, was released in 2013 to make distance education available to all universities in South Africa (DHET 2013:51).

In 2014, the “policy for the provision of distance education in South African universities in the context of an integrated post-school system” (see DHET 2014b:1–22) was approved by government, to regulate distance education at South African universities. The purpose of this policy is to provide clarity on terminology used in distance education and to promote greater access in distance education with a reasonable chance of success (DHET 2014b:6). The quality assurance of tuition and assessment, resulting in good-quality ethical students, and the improvement of retention, pass rates and throughput of distance education students in South Africa, is critical (DHET 2014b:6). The policy also confirms the minimum requirements for quality distance education as required by the National Association of Distance Education and Open Learning in South Africa (NADEOSA) (DHET 2014b:14). The coercive pressure of government on universities is forcing the institutions to change and to find more innovative ways of assessing students. In a study by Pincus, Stout, Sorensen, Stocks and Lawson (2017:7), it was found that there should be a focus on the measuring of learning, by way of competency-based education and assessment of learning, as information technology has been adapted as an add-on to ways of teaching, but it is not integrated as part of the programme. Higher education policies and government regulations would not play such a significant role in the reform of universities in future due to the greater emphasis on technology, and the emphasis will thus move to mimetic pressures (Krücken 2014:1449). There is currently a gap in available

technology and the limited actual utilisation of technology in the university sector (Pincus et al 2017:6).

There are strong forces for change in higher education due to rapidly advancing technology and a financial model that is dramatically challenged (Pincus et al 2017:14). Mimetic pressures are confirmed by converging tendencies that mostly occur in professional fields, for example law and accounting, which lead to more conformity in the university system, and therefore resulting in homogenisation (Croucher & Woelert 2016:443; Greenwood & Hinings 1996:1027,1042; Meyer & Rowan 1977:344). The effect of the interaction between mimetic pressures (such as uncertainty in technology) and coercive pressures (such as legitimacy of qualifications) on the institution results in universities remaining similar or becoming more uniform (Croucher & Woelert 2016:451–452). The potential for distance education has expanded vastly due to the latest innovations in technology allowing for more interactive involvement or even providing content more efficiently in the ODL environment (Altbach et al 2009:134,137; CHE 2014:6, 12). ICT access will be improved in South Africa through an integrated national ICT plan that will increase the technological potential for student support in teaching and learning for distance education institutions (DHET 2013:53; DTSPS 2016:11–12,64–65). Distance education programmes could include a variety of media, ranging from without any internet access to being fully online (DHET 2014b:8–9) with the aim to create a quality learning environment with student support (DHET 2014b:11). Technology as a mimetic force on the institution is crucial, as it must be able to support technology-enhanced initiatives for teaching, learning and assessment of students.

The legitimacy of technology-enhanced non-venue-based assessments may be questioned if the identity of students taking part in a programme cannot be verified by the university or the HEI. This may result in an increase in coercive pressures (Meyer & Rowan 1977:350). According to the Unisa assessment policy (see Unisa 2015e), authenticity is important, and therefore the university must be satisfied that “the work being assessed is attributable to the person being assessed” (Unisa 2015e:6). Letseka and Pitsoe (2013:204) argue that lecturers in an ODL environment do not have a way of knowing whether work submitted by students is their own work or a collaborative effort. Inconsistencies in performance are evident when students perform well in non-

venue-based formative assessments, but poorly in venue-based summative assessments. Nyoni (2014:157) also concludes that the ODL environment might compromise the accuracy, fairness and appropriateness of assessments given the large student numbers, if assessments are not aligned with the e-learning environment. The quality and validity of assessments in an ODL environment are therefore very important aspects that must be addressed in an online environment. In addition to the range of coercive pressures on the online environment, various normative pressures have an influence on the institution.

2.4.2 Normative pressures on accounting sciences, programme accreditation and professional bodies

Normative pressures usually occur through professional organisations or other standard-making bodies that have an influence on programmes or qualifications (Greenwood & Hinings 1996:1025). The accounting profession adopted the partnership organisational form by mimicking the law profession (Greenwood & Hinings 1996:1027). The result is that the meaning of 'professional' became almost a synonym for the partnership due to the independence, autonomy and responsible conduct associated with this organisational form. Professional associations worked closely with universities and state agencies to enforce the values of the professional partnerships. This included the promulgation and protection of the self-regulating independence and objectivity of professional accounting firms (Greenwood & Hinings 1996:1027).

The NQF Act 67 of 2008 (RSA 2008) provided a mandate to SAQA to develop a national policy as well as criteria to design and implement assessment for NQF qualifications, part-qualifications and specifically professional designations in South Africa (RSA 2008). The purpose of the "national policy and criteria for designing and implementing assessment for NQF qualifications and part-qualifications and professional designations in South Africa" (SAQA 2014:3–28) is to provide guidelines and to set minimum criteria for effective, valid, reliable and consistent assessment that is fair, transparent and appropriate (SAQA 2014:15). This policy (see SAQA 2014:3–28) is specifically applicable to the professional associations. Stakeholders, especially professional accounting bodies, want assurance that the full capabilities of graduates are being achieved. It is therefore important to assess learning outcomes at university

level in the best possible way (O'Connell et al 2016:332). Due to this normative pressure, universities therefore voluntarily submit to an accreditation system, for instance in the accounting field, to ensure external assurance of delivering capable graduates.

Already in the seventies, Meyer and Rowan (1977:344) discussed the many formal organisational programmes in institutions with specific reference to accounting. Strong coercive, normative and mimetic forces are at work as accounting firms start observing the appropriate behaviours and practices and using it as a role model within the accounting field (Greenwood & Hinings 1996:1027). Mautz (1963:317,325) postulated already in 1963 that accounting is a social science as it meets the accepted requirements of social sciences with great potential and substantial responsibility. Other authors, for instance Hopwood (1989:141), stated that accounting is not only placed in a technical environment, but also relates to specific economic, social and political interests, thereby confirming the use of the institutional and neo-institutional theories as basis for this study.

Professional accounting bodies worldwide are concerned with the growing skills gap in accounting and finance (Pincus et al 2017:6; WEF 2016a). A list of the top 100 occupations that are considered to be in short supply in South Africa, names chartered accountancy as one of the occupations that is highly in demand (DHET 2014a:19; 2018:8–9). Accounting professionals work in a range of occupations, such as accountants, CEOs, CFOs, financial managers, financial analysts, auditors, project managers and general managers (DHET 2014a:19). Accounting sciences, as a national priority, has the potential to alleviate poverty and reduce inequalities and unemployment by creating career opportunities. It further has a strategic influence on increasing professional competence through the teaching of Financial Accounting, Management Accounting, Auditing and Taxation as well as pervasive skills (SAICA 2018a:5–6). What makes the nature of the accountancy field and these subject areas unique is that international standards, theory and acts must also be mastered and applied to scenarios (SAICA 2018a:5). Furthermore, even though the subjects as mentioned are related, they have different learning outcomes and they are assessed differently. These normative pressures on accounting students in an ODL environment

usually have the result that students struggle to understand difficult concepts and calculations. This can be attributed to:

- instructional-related challenges (e.g. limited face-to-face interaction for discussion of difficult concepts; poor quality study material; limited lecturer contact or feedback); and
- individual-related challenges (e.g. logistical experience; ICT problems; pressure from work, family and friends; stress experienced during assessment; inability to apply higher-level learning objectives); or
- institutional-related challenges (e.g. late arrival of study material; inadequate student support services) (Musingafi et al 2015:61,63–64; Ohene & Essuman 2014:163–169; Tung 2012:320).

Plagiarism and collusion in both formative and summative assessment between students are some of the challenges experienced by the HEIs, and are discussed in Chapter 3. These challenges should be addressed as soon as possible, in order to maintain the integrity and accreditation of programmes offered at the HEI (Carrol & Appleton 2001:8). Professional accounting bodies conduct regular accreditation reviews of the programmes offered by universities and other HEIs to address various challenges. As mentioned in Chapter 1, Unisa established a new College of Accounting Sciences on 1 January 2014, partly because of normative pressure from the internal and external stakeholders. University management decided for various reasons to establish the new College that mainly offers programmes to prepare students for professional qualifications in accounting sciences. It also demonstrates the entity's strong commitment to contribute towards the implementation of the NDP to increase the number of quality graduates in this scarce skills field. These institutional changes, in order to conform to the environment, stabilised both internal and external relationships in the institution (Meyer & Rowan 1977:351–352) and as a result, the top accreditation rating was awarded to Unisa in November 2017 (see SAICA 2019b). The top accreditation rating by SAICA means that the institution has the appropriate resources and meets SAICA's requirements regarding the teaching and learning standards of the programme to allow access to the ITC (SAICA 2019c). Becoming isomorphic with the environment ensured that the institution gained legitimacy and the

resources needed to survive. This is only possible in a highly institutionalised structure (Meyer & Rowan 1977:352).

Coercive and normative pressures on the institution were addressed in sections 2.4.1 and 2.4.2, and mimetic pressure, the third and last isomorphism, is addressed in section 2.4.3.

2.4.3 The changing environment of assessment and technology influencing mimetic isomorphism

Formal processes like accounting, advertising and data capturing are necessary for any institution to function properly and efficiently (Meyer & Rowan 1977:344). All these appropriate, rational processes influence the legitimacy and responsibility of the institution. Changes in the formal structure of the institution demonstrate that the institution acts properly and in an adequate manner within the organisational environment to remain legitimate (Meyer & Rowan 1977:344,349). Over the next decade, innovation in technology and lateral networks could result in major changes in an online environment, thereby moving the focus from coercive to mimetic isomorphism (Krücken 2014:1449).

Prof. Klaus Schwab, the founder and executive chairman of the WEF, referred to the new ways in which technology became integrated with societies and the human body as the Fourth Industrial Revolution (4IR) (WEF 2016b). The 4IR refers to various advances in technology, including artificial intelligence, robotics and the Internet of Things (WEF 2016b). Specifically, the Internet of Things, or also referred to as “connected life” (Groupe Speciale Mobile Association [GSMA] 2014:1), refers to the network of various devices, such as smart phones, home appliances and vehicles that are embedded with software, electronics, sensors and other technological inventions and are connected intelligently via the internet to exchange data (GSMA 2014:1). The “connected life” is the convergence of humans and technology (GSMA 2014:1–2). Rapid changes in technology also have an influence on the accounting profession, where there is pressure on the institution to keep up with the changes (Pincus et al 2017:6). Industry will also run on money and not only machines and ideas (Rundle 2017). Cryptocurrency (e.g. Bitcoins) are already in use, but it is not necessarily regulated (Rundle 2017). Sophisticated technology may even have an influence on

many of the functions performed by chartered accountants (SAICA 2018e) and may include how to account for cryptocurrency transactions. Apart from the factors mentioned above, mimetic isomorphism was also applicable to this study as the rapid changes in technology influence the method of assessment of students and widen the possible application of technology with assessment.

There are already discussions about the Fifth Industrial Revolution (5IR) but as it is so new, there is no specific definition yet. Genpact, a global professional services firm delivering digital transformation, believes that 5IR is found where humans and machines are combined in the workplace (Lindsay & Hudson 2019). According to them, the best definition was summarised by Marc Benioff, the founder and co-CEO of Salesforce (a cloud computing service software company specialising in customer relationship management), that 5IR will be a crisis of trust in technology. He suggested there will have to be a “chief ethical and humane use officer” (Lindsay & Hudson 2019) in the 5IR. In the 5IR, ethics and the effect of technology developed in the 4IR, will be defined (Lindsay & Hudson 2019). This will have an effect on legitimacy, and the 5IR will therefore not only affect mimetic forces but also coercive forces.

As a result of these mimetic forces, billions of people are connected to the World Wide Web, thereby improving the efficiency of businesses and other institutions (GSMA 2014:1,7). Technical performance requirements are usually important in the development stage of an institution and play an important role in innovation (Tolbert & Zucker 1996:181–182). New structural changes can also be the result of specific institutional problems that arise (Tolbert & Zucker 1996:181). Due to mimetic pressure, the institution mimics another institution that is perceived to be successful (DiMaggio & Powell 1983:156). However, according to DiMaggio and Powell (1983:156), the rate in isomorphic change has a direct correlation with the extent to which technologies are uncertain or goals are ambiguous in the institution. It is therefore important to foster a climate for innovation in technology, but it is not sufficient for the successful implementation of innovation in an institution (Braunscheidel, Hamister, Suresh & Star 2010:447).

In an online technology-enhanced environment, it is difficult to verify the identity of the student. Advanced technology is already available, such as fingerprint or voice recognition, retinal scans and thermographs, but these are extremely expensive, and

most ODL students will not be able to afford it (Khare & Lam 2008:387). Khare and Lam (2008:387) also refer to computer programs that can compare documents with previous submitted documents to check for plagiarism. In order to reduce plagiarism or cheating during non-venue-based assessments, the institution should consider making use of proctoring sites, monitoring of IP addresses, anti-plagiarism software and honesty declarations (Singh & Remenyi 2016:5; Watwood et al 2009:108). The presence of an honesty declaration or honour code statistically lowers the level of dishonesty, as unethical behaviour is explained to students in order to reduce misunderstanding (Cronan, McHaney, Douglas & Mullins 2017:91; Khare & Lam 2008:388–389). Students can then be held accountable because ignorance, due to a lack of communication of the policies and procedures, will be eliminated (Cronan et al 2017:91; Singh & Remenyi 2016:5). Assessment tasks that resemble ‘real-life’ scenarios, with active involvement of students and a choice of tasks, will motivate students and reduce plagiarism (Rust 2002:150,156). There should be relevance or importance to pass an assessment. If not, students will be more inclined to plagiarise (Carroll & Appleton 2001:9–12; Rust 2002:150). There is a gap between affordable measures available to identify students and the actual verification of the identity of students in the online environment (Singh & Remenyi 2016:5). It is very important that the identity of students in an ODL environment be verified to ensure the legitimacy of assessments and degrees awarded (Singh & Remenyi 2016:1–2).

2.5 SUMMARY

Complex skills are needed to increase the number of people entering the labour market in order to reduce poverty in South Africa, a developing country, with a growing economy. Due to the high demand for places exceeding the supply of places in universities, the expansion of distance education is one of the options to address this issue in South Africa. E-learning has become increasingly accessible as ICT and innovations in technology have increased in South Africa. Students should also be assessed in innovative ways, in order not to limit growth in distance education to available venues where students can be assessed.

In this chapter, a discussion on institutional and neo-institutional theory was provided as a basis for the study in an ODL context. The institution reacts to organisational changes in response to various isomorphic forces that include coercive, normative and

mimetic forces. Coercive forces are the result of political or legislative influences and the problem of legitimacy. Normative isomorphism is related to professionalisation. Mimetic isomorphism is the result of standard responses to environmental uncertainty and is associated with uncertainty in goals, technology or market dynamics. The result of the isomorphism mechanisms implies that different institutions react in similar ways to environmental forces experienced. The end goal is to ensure legitimacy of the institution and qualifications offered.

The isomorphic pressures on universities, assessment and technology, as well as accounting sciences and professional bodies were discussed in detail in Chapter 2. The various types of non-venue-based assessment, the identity verification of students in an online environment as well as the conceptual frameworks are discussed in more detail in Chapter 3.

CHAPTER 3

CONTEXTUALISING ALTERNATIVE ASSESSMENTS IN ACCOUNTING SCIENCES IN ODL

3.1 INTRODUCTION

In Chapter 2, the isomorphic pressures on universities, assessment and technology, as well as accounting sciences and professional bodies were discussed. The use of institutional theory as basis for this study was confirmed as strong coercive, normative and mimetic forces are applicable to the institution and the accountancy profession. Accounting is not only placed in a technical environment but it also relates to specific economic, social and political interests (Hopwood 1989:141). Educational environments are sensitive to external assessment criteria and criteria of professional accounting bodies, such as SAICA, which can be applied in the institution (Meyer & Rowan 1977:350–351).

3.2 OVERVIEW

Figure 3.1 presents a visual outlay of the chapter where assessment as well as the legitimacy of non-venue-based alternative assessments as final measurement of the validity of the qualifications and competency of students is discussed.

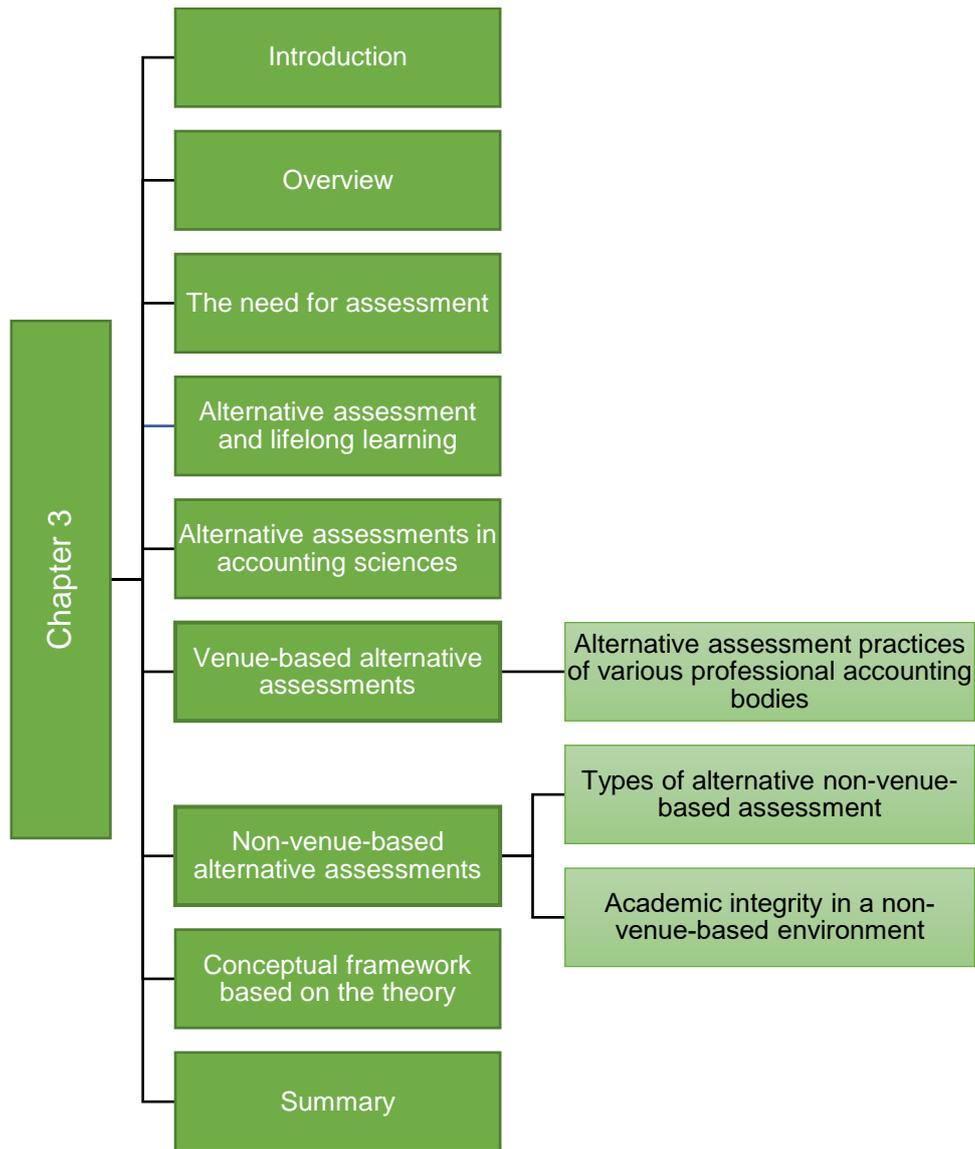


Figure 3.1: Chapter outlay

Source: Own compilation

As indicated in Figure 3.1, the need for assessment, other applications of assessment, various venue-based and non-venue-based assessments in accounting sciences and academic integrity in the case of non-venue-based alternative assessments, will be discussed.

Assessments should be valid, reliable, authentic, feasible and sufficient to ensure the accreditation of the institution by the CHE, as well as the accreditation of their professional programmes (Unisa 2015e:4–6). The focus of Chapter 3 therefore is on the legitimacy of non-venue-based alternative assessments as final measurement of the validity of the qualifications and competency of students. The purpose is to comply

with the accreditation criteria for the university as well as those of the professional accounting bodies. Based on the neo-institutional theory and the literature review, the objective of Chapter 3 is to reflect on the preparation of the conceptual frameworks for non-venue-based alternative assessment for accountancy programmes in ODL institutions.

In order to prepare the conceptual frameworks, the need for assessment and both venue-based and non-venue-based alternative assessments and the various aspects relating to it, are discussed. The two conceptual frameworks are provided at the end of the chapter to show the impact of theory as well as the results of the literature study.

3.3 THE NEED FOR ASSESSMENT

Assessment is defined in the national assessment policy (see SAQA 2014) as “the process used to identify, gather and interpret information and evidence against the required competencies in a qualification, part-qualification, or professional designation, in order to make a judgement about a learner’s achievement” (SAQA 2014:4). Assessment can be formal, informal or related to prior or future learning. It is an integral part of teaching and learning, and should also develop lifelong learning and promote innovative and creative thinking (CHE 2016:12). Assessment is the most important mechanism to evaluate the performance of students, and should reflect academic integrity and quality assessments (CHE 2016:6,13).

The Unisa policy on academic integrity (2017b:1) aims to educate students and employees, and defines academic integrity as “the meaningful and concerted effort to ensure concern for human dignity, honesty, trust, fairness, truthfulness, accuracy, respect and responsibility in teaching, research and community engagement”. Therefore, ethical conduct should guide all matters relating to teaching, which includes assessment. The assessment system must be secure, and should comply with effective assessment criteria, namely validity and reliability, fairness, credibility, transparency and accountability, social justice and equality as well as sensitivity towards language (Chaudhary & Dey 2013:212; CHE 2016:13). Assessment criteria must be clear, and assessments must be aligned with learning outcomes (Gaytan & McEwen 2007:118; Looney 2010:5; Rust 2002:147,149). The general principles of

assessment are not different in an online environment; it is only the manner in which the principles are applied that changes (Rovai 2000:150).

Assessment is addressed by the Unisa ODeL policy (see Unisa 2018a) because it is central to student learning and has a fundamental influence on the way students perform in modules (SAQA 2014:5; Unisa 2018a:4). In addition, the Unisa assessment policy (see Unisa 2015e) provides for integrated assessment strategies in formative and summative assessments to ensure that students will develop effective cognitive, reflective, self-management and practical skills (Unisa 2015e:4). Formative and summative assessments form part of the continuous assessment process of students throughout the tuition period (Chaudhary & Dey 2013:209; Unisa 2015e:2). **Formative** assessments are an important part of the learning process, and usually comprise assignments and self-assessments that take place during the tuition period towards the achievement of the outcomes of a module to improve teaching and learning (Chaudhary & Dey 2013:211; Dunn & Mulvenon 2009:4; SAQA 2014:9,21; Unisa 2015e:4–5). **Summative** assessments are also referred to as “high-stakes assessments” (Rovai 2000:142) and take place at the end of the tuition period, as the final assessment or evaluation, to determine whether the outcomes of a module have been achieved successfully (Chaudhary & Dey 2013:211–212; Dunn & Mulvenon 2009:4; SAQA 2014:13,21; Unisa 2015e:5). According to Maclellan (2004:313), the external isomorphic pressures on higher education may shift the focus of assessment to a primarily summative function. Most of Unisa’s summative assessments are traditional venue-based examinations that are written in venues located all over the world. Due to the increase in distance education students, it is important to explore other assessment methods that are not limited to available venues (Altbach et al 2009:123–124).

The use of effective assessment techniques is crucial as part of teaching and learning in an online learning environment (Gaytan & McEwen 2007:118). It was found that various regular, clearly described online assessments with immediate feedback are regarded as critical components of effective online assessments (Gaytan & McEwen 2007:129; Rust 2002:154; SAQA 2014:9). Constructive feedback is crucial for the success of students and specifically for accounting sciences due to the higher-order skills they have to demonstrate (McChlery & Visser 2009:311; Van Rooyen 2015:450).

Regular assessment tasks should pace students' learning and ensure that they engage regularly with study material. This is specifically important in accountancy-related subjects and in the accountancy profession where students need the necessary skills, knowledge and abilities as required by the profession (Rust 2002:154; Scully 2017:3–4,10).

Students actively engage with authentic assessments where they can demonstrate that they understand the concepts and can apply their knowledge and skills to real-life scenarios (Mueller 2005:2). They should therefore know the content and application of activities in order to understand what is required in assessments (Bransford et al 2000:143). Higher-order thinking is required to measure reasoning, analysis, evaluation and complex problem-solving (Scully 2017:2). The use of technology in assessment should support students' meta-cognitive skills in the learning environment to enable them to reflect on how their study material related to the experience they obtained (Goolamally et al 2010:3931; Kim et al 2008:9). Assessing students differently through various assessment techniques, allows them to demonstrate what they have learned from different perspectives (Mueller 2005:4; Scully 2017:3). This ensures that the assessment is valid, reliable, authentic, feasible and sufficient (Unisa 2015e:4–6).

3.4 ALTERNATIVE ASSESSMENT AND LIFELONG LEARNING

The general reference to 'alternative assessment' refers to an alternative to standardised testing and includes the assessment of higher-order thinking and/or problem-solving skills and the measurement of metacognitive skills (Maclellan 2004:312). Alternative assessments generally refer to assessments as an alternative to the traditional written summative (venue-based) examinations and are used to a certain extent in formative assessments (Maclellan 2004:312). Alternative assessments can therefore be venue-based or non-venue-based, and the reference to 'alternative' refers to a method that is alternative to traditional, written examinations. Assessment by way of lifelong learning and RPL is closely related to assessment practices, and comprises examples of alternative methods of assessment currently in use by training providers and in higher education (CHE 2016:12).

Assessment is a continuous process that measures learning, promotes innovative and creative thinking, and builds further learning by developing lifelong learning (CHE

2016:12). The national assessment policy (see SAQA 2014) aims to set minimum standards and to contribute to the quality of learning and assessment of all students in South Africa by promoting lifelong learning (SAQA 2014:6,10). This national assessment policy defines lifelong learning as “learning that takes place in all contexts in life from a life-wide, life-deep and lifelong perspective” (SAQA 2014:6). The object is to increase employability by developing various competencies resulting in personal growth. With the change in higher education and the focus shifting to obtaining skills and competencies, a greater emphasis is placed on lifelong learning as part of integrated learning and assessment with more accountability (Pincus et al 2017:8). ODL is ideal for lifelong learning due to its flexibility (Unisa 2018a:2).

Where a person identifies a gap in his or her own skills, the Internet of Things or “connected life” (GSMA 2014:1) concept enables adults to address their own skills gap and engage in lifelong learning when and where the need arises (GSMA 2014:7). A broader knowledge base with new skills and competencies obtained in higher education, allow students access to a world (and careers) with more complexity and interdependency (Altbach et al 2009:37). Full-time academic staff at ODL universities are expected to undertake continuing professional development (CPD), specifically in distance education (DHET 2013:52). Professional accountancy bodies also expect members to undertake relevant CPD to encourage lifelong learning in their career development, keeping up to date with changes in the economic sector and assist with maintaining the integrity and credibility of the qualifications and profession (ACCA 2019e; CIMA 2018c; SAICA 2018c).

3.5 ALTERNATIVE ASSESSMENTS IN ACCOUNTING SCIENCES

Alternative assessments are not typically used as summative assessments in accounting sciences to obtain a qualification, especially if such assessment is non-venue-based. From a literature search compiled by a subject librarian who consulted the Unisa Library Catalogue, limited relevant literature could be found in this regard. The various consulted databases are shown in Table 3.1.

Table 3.1: List of various databases consulted

	Databases consulted:
Books and e-books	<ul style="list-style-type: none"> - Encore Library Catalogue - Google Books
Reference sources (none found)	
Theses and dissertations: South African research	NEXUS database (National Research Foundation [NRF])
Theses and dissertations: International research	ProQuest dissertations and theses full text
Newspaper articles: South African newspaper articles (none found)	
South African journal articles	SABINET databases: <ul style="list-style-type: none"> - ISAP: Index to South African Periodicals - SA ePublications
International journal articles	EBSCO host database: <ul style="list-style-type: none"> - Academic Search Premier - Africa-Wide Information - Business Source Complete - Education Source - ERIC
	ProQuest databases: <ul style="list-style-type: none"> - ABI/INFORM Global - Accounting, Tax & Banking Collection - Education Database
Internet	Google Scholar and Google
Law databases (none found)	<ul style="list-style-type: none"> - Juta Law Online - LexisNexis (South African Law) - LexisNexis Academic International - Sabinet Legal Products - Westlaw International

Source: Unisa Library Catalogue

This comprehensive search (see Table 3.1) showed that this area is considered fairly unexplored. However, in a study where student performance in paper-based (in-class) assessments were compared with computer-based (online) assessments in three accounting courses, no difference between the in-class tests and the online tests were found (Anakwe 2008:16). These online tests were, however, taken in a computer laboratory and it was proctored by an invigilator (Anakwe 2008:17). The tests therefore closely resembled a traditional venue-based assessment.

The different areas of accounting sciences, namely Financial Accounting, Management Accounting, Auditing and Taxation might each have a different application and limitation because not all types of alternative assessment are relevant to the different disciplines in accounting sciences. However, only a few recent articles could be found on different types of assessments for various subject areas in accounting sciences in the Unisa Library Catalogue (refer to Table 3.1). For example, in a study by an Australian university in an undergraduate auditing course, e-portfolios were used in conjunction with case studies. Auditing is a discipline where practical experience is necessary, and the purpose of the Australian study was to achieve higher-order learning outcomes by integrating e-portfolios with case studies and simulating real-life auditing scenarios. The result was positive because students focused on achieving the learning outcomes relating to employability skills through self-reflection and debates with peers (Mihret, Abayadeera, Watty & McKay 2017:336,352–353). Another study on auditing students was done in the United Kingdom where an audit simulation was set up from a case study as a learning activity and students had to retrieve information and complete tasks. The majority of students in this study reported that the simulations assisted their understanding of auditing and added value to their knowledge of accounting sciences (Burdon & Munro 2017:435,442).

Previously, professional accounting bodies only made use of the standard written (paper-based) assessments for their final professional examinations. In the last few years, online assessments were used as an alternative to the previously standardised written assessments. These professional accounting bodies therefore now make use of venue-based alternative assessments for their professional examinations, which integrate the various disciplines (ACCA 2019i:9; AICPA 2018c; CIMA 2018b; SAICA 2018b).

3.6 VENUE-BASED ALTERNATIVE ASSESSMENTS

Professional accounting bodies expect members to uphold the highest ethical and professional standards (ACCA 2019d; CIMA 2019; SAICA 2018b). Various international and South African professional accounting associations, for instance AICPA, CIMA, ACCA and SAICA, already use computer-based assessments for their professional examinations. These computer-based assessments are venue-based due

to the mimetic pressure of identity verification of students in an online environment. Please refer to section 3.7.2 for a detailed discussion.

The types of venue-based alternative assessments that professional accounting bodies use are discussed in the next section (section 3.6.1).

3.6.1 Alternative assessment practices of various professional accounting bodies

Normative pressures from professional accounting bodies have brought about that all these professional bodies now make use of similar types of assessment methods for their professional examinations.

3.6.1.1 Association of International Certified Professional Accountants

In 2017, AICPA and CIMA formed the Association of International Certified Professional Accountants, combining the strengths of AICPA and CIMA. This represented 657 000 students and members in 179 countries at the time (CIMA 2018d). This association advances the employability, reputation and quality of CPAs, CGMA designation holders and other accounting and finance professionals worldwide (CIMA 2018d). Even though AICPA and CIMA fall under the one association, AICPA and CIMA students are still assessed by their respective bodies as discussed below.

3.6.1.2 AICPA

The world's largest member association representing the accounting profession is AICPA, which was founded in 1887 (AICPA 2018a). AICPA develops, maintains and scores the CPA examination, which is administered at authorised Prometric computer-based test centres in the United States and internationally in conjunction with NASBA (AICPA 2018b). The examination comprises four four-hour sessions that may only be written one session at a time. The uniform CPA examination is tested according to a skill framework (testing higher-order cognitive skills) based on the revised Bloom's taxonomy of educational objectives, by using MCQs, task-based simulations and written communication in each of the four sessions (AICPA 2018c). In other words, the assessments are still venue-based as they are conducted at computer centres.

3.6.1.3 CIMA

CIMA was founded in 1919 and is the world's largest and leading professional body of management accountants. Members are predominantly qualified in financial management. They are also professionally trained in business management, business strategy and risk management (CIMA 2018a). Each level of the CIMA Professional Qualification examinations consist of computer-based objective tests available on demand throughout the year, and case-study examinations available four times a year at over 5 000 Pearson VUE¹ test centres worldwide (CIMA 2018b). The case-study examinations are based on real-life business scenarios and include time-bound tasks based on pre-seen material, which is released six weeks before the examination period (CIMA 2018b). The CIMA assessments also take place at computer centres and are therefore venue-based.

3.6.1.4 ACCA

ACCA is another global professional accountancy body that has more than 219 000 qualified members and 527 000 students worldwide (ACCA 2019a). Knowledge and skills in financial and management accounting as well as finance form part of the knowledge base of professional and ethical members (ACCA 2019b; 2019g; 2019h). ACCA offers three examination formats namely the traditional paper-based examinations, 'on-demand computer-based examinations (CBEs)' as well as 'session CBEs' (ACCA 2019i:9). The paper-based Strategic Professional examinations are phasing out and will be changed to 'session CBEs' in selected locations from March 2020 (ACCA 2019f). 'Session CBEs' are offered four times a year globally while the 'on-demand CBEs' are offered anytime during the year (ACCA 2019i:9). 'On-demand CBEs' are offered for the Applied Knowledge and Applied Skills examinations at ACCA-licenced examination centres at any time of the year (ACCA 2019c; 2019i:9). An invigilator is present at these examination centres and checks the identity of students in addition to further validity and eligibility checks (ACCA 2019c). ACCA examinations take place at ACCA-licenced computer centres and are therefore also venue-based (ACCA 2019c; 2019i:9).

¹ Pearson acquired Virtual University Enterprises (VUE) in 2000 and the official name became Pearson VUE in 2003. The company is involved in computer-based testing.

3.6.1.5 SAICA

SAICA is the professional accountancy body in South Africa, with 44 874 members in 2019 (SAICA 2019a). SAICA members serve on various international accounting bodies, and SAICA is also a member of the Global Accounting Alliance (GAA) – an alliance of the world’s leading professional accountancy bodies (GAA 2019). IRBA, the statutory body, controls the public accountancy part of the accountancy profession in South Africa (IRBA 2016a). Chartered accountants entering disciplines other than public auditing are subject to the jurisdiction of SAICA. Members of SAICA include business advisors, business leaders and entrepreneurs and they may use the CA(SA) designation. An individual member registered with IRBA is also a CA(SA) registered with SAICA and must comply with the codes of professional conduct of both bodies. SAICA developed a competency framework in 2010, thereby moving away from a purely technical syllabus. This also resulted in a change in focus to move away from the traditional written examinations, to assessing the technical competence integrated with pervasive skills of candidates (Eloff 2016:412).

SAICA sets, marks and adjudicates the ITC and the APC professional examinations. The ITC is written twice a year, and the APC is written once a year. The ITC consists of four papers, and tests the technical competence of candidates (SAICA 2018d). It is currently a written assessment based on the five principles of assessment, namely reliability, validity, equity, transparency and sufficiency (SAICA 2018d). Professional competence of candidates is assessed in the APC, and electronic assessments were used for the first time in 2015 on a trial basis (IRBA 2016b; SAICA 2018e). The electronic assessment or e-writing tool (namely Secureexam) is mandatory for all candidates writing the APC from 2018 onwards (SAICA 2018a:15–16). The APC is in the form of a multi-disciplinary case study where integrated issues and problems are assessed to simulate real-life scenarios. Pre-release information is provided five days before the date of the assessment, and students must adhere to strict rules and regulations and sign an ethics declaration form on the day of the assessment (SAICA 2018a:5–9). SAICA makes use of Scientific Software International (SSI). The SSI software has various security features, including a lock down of the laptop without access to any files, emails and internet browsers. Candidates have to make use of their own laptops and download the software on their laptops and can only access the

assessment on a certain date and time with a password provided at the start of the assessment. The assessments are written in specific SAICA examination venues, and candidates upload their examination files to a secure examination website on completion (SAICA 2018a:15-16). Even though students make use of their own laptops, these assessments are still venue-based.

It is clear that professional accounting bodies are already embracing the changes in technology, and they are making use of online alternative assessments to assess candidates for their final professional examinations. However, all these professional bodies make use of alternative electronic venue-based assessments. Due to the rapid changes in technology and innovation, the following section will reflect a discussion on existing non-venue-based assessments.

3.7 NON-VENUE-BASED ALTERNATIVE ASSESSMENTS

The fast changes in technology with billions of people connected via mobile devices with unlimited storage capacity and processing power as well as unlimited access to knowledge, led to the Fourth Industrial Revolution (4IR) (WEF 2016b). Mimetic forces also result in tremendous normative pressure with a major effect on professions, and could lead to current functions performed by professional accountants being replaced with sophisticated technology, such as artificial intelligence and robotics (SAICA 2018e; WEF 2016b). Technology forces and technology-enabled globalisation led to a growing skills gap between skills available and skills needed, resulting in an increasing gap in accounting and finance skills (Pincus et al 2017:6; WEF 2016a). The 4IR, where innovation is based on a combination of technologies, also has an influence on government and other institutions, such as HEIs. The coercive pressures of legitimacy relating to the rapid movement to the 5IR, will have a significant effect on institutions. These coercive pressures give rise to regulators and regulating bodies continuously adapting to the new environment, which is changing extremely fast (SAICA 2018e).

As a response to the fast changing environment, various non-venue-based alternative assessment methods were identified by the Unisa task team that worked on the alternative assessment project (Unisa 2014b). With all alternative assessments, it is important to align the examination design and process with the purpose of the examination (Khare & Lam 2008:399). The most important quality of assessments is

the validity thereof (Crooks, Kane & Cohen 1996:265). The validity of an assessment can be compromised due to cheating and plagiarism. In a non-venue-based assessment, the legitimacy of assessments is therefore dependent on the identity verification of students. Please refer to the discussion in section 3.7.2.

3.7.1 Types of alternative non-venue-based assessments

Various types of alternative assessments are already being used by universities and other HEIs, for example portfolios of evidence. Portfolios are typically used to assess prior learning (Snyman & Van den Berg 2018:27). Other types of alternative assessments have also been identified by the Unisa task team and in the literature review, namely e-portfolios, take-home assessments, timed online assessments, peer reviews, webinars and continuous assessments (Unisa 2014b). In addition to these alternative assessments that will be discussed (see section 3.7.1.2 to section 3.7.1.8), case studies and simulations (see section 3.7.1.9) have also been identified in the literature review and are sometimes used as a type of take-home assessment.

3.7.1.1 Recognition of prior learning

RPL is an alternative method of assessment currently in use in higher education as it “takes place outside formal education” (Snyman & Van den Berg 2018:24). RPL is grounded within the lifelong learning context and is closely related to assessment practices (CHE 2016:6). According to the government-approved policy to regulate distance education at South African universities, distance education should also improve ways to recognise prior learning as part of widening access and guiding students to alternative pathways, without necessarily starting with a new programme from the beginning (DHET 2014b:12; Yazici & Ayas 2015:5). In addition, RPL provides opportunities for access to universities for students with previously disadvantaged backgrounds, due to unfair discrimination in education in the past (Snyman & Van den Berg 2018:25). RPL therefore involves “formal identification, assessment and acknowledgement of the full range of a person’s knowledge, skills and capabilities acquired through formal, informal or non-formal training, on-the-job or life experience” (DHET 2014b:21).

Coercive forces, such as national RPL policies, provide a strong enabling environment for the development and implementation of RPL within an ODL context. The Unisa

RPL Policy (see Unisa 2017b) provides an additional channel for access, progression, portability and support for adult students at all levels of tuition. RPL within Unisa entails (Unisa 2017a:3):

[T]he identification, assessment and acknowledgement of an individual's skills and knowledge within the context of a specific qualification, irrespective of how and where they were acquired. It is the acknowledgement of skills, competencies, knowledge and a work ethos obtained through informal training, on-the-job experience and life experience when measured against specific learning outcomes.

RPL candidates require a focused preparation process for the RPL assessment (Snyman & Van den Berg 2018:35–36). Candidates are assessed on learning outcomes, which may comprise, for example formal training, work and life experience, and indigenous knowledge demonstrated in a portfolio of evidence. Portfolios are discussed in section 3.7.1.2 as part of non-venue-based alternative assessments. The individual profile and competencies of the candidate are also taken into consideration. Full qualifications are, however, not awarded solely on the basis of RPL and cannot be used to grant exemption for more than 50% of the modules of a specific qualification (CHE 2016:8).

There are three main forms of RPL at Unisa, namely:

- RPL for access, which is an alternative admission route into a formal qualification;
- RPL for subject credits towards a Unisa qualification; and
- RPL as a career development tool that can also form part of lifelong learning (Unisa 2017a:5; Yazici & Ayas 2015:6).

The above classification is also used in Europe (Balković, Kozak & Šimović 2017:730–731). Adult students with work experience in the financial field but without prior experience of higher education, find it difficult to link knowledge gained in work situations with the knowledge requirements for the relevant qualification (Naudé 2013:57). RPL is about recognising what a candidate knows and can do, through assessment. Assessment of RPL must be done by academic experts in the specific

discipline within the relevant faculties, colleges, schools or departments (CHE 2016:9). It must be a standardised assessment against a relevant body of knowledge (learning outcomes) as part of a qualification, part-qualification or requirements of a workplace (Balković et al 2017:731; Naudé 2013:58; Yazici & Ayas 2015:5). RPL can assist with career development, and should be a dynamic and evolving system that promotes lifelong learning (CHE 2016:iv,6; Unisa 2017a; Yazici & Ayas 2015:6). The skills attained by way of RPL are usually demonstrated in a portfolio of evidence (Snyman & Van den Berg 2018:27).

Portfolios are one of the methods identified by the Unisa task team. The other methods identified were also confirmed in the literature review and are discussed in section 3.7.1.3 to section 3.7.1.8 (Unisa 2014b).

3.7.1.2 Portfolio

A portfolio is a compilation of various documents and artefacts to demonstrate the achievement of outcomes and associated assessment criteria. Assessors can therefore judge the competence of students from the evidence submitted (Dreyer 2016:1). Knowledge, skills and values from all aspects of a module are integrated in a portfolio. A portfolio can also provide evidence of the successful application of what was learnt in a module (Dreyer 2016:1). The national assessment policy (see SAQA 2014) defines 'portfolio development' as "an accumulation of the collection of multiple forms of evidence that is seen to represent a candidate's learning" and is also referred to as a 'portfolio of evidence' (SAQA 2014:7). Portfolios can be an effective assessment tool in ODL (Chaudhary & Dey 2013:214). It provides students with the opportunity to demonstrate innovation and creativity in teaching and learning (Dreyer 2016:1). Traditionally, portfolios have been used widely in the visual and performing arts but in recent years, portfolios and performance-based assessments have been used in business and various professions, to provide evidence of the students' depth and breadth of knowledge and skills (Meyen et al 2002:194). Portfolios are also often used in the case of RPL assessment. This type of assessment promotes reflection, construction of meaning and self-monitoring of learning in students, thereby optimising learning (Chauncey 2004:589). The flexibility of portfolios makes it relevant for accounting sciences, but it is time-consuming to prepare (Dreyer 2016:1; Hallam

2010:6). Plagiarism and identity verification must be addressed when portfolios are used (Dreyer 2016:5–8).

3.7.1.3 E-portfolio

An e-portfolio is used to develop digital literacy by facilitating the management of documents, media, artefacts and communication between different students and between lecturers and students (Van Niekerk 2015:1). As with portfolios (see section 3.7.1.2), e-portfolios stimulate innovations and creativity in teaching and learning. E-portfolios integrate a variety of media, such as videos, audio recordings, photographs, web links and text-based documents (Van Niekerk 2015:1) (also see section 1.3.4). It can be used as a tool to promote students' learning, especially as a scaffolding approach, thereby leading to better understanding and knowledge skills (Alexiou & Paraskeva 2010:3053; Hallam 2010:7; Kim et al 2008:7). E-portfolios can also be used for formative and summative evaluations, especially in an ODL environment (Chaudhary & Dey 2013:214; Kim et al 2008:7; Meyen et al 2002:194,196).

In the case of formative assessment, e-portfolios can be used to identify strengths and weaknesses and to provide reflection on ways by which students can improve their professional development and training (Hallam 2010:2; Meyen et al 2002:194). Summative portfolios provide a retrospective function where the student's achievements and professional skills are documented (Hallam 2010:6; Meyen et al 2002:194). As assessment method, e-portfolios may be time-consuming, and identity verification must be addressed depending on the methods used to check for plagiarism and/or verification of the student, but it can be used in the accounting sciences to a certain extent due to its flexible structure (Hallam 2010:6; Van Niekerk 2015:4).

3.7.1.4 Take-home assessment

Take-home assessments are defined as assessments that must be completed by students without assistance, over a longer period than the usual two-hour venue-based examinations (Swart 2015b:1). The assessment could be in the form of a case study, an essay, or answers that may require a longer duration. These assessments are downloaded. They do not necessarily have to be completed online, but the answer must be submitted online, at or before a prescheduled time (Swart 2015b:1) (also see section 1.3.1). Take-home assessments can be very useful in testing certain skills and

allow for more 'authentic' assessments due to the longer time period (e.g. 48 or 72 hours) available to replicate the environment in which the students' knowledge and skills would be used (LSE 2013). In a study where candidates completed a take-home examination for recertification purposes, they preferred this type of alternative assessment and appeared to have taken modules more seriously (Norcini et al 1996:72). Postgraduate students who did a group work take-home examination, viewed the discipline-relevant tasks they performed and cooperative skills they practised as a positive learning experience (Johnson, Green, Galbraith & Anelli 2015:70). Identity verification must be addressed with this type of alternative assessment. If the identity can be verified, this method can be used for accounting sciences assessment (Swart 2015b:2–3).

3.7.1.5 *Timed online assessment*

Timed online assessments are similar to take-home assessments but has a time limit, and open and close at a predefined time. These assessments are completed online, in an uninterrupted manner (Swart 2015b:1). Online assessments usually consist of MCQs, true or false questions, fill-in-the-blank questions and open-ended questions (Watwood et al 2009:93–108; Yilmaz 2017:39,47). Several methods can be used for online summative assessments, namely quizzes, tests and examinations (Watwood et al 2009:108–109). Usually, introductory and lower-level courses make use of MCQs (Xu, Kauer & Tupy 2016:147). It is also possible to assess higher-order cognitive skills, integrate different subject areas application of knowledge and other aspects that require more complex understanding and thinking by including essay-type questions or constructing MCQs to measure application and analysis of knowledge (Khare & Lam 2008:399; Scully 2017:5–10; Xu et al 2016:149).

Immediate meaningful feedback regarding the reason why answers were correct or incorrect is important, especially if the MCQs are computerised (Buchanan 2000:194; Gaytan & McEwen 2007:126; Xu et al 2016:151). Timed online formative assessment has a number of advantages, as students can assess their own progress and understanding of the subject and remedy weaknesses identified in the assessment feedback (Buchanan 2000:193–194; Oraifige et al 2009:61). MCQs can be very effective when randomised questions are drawn from a large question bank, and can reduce plagiarism as an added benefit (Fisher, McLeod, Savage & Simkin 2016:68; Xu

et al 2016:154). This method is suitable for accounting sciences, but identity verification of students must also be addressed (Swart 2015b:2–3).

3.7.1.6 Peer review

Peer review assessment is defined as an arrangement for peers to contemplate the value, level, worth, quality or success of the products or learning outcomes for other students (Rapoo 2016:1). This means that students assess and give feedback on the work of other students registered in the same semester or year for the same module (Rapoo 2016:1). Peer review can empower students and enrich their learning experience in online collaborative learning environments when exploratory talk is encouraged (Chaudhary & Dey 2013:210; Watwood et al 2009:115–116). It can assist in the development of students' meta-cognitive skills relating to critical reflection, review and feedback (Wilson, Diao & Huang 2015:28). However, students need carefully scaffolded support to achieve the levels of reflective review (Taylor et al 2015:1267).

As peer review assessments do not provide an accurate or entirely valid measure of students' accomplishments in the accounting and finance field, it is not regarded as an appropriate method for summative assessment, but can be used for formative assessment (Hassan, Fox & Hannah 2014:236). This method may therefore not be viable in accounting sciences modules with large student numbers (for example in ODL) due to the number of discrepancies in results (Hassan et al 2014:227). The professional accounting bodies may have a problem with the validity of this type of assessment, especially as summative assessment.

3.7.1.7 Webinar

A webinar is a “web-enabled interactive session linking students and assessors from different sites using computer networks to transmit audio, video and text data for assessment purposes” (Symington & Steyn 2015:1). It is only viable when there are a few students involved, due to data limitations (Symington & Steyn 2015:1). A “webinar provides a nearly face-to-face environment that increases participants' social presence and facilitates multi-level interaction” but is not sufficient to learn hands-on skills (Wang & Hsu 2008:175,186). The participants should have a similar level of technology skills and should not exceed ten participants (Wang & Hsu 2008:186). Shorter sessions can

be recorded to allow students to revisit the course material weekly in order to improve their own quality, efficiency and productivity (Khechine et al 2014:47). This method can only accommodate a few students per session and is therefore not suitable for accounting sciences modules with large student numbers, which is usually the case in an ODL environment (Symington & Steyn 2015:1).

3.7.1.8 Continuous assessment

Continuous assessment is “an approach whereby the student is aware of the quality of his or her own learning when the learning takes place” (Mentz 2016:1). In other words, continuous assessment recognises that learning is ongoing, and students are therefore regularly assessed as they continue with their learning (Mentz 2016:1). Isaksson (2008:5) found a statistically significant correlation between the grades of archaeology students and the time into the course when the assessment took place. The summative and formative purposes of continuous assessments can be integrated or combined successfully if the alignment between summative and formative is high (De Lisle 2015:80). Formative feedback must be provided at regular intervals, and all assessments must have clear assessment criteria before a student attempts an assignment or assessment (Rust 2002:149). This method involves a number of assessments, and in some cases, does not have final summative assessments or the final assessment may only contribute a small percentage of the final mark. As learning takes place via technology-based channels, this type of assessment may become more important in accounting sciences over the next few years as the use of technology in education becomes more innovative (Mentz 2016:2).

Case studies and simulations have been identified in the literature review as being very relevant to accounting sciences, and are already being used to assess professional examinations, as described in section 3.7.1.9.

3.7.1.9 Case studies and simulations

Students should be engaged in activities and realistic situations especially when a programme will form part of a professional qualification (Goolamally et al 2010:3928; McChlery & Visser 2009:312). The use of case studies that are unique and relevant to a specific student can ensure an authentic performance assessment (Rovai 2000:146). If an assessment task simulates a real-life task, it appears to be especially relevant to

students, as it provides them with a better understanding of theoretical principles and skills required, and creates an environment for sustainable learning (Eloff 2016:412; Parle & Laing 2017:119; Rust 2002:150). It can also assist with the simulation of practical experience necessary for certain disciplines, such as auditing (Mihret et al 2017:352).

Case studies and simulations are considered suitable assessment methods in an accounting sciences environment (Eloff 2016:412). The use of case studies in an ODL environment could enhance and develop pervasive skills of students (Reyneke 2016:181). Case studies are already being used by various professional accounting bodies, such as CIMA and SAICA, as venue-based assessment for professional competence (CIMA 2018b; SAICA 2018a). When case studies are used as an assessment method, plagiarism is less likely to occur (Parle & Laing 2017:119; Rust 2002:150). According to Rovai (2000:146), the use of case studies as an assessment method can also assist with identity verification and other academic integrity problems discussed in section 3.7.2, due to the integrated nature of the assessment.

Therefore, take-home assessments, timed online assessments, portfolios, e-portfolios and case studies or simulations could be suitable types of alternative assessment for professional accounting bodies if the academic integrity and the identity of the student can be verified in an enabling environment.

3.7.2 Academic integrity in a non-venue-based environment

Due to coercive and mimetic forces, such as academic integrity and the legitimacy of qualifications, the assessment system must be secure and should record reliable assessment results. Any plagiarism and other transgressions of the assessment system should be dealt with timeously and effectively (CHE 2016:15). This is especially important in the case of non-venue-based alternative assessments since dishonesty (ranging from collaboration to cheating) is the main problem in online assessments (Arnold 2016:98, 105; Yilmaz 2017:46). Academic integrity is usually discipline-specific and can include plagiarism, cheating, falsification, fraud, theft and other forms of dishonesty (Unisa 2017b:1–8). Cheating can be planned or spontaneous, and might take various forms, such as the improper use of material, papers or data (for example crib notes during examinations), copying from other students, plagiarism or collusion

(for example hiring another person to complete the work) (Fisher et al 2016:61; Jones, Reid & Bartlett 2008:20–21; Winrow 2016:10). Regrettably, cheating by business major students – specifically accounting students – is on the increase, even if a course on ethics is a requirement of the qualification (Fisher et al 2016:62). This is especially the case when the students believe their future income is dependent on high grades to advance their careers (Winrow 2016:3–4). Unethical behaviour during undergraduate studies could lead to unethical conduct in the workplace resulting in major financial losses worldwide (Bernardi, Landry, Landry, Buonafede & Berardi 2016:88,90; Jones et al 2008:25). Professional accounting bodies, such as SAICA, CIMA and ACCA, all have codes of conduct to which members (and registered students) must adhere. If found guilty of conduct discrediting the profession or of any unethical behaviour, various consequences may follow (for example disciplinary hearings or membership of these professional bodies could be suspended or even cancelled) (ACCA 2019d; CIMA 2019; SAICA 2018b). Previous accounting and auditing scandals in the United States of America include the Enron crisis in 2001 (see Michaels 2018) and the Bernard Madoff's Ponzi scheme in 2008 (see Michaels 2018). Recently, it was the Steinhoff scandal in South Africa (see Thompson 2018). In all these scandals, major financial losses resulted from unethical behaviour (Bernardi et al 2016:90; Michaels 2018; Thompson 2018). Even students themselves believe that unethical behaviour in assessments are likely to be duplicated in other contexts like the student's future workplace (Cronan et al 2017; Jones et al 2008:25).

Students must take responsibility for their own ethical and honest behaviour. It is extremely important that the higher education institutions have a clear definition of plagiarism and academic misconduct (Jones et al 2008:21; Khare & Lam 2008:389). Students must be aware that any form of cheating or plagiarism, whether intentional or accidental, is unacceptable (Carroll & Appleton 2001:14). Unisa has a policy on academic integrity where student obligations are clearly set out (Unisa 2017b:9). Multiple measures should be put in place at an institution, especially in undergraduate programmes in an online environment, to discourage students from cheating, plagiarising or making use of proxies or ghost writers (Fisher et al 2016:67; Xu et al 2016:154). A ghost writer can be described as a freelance person hired to do other people's writing in his or her spare time at a fee (Fisher et al 2016:60). Traditionally famous individuals contracted another person at an agreed fee to produce literature

(or an autobiography), because they do not have the skills or time to write it themselves (Singh & Remenyi 2016:2). However, things have changed with the establishment of the Internet and there are now numerous ghost writing services offered on the world wide web at a fee (Singh & Remenyi 2016:2). Students should be informed of the consequences of academic misconduct, use of ghost writers or any other unethical transgressions at the institution and that they will be held accountable for it (Carroll & Appleton 2001:5,7,34; Fisher et al 2016:67–68; Jones et al 2008:21,25).

In an online environment, it is prudent to implement technology and analytics to reduce mimetic forces, such as cheating and unethical behaviour, as far as possible. More and more institutions are starting to make use of analytics to ensure the security and integrity of courses (Khare & Lam 2008:387). The benefit of automated academic integrity measures is the continuous and concurrent validation of academic work and assessments submitted, thereby providing both identity verification and authorship validation (Amigud, Arnedo-Moreno, Daradoumis & Guerrero-Roldan 2017:206). Academic integrity can be classified into three types, namely identity verification, verification of authorship, and monitoring and controlling the online environment, as summarised in Table 3.2 (Amigud et al 2017:194).

Table 3.2: Summary of academic integrity strategies allocated between venue-based and non-venue-based methods

Type of academic integrity	Method used	Venue-based	Non-based
Identity verification	Biometrics	<ul style="list-style-type: none"> • Fingerprint • Valid identity document, student card, driver’s licence 	<ul style="list-style-type: none"> • Verify identity via webcam • Keystroke recognition (in combination with honesty declaration) • Writing patterns
	Challenge questions asked to verify identification	Not applicable	Randomised challenge questions
Validation of authorship	Detection of plagiarism	Direct observation of invigilator present	<ul style="list-style-type: none"> • Algorithms measuring similarity (e.g. Turnitin) • Monitoring IP addresses • Lockdown browsers

Type of academic integrity	Method used	Venue-based	Non-based
	Validation by instructor	Direct observation by invigilator present	<ul style="list-style-type: none"> • Video streams analysing candidates before examination, while taking examination or afterwards
Monitoring and control	Proctoring	Computer laboratory or venue with proctoring by instructor or invigilator	Student's own laptop or computer in remote locations with remote proctoring
	Monitoring activities	Direct observation by invigilator present	Video streams analysing candidates while taking examinations

Source: Adapted from Amigud et al (2017:194)

Amigud et al (2017:194) summarise the advantages and disadvantages of academic integrity methods, but in Table 3.2, the summary was adapted to include a venue-based and non-venue-based allocation. Academic integrity can be ensured through the monitoring and control of identity verification and authorship validation (Amigud et al 2017:206).

3.7.2.1 Identity verification

Identity verification is very important in an online non-supervised environment, because an increasing number of students employ proxies or ghost writers to complete an online course and/or assessment on their behalf. Numerous websites are available that act as online brokers between ghost writers and students, and even guarantee specific grades or promise a refund if these grades are not achieved. These websites usually protect the identity of both buyers and sellers (Fisher et al 2016:60). Services offered by online brokers include completion of online assessments, taking online quizzes or examinations, writing academic papers and/or taking a full course on behalf of a student (Fisher et al 2016:60; Jones et al 2008:22). Under the code of ethics of the accounting profession, persons making use of ghost writers are unethical. This is of great concern to accounting practitioners and professional bodies who heavily depend on the certification of qualified ethical accounting candidates, and consequently conduct ethical behaviour in their professional careers (AICPA 2018a; Fisher et al 2016:61; SAICA 2018b).

A biometric profile of the student should be created to enable voice, eye and face identification, finger or palm prints, or keystroke recognition (Fisher et al 2016:65). A biometrical profile is very important to verify a student's identity, specifically for high-stakes examinations and especially in distance education. This profile can be linked to the identity management system of the institution by, for example, taking photos at registration and comparing it with the photo identification on the date of the assessment (Fisher et al 2016:68; Von Grünigen, Benites de Azevedo e Souza, Pradarelli, Magid & Cieliebak 2018:894).

Institutions should consider making use of originality or honesty declarations (Unisa 2017b:13–14; Watwood et al 2009:108). An honesty declaration is a measure to discourage a student from cheating (Xu et al 2016:154). The honesty declaration could form part of the biometric student profile, where keystroke recognition can be used to form part of the identity verification of the student. The existence of an honesty declaration or honour code could statistically lower the level of dishonesty, as ethical behaviour is explained to the student in order to reduce misunderstanding (Khare & Lam 2008:388–389; Unisa 2017b:9–10). Any institution with a course presented in an online environment, should have an honesty declaration or honour code that must be signed by the student. By signing an honesty declaration, students can be held accountable, because ignorance due to a lack of communication of the policies and procedures is eliminated (Khare & Lam 2008:389; Unisa 2017b:13–14). The honesty declaration can be typed at registration and compared to the declaration retyped on the day of the assessment (Fisher et al 2016:66,68).

3.7.2.2 *Validation of authorship*

Time allocated for assessments can be limited in order to reduce the student's ability to communicate with others or to look up questions (Fisher et al 2016:65). With formative assessments, programmes using algorithms to compare documents against billions of internet documents, such as Turnitin, can be used to ensure originality of submissions (Fisher et al 2016:68; Jones et al 2008:22–24; Khare & Lam 2008:387). Institutions should also consider monitoring IP addresses to validate authorship (Watwood et al 2009:108). It can even be considered to make use of lockdown browsers to limit students' access to other websites, documents, emails and other resources, but this is not really feasible for non-venue-based students, because they

can make use of a variety of devices at home (Fisher et al 2016:65; Jones et al 2008:22; Xu et al 2016:154). It should also be considered to block remote access where third persons can view and perform actions on the student's screen (Von Grünigen et al 2018:897).

3.7.2.3 Monitoring and control

In an online environment, institutions should consider making use of proctoring sites (Watwood et al 2009:108). Proctoring is an option to promote ethical behaviour and addressing these coercive and normative forces by ensuring that it is the original student doing an assessment and not a proxy or ghost writer. In a study by Arnold (2016:98) on formative assessments, it was found that students are more likely to cheat in un-proctored online assessments than in proctored assessments. This was confirmed in other studies (Hylton, Levy & Dringus 2016:61–62; Von Grünigen et al 2018:894). In a study by Daffin and Jones (2018:143), it was found that students perform better in an online examination if it is not proctored, which may be an indication of cheating. As indicated in Table 3.2, the proctoring process can be venue-based or non-venue-based (Fisher et al 2016:65).

With non-venue-based proctoring, proctoring can be either live or recorded (Fisher et al 2016:65). In the case of **live proctoring**, the student and his or her activities are continuously monitored online via a webcam and computer monitor. A student profile must be created beforehand to authenticate the identity of the student. The proctor compares the identification provided by the student with the original student profile. After verifying the student's identity, the proctor can allow access to the assessment, by providing a password to the student. This process is expensive, especially in the case of a large number of students, as more proctors are needed for an extended time. With **recorded proctoring**, students are video recorded online or by way of separate hardware, which records the content of the student's screen (Fisher et al 2016:65; Von Grünigen et al 2018:897). Unethical behaviour is flagged by the system and studied for possible cheating by the invigilator at a later stage (Fisher et al 2016: 65–66).

3.7.2.4 *Methods to increase academic integrity*

The higher the academic integrity confidence level required, the higher the cost of implementing measures to confirm the academic integrity, because these measures are usually resource-intensive (Amigud et al 2017:193,195–196). Data analytics, such as keystroke analysis, algorithms that measure similarity or patterns, or analysis of video streams of candidates taking an examination, enhance identity and authorship verification through mimetic isomorphism (Amigud et al 2017:196). A high-stakes assessment, such as a final summative examination, will usually require multi-layered authentication through identity verification, verification of authorship as well as constant monitoring and control during the assessment (Amigud et al 2017:194; Fisher et al 2016:66). Specifically, in the case of high-stakes non-venue-based summative examinations, proctored examinations should be considered in combination with biometrics. The biometrics checked during the assessment should be compared with the initial student biometric profile created at registration (Amigud et al 2017:194; Fisher et al 2016:68; Rovai 2000:144). The proctor can provide a secure login and passcode to the student before the assessment (Fisher et al 2016:65,68). Students should be monitored consistently online by a live proctor to confirm the identity of the student and the validity of the academic content during the full period of completing the assessment (Amigud et al 2017:205; Fisher et al 2016:65,68; Von Grünigen et al 2018:897).

In the case of non-venue-based assessments, several technologies can be combined, and a lockdown browser can be used in combination with a webcam to include proctoring (Von Grünigen et al 2018:898). Respondus LockDown Browser® is an example of a lockdown browser used to control the virtual online environment, and can also offer virtual proctoring to monitor students via webcam (Respondus 2018). Stack (2015:280) found no significant differences between a group of students who wrote a traditional in-seat examination and another group who wrote an online examination through Respondus LockDown Browser®. All these aspects should be considered to provide an enabling environment that will ensure academic integrity.

Issues identified from the theory in Chapters 2 and 3 regarding non-venue-based alternative assessments in accounting sciences in an online environment are combined in the following two conceptual frameworks.

3.8 CONCEPTUAL FRAMEWORKS BASED ON THEORY

The conceptual frameworks were developed in the context of an ODL institution. Institutional theory was used as the foundational theory but as the ODL institution is mainly situated in the macro context, it was extended to the neo-institutional theory. Various macro and micro factors or pressures result in uncertainties that have an impact on non-venue-based alternative assessment in accounting sciences modules (Lenz & Hahn 2015:20; Zucker 1977:742). These uncertainties require interventions that lead to the required outcomes. These interventions are explained by grouping them into the three different isomorphisms as explained by the neo-institutional theory to result in legitimate outcomes. Refer to Figures 3.2 and 3.3 for the conceptual frameworks applicable to this study.

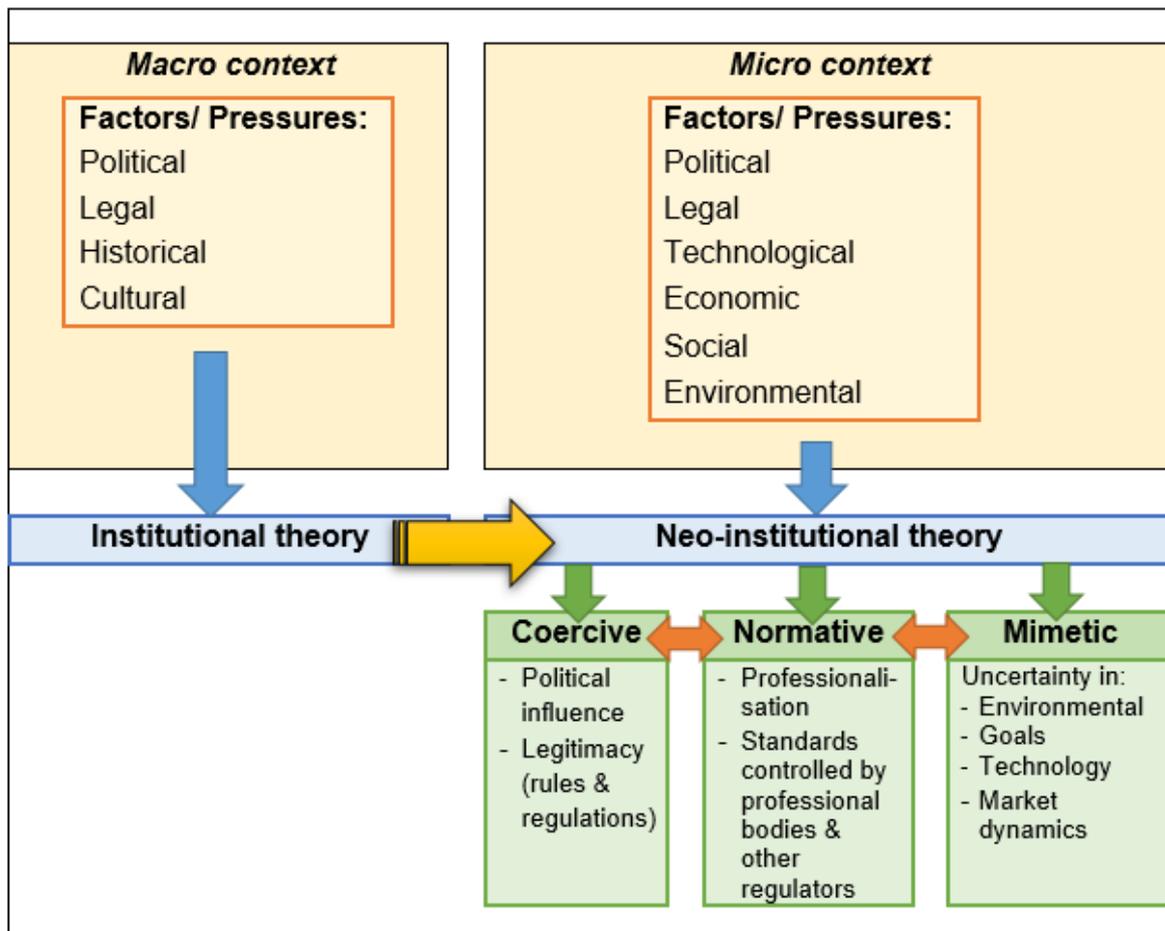


Figure 3.2: Conceptual framework of non-venue-based alternative assessments based on theoretical aspects

Source: Own compilation

Figure 3.2 presented a conceptual framework of the theory applicable to the study. The institutional and neo-institutional theories and the interaction of the isomorphisms were indicated in this framework. Figure 3.3 presents a conceptual framework of non-venue-based alternative assessments in accounting sciences within an ODL environment, and the various aspects that resulted from the literature review, which have an impact on the framework. These conceptual frameworks were combined into one final framework, and is discussed in Chapter 7.

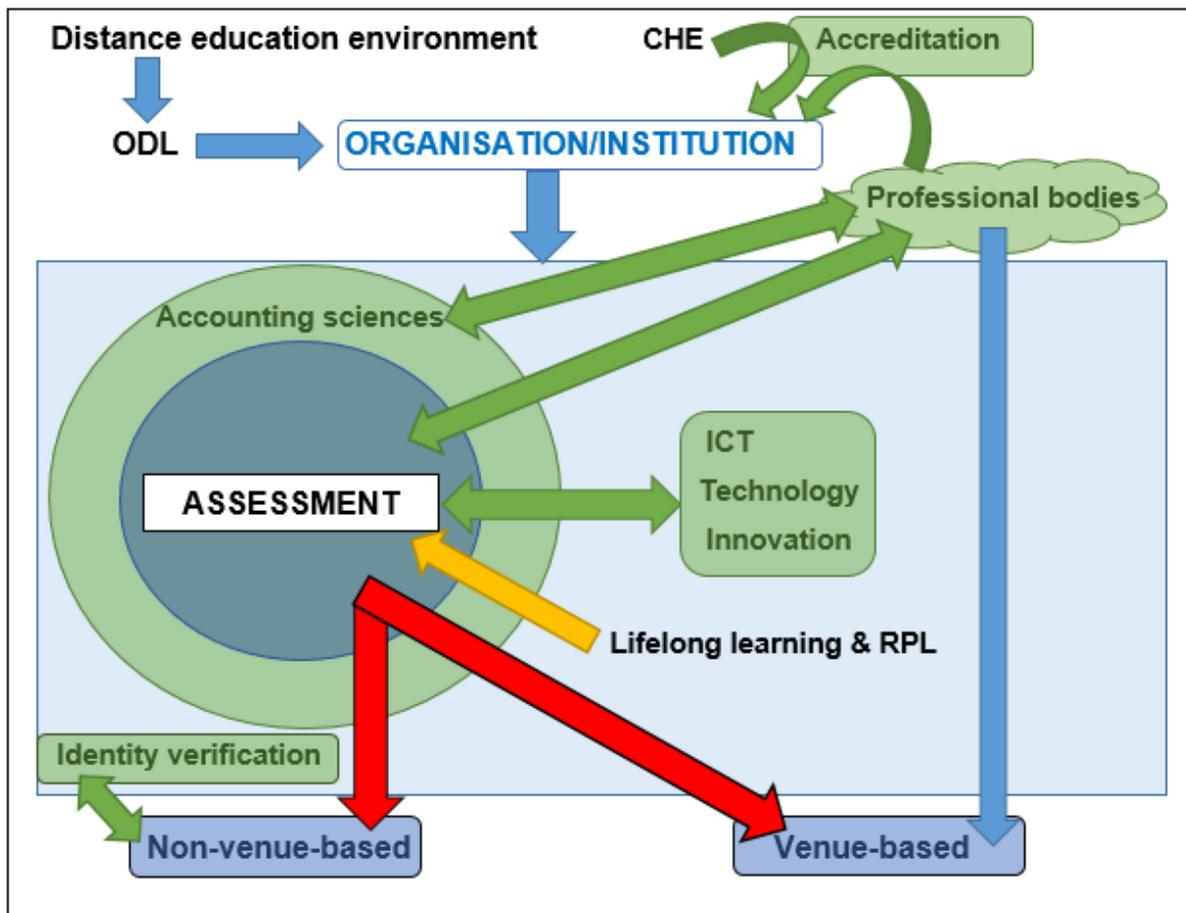


Figure 3.3: Conceptual framework of non-venue-based alternative assessments based within the ODL context

Source: Own compilation

The following gaps were identified in the literature indicating factors or pressures that influence the outcomes of the study.

- Events occurring in the environment of the institution are used to explain how the institution reacts, usually resulting in a large gap between the actual

behaviour of the institution and the way the behaviour is explained (Suddaby 2010:16; Suddaby et al 2013:332). The principles of neo-institutional theory were used to explain this behaviour.

- There is currently a gap in the available technology and the limited actual utilisation of technology in the university sector. Technology forces and technology-enabled globalisation lead to a growing skills gap between skills available and skills needed, resulting in an increasing gap in accounting and finance skills (Pincus et al 2017:6; WEF 2016a).
- Professional accounting bodies are concerned with the growing skills gap in accounting and finance (Pincus et al 2017:6; WEF 2016a). Chartered accountancy is one of the occupations in high demand in South Africa (DHET 2014a:19; 2018:8–9).
- Currently, there is a gap between affordable measures available to verify the identification of students in the ODL environment. It is very important that the identity of students in an ODL environment be verified to ensure the legitimacy of assessments and degrees awarded.

Therefore, if there are uncertainties and if interventions take place, certain outcomes will be the result as indicated in Figure 3.4.



Figure 3.4: Legitimacy of outcomes

Source: Own compilation

For these outcomes to be legitimate, the interventions must occur in an enabling environment as indicated in the two conceptual frameworks that were discussed in Figures 3.2 and 3.3.

3.9 SUMMARY

In Chapter 3, the need for assessment as well as assessment by way of lifelong learning and RPL was discussed. Alternative assessments in accounting sciences were addressed with a distinction between venue-based assessments and non-venue-based assessments. Professional accounting bodies make use of venue-based alternative assessments as final assessment for their professional qualifications. Various non-venue-based alternative assessments were discussed as well as identity verification of students in a non-venue-based environment. The legitimacy of non-venue-based alternative assessments is the final measurement of the validity of qualifications and competency of students. To ensure the legitimacy and validity of accounting qualifications (isomorphic forces), the institution must comply with the accreditation criteria of the CHE as well as the accreditation criteria of the professional accounting bodies. Two conceptual frameworks for accountancy programmes in ODL institutions were developed based on the theory and literature.

Following the principles of design-based research, there were iterative cycles to develop and evaluate the conceptual frameworks. Empirical research was conducted to evaluate the two conceptual frameworks. In Chapter 4, the research methodology to develop the combined final assessment framework eventually will be discussed.

CHAPTER 4

RESEARCH DESIGN

4.1 INTRODUCTION

The objective of the current study was to develop an alternative assessment framework for undergraduate accountancy modules in ODL. A thorough literature review regarding alternative assessments worldwide – and specifically in accounting sciences in an ODL environment – of theses, books, articles in academic journals, institutional reports and websites of professional accounting bodies was conducted. In Chapter 3, the two conceptual alternative assessment frameworks for accountancy programmes in ODL institutions, based on the literature and the institutional and specifically neo-institutional theory, were discussed. Various issues that have an influence on assessment, such as lifelong learning and RPL, were considered. Alternative assessments in accounting sciences were addressed with a distinction between alternative venue-based assessments (used by professional accounting bodies as assessment for professional qualifications) and non-venue-based assessments (used as assessment by Unisa in a pilot project). Various non-venue-based alternative assessments were discussed, specifically referring to the academic integrity of qualifications in an online environment. The institution has to comply with the accreditation criteria of the CHE as well as the accreditation criteria of the professional accounting bodies to ensure the legitimacy and validity of accounting qualifications. On this basis, two conceptual frameworks (Maxwell 2013:39–41) were developed. Since the literature study formed the basis of the conceptual frameworks, empirical research was conducted to evaluate these conceptual frameworks as part of the iterative cycles of development and evaluation of design-based research.

4.2 OVERVIEW

Figure 4.1 presents a visual outlay of the chapter, where the research approach, logic and design used in the study, as well as the data collection and analysis strategies, are discussed.

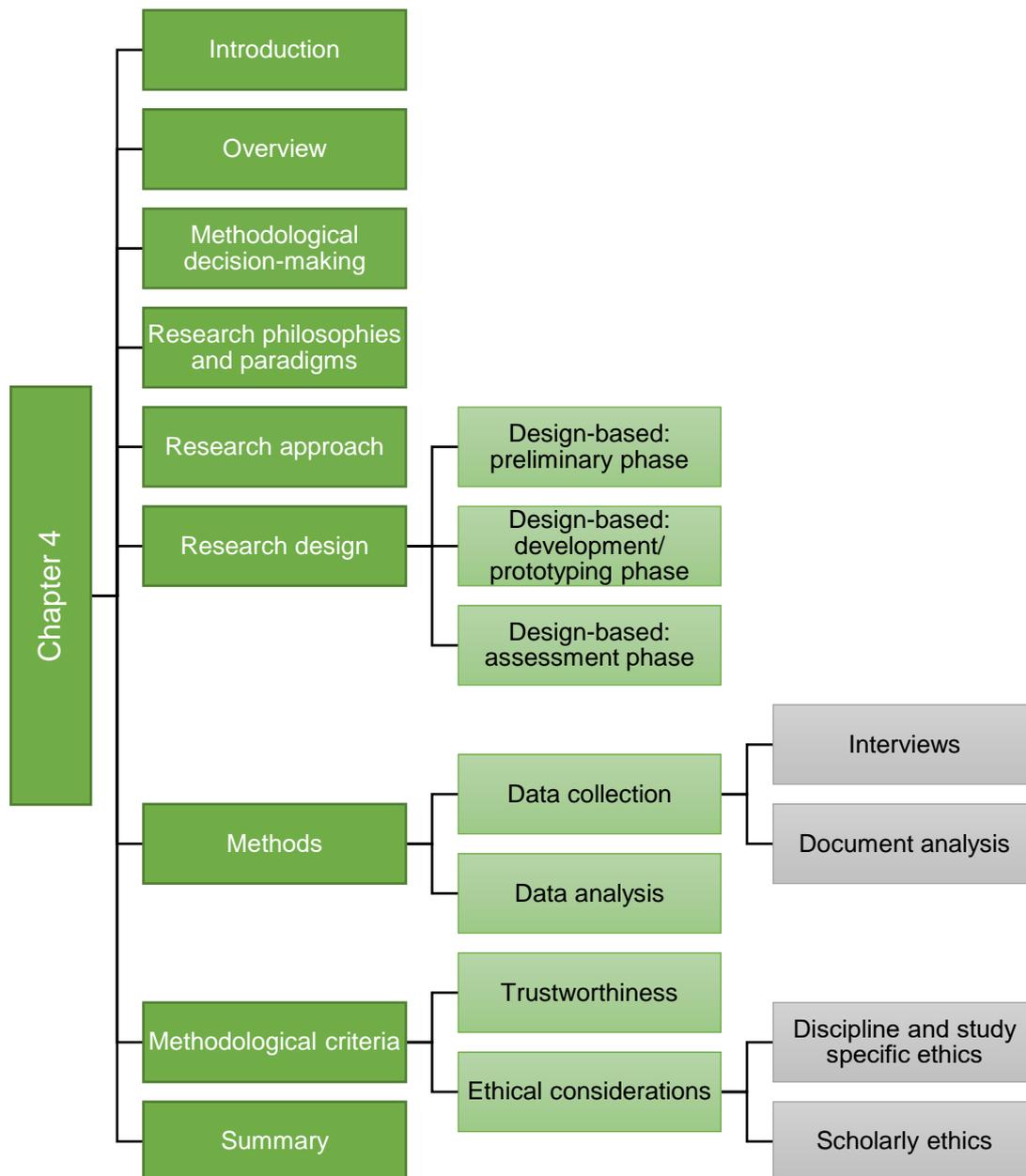


Figure 4.1: Chapter outlay

Source: Own compilation

In Chapter 4, the research design is discussed. An appropriate research approach and logic are discussed to position the study and to indicate the pathway of choices made in this study. Considering the organisational field and factors affecting the study, a qualitative research approach with an interpretivist-to-pragmatist (Goldkuhl 2012:144) research paradigm was chosen. The research design chosen for this study, namely design-based research is also analysed and discussed in this chapter. In addition, the sampling and data collection methods are presented, and the analysis of the data is

discussed. Qualitative methodological criteria, such as trustworthiness, as well as ethical considerations, are discussed in the remainder of the chapter.

4.3 METHODOLOGICAL DECISION-MAKING

A high-level summary of the methodological decisions made in the study is presented in Table 4.1. These methodological decisions depict the points of departure in the study.

Table 4.1: Methodological decisions summarised

Methodology framework	As applied	Author(s)	Why? Application to this study
Approach	Qualitative approach	Denzin and Lincoln (2018); Lincoln and Guba (1985)	The research objective required person and social reality-based responses provided by participants who were asked to engage in both critical and descriptive thinking to respond to the research problem and objectives. This thinking was anchored in various settings or research fields, namely: <ul style="list-style-type: none"> • the ODL organisational field and • professional accounting bodies. While these settings or fields are organisational in nature, they are made up of people who are responsive to the subject of this research.
Paradigm	Interpretivist-to-pragmatist	Goldkuhl (2012); Mason (2018)	Interpretivist – interviews Pragmatist – document analysis The research required an interpreted construction of a phenomenon from the data. This meant going beyond the literal and making meaning from the data. At the same time, the nature of the research problem and objectives required some applied value or use of data as an outcome of the research; hence, the pragmatic paradigm was interlinked with the interpretive paradigm.
Design	Design-based	Plomp (2013); Nieveen and Folmer (2013)	Set in a real-world context (ODL educational environment) and based on online technologies used for validation and authentication of non-venue-based alternative assessments. Design-based research requires a problem-solving orientation (noting the interpretive–pragmatic paradigm) and the conceptualisation of artefacts that respond to a real issue, which is anchored in a social reality.
Method: data collection	Interviews	Brinkmann (2018); Brinkmann and Kvale (2015; 2018); Kvale (2011)	Interviews with ODL lecturers and members of professional accounting bodies Again, in the current study, the research objective required person and social reality-based responses provided by participants who were asked to engage in

Methodology framework	As applied	Author(s)	Why? Application to this study
			<p>both critical and descriptive thinking to respond to the research problem and objectives.</p> <p>An interview with participants is a respected methodological means to gather purposeful responses from the participants during the development/prototyping phase of the design-based research in order to evaluate the conceptual framework.</p>
Method: data analysis	Document analysis	Bowen (2009)	<p>Analysis of institutional reports on alternative assessment project</p> <p>Documents provided triangulated sources of evidence and contained central information, which was synthesised and integrated around the subject of the research; and might not be summatively available from the participants responses.</p>
Sample	<p>Purposeful (also referred to as 'purposive') sampling: <i>Development/prototyping phase:</i></p> <ul style="list-style-type: none"> • Interviews with lecturers: 16 (plus 2 preliminary explorations²) • Interviews with members of professional 	<p>Palinkas et al (2015); Creswell and Plano Clark (2011); Patton (2015); Bernard (2011); Spradley (1979)</p>	<p>Interviews with lecturers in ODL field and members of professional accounting bodies in the development/prototyping phase of the design-based research</p> <p>Purposeful sampling is a widely used qualitative sampling technique to identify and select:</p> <ul style="list-style-type: none"> • information-rich cases; and • knowledgeable or experienced individuals or groups of individuals. <p>The following are very important when choosing participants:</p> <ul style="list-style-type: none"> • availability and willingness to participate; • capability to communicate experiences and opinions in an expressive, coherent and reflective manner.

² Similar to a pilot study in quantitative research (Williamson 2013:165).

Methodology framework	As applied	Author(s)	Why? Application to this study
	accounting bodies: 4		
	<i>Development/ prototyping phase:</i> Documents: all available	Maxwell (2013)	Document analysis of all available institutional documents to assist with triangulation in the development/prototyping phase of the design-based research.
Criteria/norms	Robust, rigorous research	Nowell, Norris, White and Moules (2017); Levitt et al (2018); Maxwell (2013); Flick (2018)	Ensuring that qualitative research criteria are met, including the evaluation of the conceptual frameworks and the triangulation of the different data collection methods.
	Trustworthiness and ethical considerations	Nowell et al (2017); Levitt et al (2018)	At both an ethical and a scholarly level, the research must ensure that qualitative research criteria are met.

Source: Own compilation

The methodological choices made in the study, as summarised in Table 4.1, were aligned with qualitative research, and reflect a series of decisions made in an attempt to maintain research coherence. These methodological decisions aimed to reinforce the findings in an ethical and trustworthy manner and to support the theoretical implications of the research conducted (Williamson 2016:863).

4.4 RESEARCH PHILOSOPHIES AND PARADIGMS

'Research philosophy' is a term used for a system of theories (or beliefs) and assumptions, resulting in the development of knowledge in a specific field (Saunders et al 2016:124). Assumptions to decide on the most applicable research philosophies are ontology, epistemology and axiology.

- **Ontology** refers to assumptions about the nature of authenticity or reality and could influence the way research objects are understood and studied. It focuses on how resistance to change could benefit an organisation by addressing any problematic aspects of change programmes instead of eliminating resistance (Goldkuhl 2012:138; Maxwell 2013:42; Saunders et al 2016:127).
- **Epistemology** determines what constitutes legitimate, valid and acceptable knowledge, and allows for a choice of various methods. Due to the multidisciplinary context of the current field (accounting sciences), different types of knowledge (from facts to interpretations) were considered legitimate assumptions (Maxwell 2013:42; Saunders et al 2016:127).
- **Axiology** refers to ethics and the role of values in the research process where the researcher forms part of the research process. If the researcher is part of the research, the research tools are subjectively involved in the research (Saunders et al 2016:128). As an outcome of two assumptions, it thus stands to reason that the values are contextual knowledge situated in the human responses to online alternative assessment and the legitimacy thereof in an online environment.

In the current study, knowledge was gained from qualitative strategies (see Table 4.1). Qualitative research is usually linked with interpretative philosophies (Denzin & Lincoln 2018:16–17,19,22). Interpretivism usually comprises the intertwining of ontology and

epistemology, as knowledge and understanding are crucial in ontological assumptions (Goldkuhl 2012:138). As the knowledge gained is often subjective, and the meanings are socially constructed, the relationship between meanings must be interpreted to determine the relevance to use it as building blocks in theorising (Goldkuhl 2012:138; Lincoln & Guba 1985:55–60; Saunders et al 2016:168). The interpretations in the current study contributed to the development of a final alternative assessment framework for undergraduate accounting sciences modules in an organisation, specifically an ODL institution.

A paradigm can be described as “a world view, a general perspective, a way of breaking down the complexity of the real world” (Patton 1978:203). There are major paradigms displayed in organisational research, namely positivist, interpretivist, constructivist and pragmatist (Saunders et al 2016:136–137). These diverse paradigms and innovative methods are the result of numerous disciplines (such as finance, sociology and history) in the organisational field connecting at a certain point or nexus. Every discipline has its own distinctive perspectives and traditions resulting in the widening of boundaries in the organisation (Buchanan & Bryman 2007:485–487). The current study fell in a blurred social interpretivist-pragmatist paradigm due to the interpretation of certain data (for instance from document analysis) and then co-creating data by way of qualitative methods (for instance from interviews) (Goldkuhl 2012:142). Thereafter, the sources of data and what they contributed to the data are viewed through a pragmatic lens in order to complement the applied nature of design-based research (refer to Table 4.2 for a summary of the main differences between pragmatism and interpretivism). The purpose of this blurred approach was to produce newer, in-depth considerations and interpretations of how and what was studied, may be practised within context (Goldkuhl 2012:136,141–144; Saunders et al 2016:134;140-141;168).

Table 4.2: Interpretivism vs pragmatism – summary of main differences

	Interpretivism	Pragmatism
Empirical focus	Beliefs (socially constructed cognition)	Actions and changes
Evidence	In-depth or semi-structured interviews	Text-based documents
Type of knowledge	Understanding	Constructive knowledge
Data generation	Data through interpretation and exploration of interviewees' perceptions of real-world issues (probing)	Data through generation of assessment and intervention (imaginative use of ideas), such as in-depth exploration of interviewees' perceptions of real-world issues
Role of researcher	Engaged in understanding	Engaged in change

Source: Adapted from Mason (2018:191), Saunders et al (2016:394) and Goldkuhl (2012:142).

In Table 4.2, the table provided by Goldkuhl (2012:142) was adapted to include relevant differences between pragmatism and interpretivism. Based on the uniqueness of Unisa as an ODL university in South Africa, the context should be interpreted to gain an understanding of the possibilities and concerns in terms of the ODL environment (interpretivism). The current study attempted to determine pragmatically whether technology-enhanced alternative assessments could be used to replace traditional venue-based examinations for undergraduate modules in accounting sciences (pragmatism). Because these alternative assessments are non-venue-based, it is important to verify the identity of students and the integrity of non-traditional assessment modalities.

There are various approaches to develop theory in a research study (Saunders et al 2016:145). An **inductive** approach is followed when the research starts with the collection of data in order to explore a phenomenon and to generate or build theory (usually a conceptual framework) (Saunders et al 2016:145). The researcher therefore tries to make sense of data collected in the field to determine whether there is interaction resulting in a mutual influence or relationship (Lincoln & Guba 1985:40,202,333). In the case of a **deductive** approach, a theory is developed and a research strategy is designed to test the theory (Lincoln & Guba 1985:203; Saunders

et al 2016:145). An **abductive** approach is adopted when data is collected to explore a phenomenon, explain patterns, or generate a new theory or modify an existing theory. This theory is subsequently tested by collecting additional data (Saunders et al 2016:145). An eclectic approach – comprising inductive, deductive and abductive methods – was used in this study as the researcher interplayed between data and theory. The purpose was to determine the type of alternative assessments that should be used to assess accounting sciences effectively in an ODL environment and whether the use of alternative assessment methods would affect the accreditation by professional accounting bodies.

4.5 RESEARCH APPROACH

Political, legal, historical and cultural factors are uncertainties evident from the institutional and neo-institutional theories affecting the organisational research field. These uncertainties have an influence on the choice of the most effective research approach used (Buchanan & Bryman 2007:485–487). An interpretivist-to-pragmatist research paradigm was chosen, as the research objectives comprised various factors that have an influence on the organisational field and should be considered. Understanding is a key character of interpretivism while constructive knowledge is the focus in pragmatism (Goldkuhl 2012:142). In the current study, for instance, interviews with participants were used as the method of data collection and these interviews had to be interpreted. This followed from an interpretivism research paradigm, while document analysis, using documents containing integrated data on a practical level, was the method of data analysis following from a more pragmatism research paradigm. Refer to Figure 4.2 for a tabulated explanation of the interpretivist-to-pragmatist research paradigm chosen and the interaction with the data collection and data analysis methods used. The organisational field and properties, namely the size of the organisation and the fact that it is an ODL institution together with various other factors (such as technology-enhanced alternative assessments, identity verification and the accreditation of professional accounting bodies) were all factors affecting the study, therefore highlighting the importance of constructive knowledge and understanding.

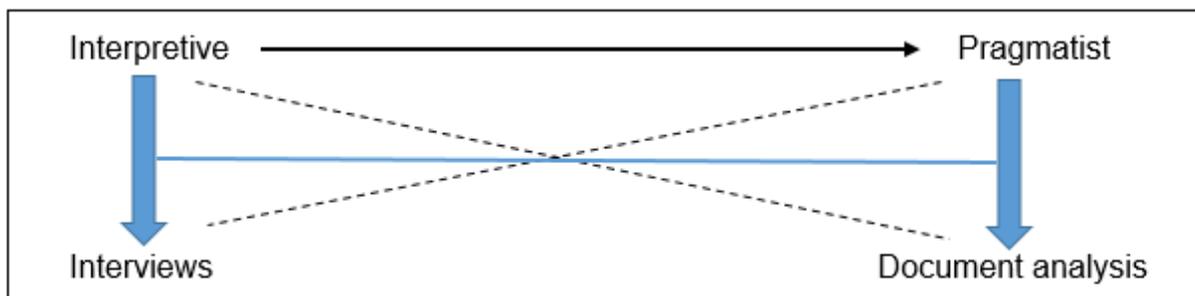


Figure 4.2: Interpretivist-to-pragmatist research paradigm in relation to methods used for data collection and analysis

Source: Own compilation

The current study took place in a real-world setting, namely an ODL environment. Data was collected and used to develop two conceptual alternative assessment frameworks for accountancy programmes, based on institutional and specifically neo-institutional theory. A thorough literature review regarding alternative assessments worldwide and specifically in accounting sciences in an ODL environment covering theses, books, articles in academic journals, institutional reports and websites of professional accounting bodies was conducted during the study. Preparatory discussions formed part of the exploratory studies to form a basis for the theoretical contribution in the form of the conceptual frameworks. The inductive approach that was used to develop the conceptual frameworks, also considered the context within which the study took place. Qualitative data was acquired through interviews, thereby adopting the inductive approach of the research design, after which the data was interpreted (Saunders et al 2016:147,392). The interpretation of the interview data analysis was used to evaluate the conceptual frameworks. In order to triangulate the findings, document analysis of institutional reports regarding an alternative assessment project conducted at Unisa, was done.

4.6 RESEARCH DESIGN

The research design represents a sequence of choices, which includes an explanation of how the research will be conducted (Trafford & Leshem 2008:90). Design-based research is usually also theory-based. This can be described as the systematic design and development of an intervention (e.g. a framework in this case) in collaboration with participants in a real-world context, as a resolution to a difficult educational problem,

or with the purpose to develop or validate theories, thereby linking theory and practice (Bikanga Ada 2018:6; Ford, McNally & Ford 2017:51; Goff & Getenet 2017:108; Plomp 2013:15; Wang & Hannafin 2005:6,8). As constructive knowledge is emphasised in a pragmatic approach, design-based research is a way of applying this constructive knowledge (Goldkuhl 2012:141–142). The design-based approach was considered the most appropriate method to address the research questions, as the study was set in a real-world context (ODL educational environment) and was based on new online technologies used for the authentic and valid use of non-venue-based alternative assessments, which are fundamental in shaping education (Bikanga Ada 2018:6; Wang & Hannafin 2005:9). See in this regard also Table 4.1. Design-based research allows for collaboration between various stakeholders (such as researchers, module responsible lecturers [MRLs], other lecturers and practitioners) throughout the study with the flexibility of the research process allowing for continuous improvement in a real-world context (Ford et al 2017:50,64; Wang & Hannafin 2005:9–10).

The design-based research took place in three phases, namely the preliminary, development/prototyping and assessment phases (Plomp 2013:19). In every phase, design and development took place, after which the conceptual frameworks were evaluated (similar to action research) before the next phase began.

In the **preliminary** phase, the analysis of the problem, the needs and context analysis, review of the literature and the development of two conceptual frameworks for the study took place. In this phase, there was a strong focus on relevance (content validity) and to a lesser extent on consistency (construct validity) (Nieveen & Folmer 2013:154–155; Plomp 2013:19,29–30). This phase was addressed in Chapters 2 and 3. There were various repetitions in the **development/prototyping** phase, each being a separate small design cycle with formative evaluation of the cycles. There was a strong focus on consistency and practicality in this phase (Nieveen & Folmer 2013:156–158; Plomp 2013:19,29–30). Chapters 4 and 5 relate to the development/prototyping phase. In Chapters 5, 6 and 7, a summative evaluation is discussed in the **assessment** phase, to conclude whether the final framework met the pre-determined specifications. Recommendations for improvement are also included. In this phase, there was a strong focus on practicality and effectiveness (Nieveen & Folmer 2013:155; Plomp

2013:19,29–30). Refer to Figure 4.3 as a reminder of the diagrammatical explanation of the design-based research process described in Figure 1.2.

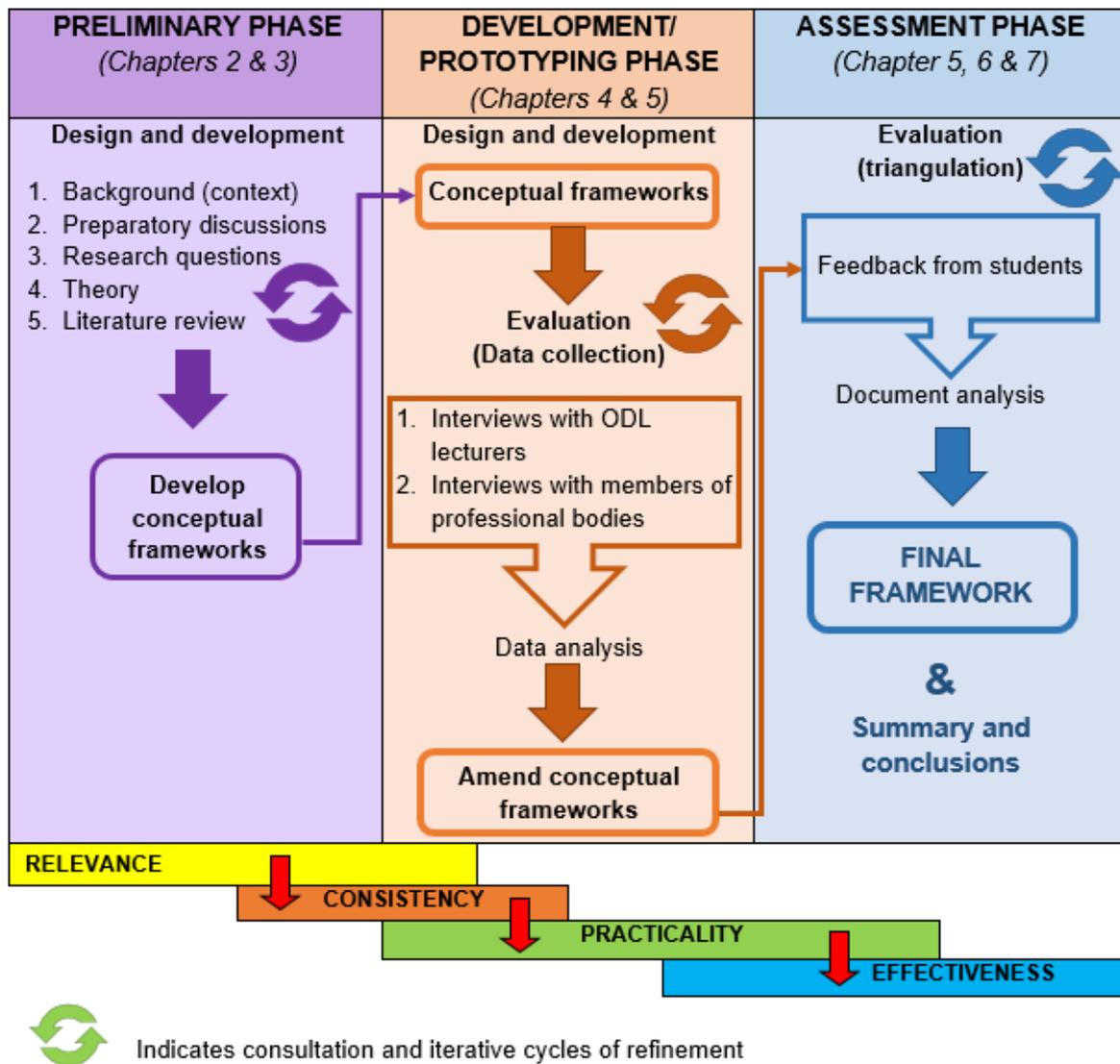


Figure 4.3: Diagram to demonstrate the design-based research method used in this study

Source: Own compilation (based on Goff & Getenet 2017:111,115; Nieveen & Folmer 2013:154–165; Plomp 2013:19,30).

The diagram in Figure 4.3 also indicates which stakeholders were consulted in each phase to evaluate the different phases. A detailed discussion of the preliminary phase follows in section 4.6.1.

4.6.1 Design-based: Preliminary phase

During the preliminary phase, the focus was on the relevance of the study as well as the validity of the content (Nieveen & Folmer 2013:154; Plomp 2013:30). Preparatory discussions with various stakeholders resulted in the research questions for the study. These informal discussions assisted with understanding and clarifying the personal experience gained (Turner 2010:755) by being involved in a task team on alternative assessments. The research proposal was developed, and a literature review followed (Goff & Getenet 2017:110–111,115). Two conceptual frameworks were designed and developed from preliminary discussions with stakeholders, the context of the study and the related literature review (Goff & Getenet 2017:111; Nieveen & Folmer 2013:154–155; Plomp 2013:19). A conceptual framework provides a theoretical outline of the planned research and order within the research process. It assists to define key concepts and context in the research process and allows for a focused approach (Trafford & Leshem 2008:44; 84–85).

4.6.2 Design-based: Development/prototyping phase

In the development/prototyping phase, data collection took place by way of one-on-one interviews conducted with CAS undergraduate MRLs. At least three lecturers per main subject area, namely Financial Accounting, Management Accounting, Auditing and Taxation, were interviewed to include lecturers on NQF levels 5 to 7. Two lecturers lecturing on computerised bookkeeping were also interviewed. Members of South African (e.g. SAICA) and international professional bodies (e.g. ACCA and CIMA) were also interviewed through one-on-one interviews as part of the data collection process to evaluate the conceptual frameworks. As part of the ongoing analysis, each iteration being a micro-cycle of the study, was informed by the interviews conducted with the stakeholders in a real-world context and refined with the necessary amendments (Goff & Getenet 2017:115; Nieveen & Folmer 2013:156–158; Plomp 2013:19). These evaluations of the conceptual frameworks formed part of the iterative process of refinement (Goff & Getenet 2017:115; Nieveen & Folmer 2013:157). All interviews conducted were recorded and transcribed, and subsequently coded and analysed with ATLAS.ti™ 8. The data analysis is reflected in Chapters 5 and 6. In this phase, the focus was on consistency and practicality as well as effectiveness of the intervention as indicated in Figure 4.3 (Nieveen & Folmer 2013:156–158; Plomp 2013:30).

4.6.3 Design-based: Assessment phase

The assessment phase comprised a summative evaluation in the form of a final framework. The purpose of the final evaluation was to determine whether the research questions were answered and whether there were any recommendations for improvement (Goff & Getenet 2017:111; Plomp 2013:19). In this phase, the focus was on practicality and the effectiveness of the intervention (Nieveen & Folmer 2013:155; Plomp 2013:30).

4.7 METHODS

Data collection and document analysis are discussed in the following sections.

4.7.1 Data collection

Data collection methods in the study comprised semi-structured interviews and document analysis.

4.7.1.1 Interviews

Interviews were used during the prototyping phase of the study to provide in-depth information on the experiences and views of participants (Turner 2010:754) regarding non-venue-based alternative assessments in accounting sciences. The purpose of the qualitative research interviews was to gain an understanding of the world from the subject's (or person's) perspective, to describe his or her experiences or actions. A research interview is a professional conversation that has structure and purpose (Brinkmann & Kvale 2015:3–5; Lincoln & Guba 1985:268). These interviews usually rely on immediate and direct interaction between the researcher and the participant (Salmons 2015:1). Interview knowledge is produced through the conversational relationship between the interviewer and the interviewee (Brinkmann & Kvale 2015:21).

Semi-structured interviews focus on a participant's knowledge of a theme from the subject's own experience with the purpose of interpreting it (Brinkmann & Kvale 2015:29; 2018:9). Brinkmann and Kvale (2018:9) refer to these interviews as 'semi-structured life world interviews'. It is neither a closed questionnaire nor an everyday discussion. In the current study, these interviews were conducted according to an

interview schedule focusing on specific themes with the emphasis on accurate descriptions of the subjects' 'lived' or 'life world' experiences, feelings and actions (Brinkmann 2018:580; Brinkmann & Kvale 2015:31–33; Kvale 2011). The semi-structured interviews combined structured pre-planned questions with the spontaneity and flexibility of the unstructured interview (Salmons 2015:9,59). It provided an opportunity for both the interviewee and the interviewer to follow up on angles deemed to be important in relation to the research (Brinkmann 2018:579; Saunders et al 2016:394). Interviews were recorded and transcribed which enabled the researcher to analyse the material collected during the study and to interpret the meaning thereof (Brinkmann 2018:581; Brinkmann & Kvale 2015:32).

This study was specifically conducted in an ODL environment, and understanding the context thereof was important for the legitimacy of the study (Brinkmann & Kvale 2015:64,344). Understanding is a key character of interpretivism while constructive knowledge is the focus in pragmatism (Goldkuhl 2012:142). A pragmatic approach was followed to determine whether the study had provided useful knowledge. In the case of pragmatic research, a model (or framework) is usually developed from constructive knowledge, matching observations and then checking it for logical consistency (Salmons 2015:24). This model (or framework) can be tested through further observation and action (Salmons 2015:24). This process is also characteristic of design-based research where the systematic design and development of an intervention (e.g. in this case, a framework) in collaboration with participants in a real-world context, attempts to resolve a difficult educational problem or has the purpose to develop or validate theories, thereby linking theory and practice (Bikanga Ada 2018:6; Ford et al 2017:51; Goff & Getenet 2017:108; Plomp 2013:15; Wang & Hannafin 2005:6,8).

Since design-based research integrates prospective, prescriptive and normative aspects in a pragmatic approach where constructive knowledge is emphasised, design-based research is a way of applying this constructive knowledge (Goldkuhl 2012:141–142). Therefore, epistemologies, methodologies and methods are mixed as they are “new and extended ways of thinking” about the world (Salmons 2015:24). Pragmatists insist that ideas and meanings derive their legitimacy from being able to cope with the world within which we find ourselves, with the desired results involving

values and ethics (Brinkmann & Kvale 2015:65,293,345). Ethical issues linked to the interviews conducted are discussed in section 4.8.2.

A sample should satisfy two purposes, namely the empirical purpose (where the data should address the research questions) and the theoretical purpose (where ideas are generated to increase the understanding of a theory, or to prove or develop a theory) (Mason 2018:55–57; Salmons 2015:118). Authors discussing qualitative research, for instance Mason (2018:58–59) as well as Saunders et al (2016:301), use the term ‘purposive sampling’, while others, such as Palinkas et al (2015:534) and Patton (2015:265), make use of the term ‘purposeful sampling’ (Salmons 2015:118). Even though the terms ‘purposive’ and ‘purposeful’ sampling are used interchangeably, in this study, the term ‘purposeful sampling’ was used.

When a sample is intentionally selected for the most effective use of limited resources in accordance with the relevance and needs of the study, it is defined as purposeful sampling (Mason 2018:58–59; Palinkas et al 2015:534; Salmons 2015:118,263). Purposeful sampling is a widely used qualitative research technique to identify and select information-rich cases purposefully (Palinkas et al 2015:534; Patton 2015:281). It comprises the identification and selection of knowledgeable or experienced individuals or groups of individuals (Creswell & Plano Clark 2011:173–174; Palinkas et al 2015:534). According to Bernard (2011:145–147) and Spradley (1979:79–83), the availability and willingness to participate, as well as the capability of participants to communicate experiences and opinions in an articulate, expressive, and reflective manner, are important factors in purposeful sampling (Palinkas et al 2015:534).

Purposeful sampling was used in the current study to select first-, second- and third-year CAS MRLs or other undergraduate lecturers with at least three years’ experience in the main subject areas for interviews. The purpose was to include lecturers involved in all the subject areas in accounting sciences and to ensure that they have the necessary teaching experience to offer meaningful views on their previous involvement with non-venue-based alternative assessments (Palinkas et al 2015:534).

Before conducting the interviews, a preliminary exploration (similar to a pilot study in quantitative research) was conducted with two academics, in line with qualitative logic (Williamson 2013:165). Participants were invited via email to participate. On indication

of their willingness to partake, the informed consent form as well as an information sheet to provide some background on the study were sent to them. Semi-structured interviews were conducted with 16 ODL lecturers. Members of each of the SAICA, ACCA and CIMA professional bodies in South Africa involved with alternative assessments were also questioned by way of semi-structured interviews. In this case, four interviews were conducted. The members were specifically selected for their professional experience and involvement with alternative assessments conducted by the professional accounting bodies. These interviews were conducted with the intention of gaining an in-depth understanding of the participants' views on non-venue-based alternative assessments and to evaluate the conceptual frameworks (Palinkas et al 2015:534).

The number of participants selected for the samples were based on the purpose of the study with the focus on quality of the data collected and not the sample size as such (Mason 2010:n.p.). Some authors make use of rules of thumb to decide on a sample size in qualitative research. Lincoln and Guba (1985:235) recommend between 12 and 20 participants in interview studies. This is usually based on methodological considerations and past experience in similar qualitative research studies (Sim, Saunders, Waterfield & Kingstone 2018:620–621,630). Qualitative methods usually place the primary emphasis on data saturation (Palinkas et al 2015:534; Sim et al 2018:629). Saturation can be described as continually adding to the sample to increase the comprehensive understanding until no new additional substantive information is acquired (Mason 2010:n.p.; Palinkas et al 2015:534). Saturation was not the intention in the selection of the samples for the current study, as the participants were selected for their specific knowledge and variety of experience in the accounting field (Creswell & Plano Clark 2011:173–174; Palinkas et al 2015:534). During the process of conducting the interviews, snowball sampling (generally known as a chain referral method (see Bernard 2011) occurred when some of the participants suggested two additional persons (one lecturer and one member of a professional body) with specific knowledge and experience, for additional interviews (Bernard 2011:147–148; Palinkas et al 2015:535; Saunders et al 2016:303). Data collected from the lecturers and the members of professional accounting bodies were analysed, and the analysis is discussed in Chapters 5 and 6. As part of the ongoing analysis and iterative micro-cycles of the design-based research, the conceptual frameworks were informed by the

data collected from the interviews and refined with the necessary amendments as part of the iterative process of refinement of the design-based research (Goff & Getenet 2017:115; Nieveen & Folmer 2013:156–158).

4.7.1.2 Document analysis

Document analysis is a systematic procedure used to review or evaluate printed or electronic documents (Bowen 2009:27). This method is often combined with other qualitative research methods as a means of triangulation in order to increase the credibility of the study (Bowen 2009:28; Flick 2018:535; Maxwell 2013:102,128). The different methods used in addition to documents could include interviews, observations and artefacts, and allow the researcher to corroborate findings. Document analysis comprises browsing the documents, reading them in detail and the interpretation thereof. This is an iterative process that leads to content and thematic analysis (Bowen 2009:32).

The Department of Institutional Analysis (DIA) at Unisa prepared institutional reports after a task team had made use of alternative assessments during a pilot project conducted during 2014–2015 (Unisa 2014b). One of the objectives of the task team was to increase non-venue-based technology-enhanced summative assessments. Questionnaires were sent to students to request their feedback and experiences on the non-venue-based alternative assessments in which they took part. These reports provided supplementary research data consisting of feedback on the experience of students who took part in the project, and was a valuable addition to the knowledge base (Creswell & Plano Clark 2011:173–174; Palinkas et al 2015:534). Ethical issues linked to the document analysis are discussed in section 4.8.2.

Purposeful sampling was also used for the document analysis. As a limited number of DIA reports were compiled after the non-venue-based alternative assessment project at Unisa had been completed, all these reports were selected for inclusion in the document analysis. These DIA reports provided rich information for the most effective use of the limited resources available (Palinkas et al 2015:534; Patton 2015:281).

Data collected from interviews with ODL lecturers from Unisa and members of professional accounting bodies (interviews discussed in section 4.7.1.1) was used to evaluate and amend the conceptual frameworks. Experiences from students who took

part in the alternative assessment project conducted at Unisa (document analysis discussed in this section) assisted with triangulation in order to increase the credibility of the study (Flick 2018:535; Maxwell 2013:102,128).

4.7.2 Data analysis

Data analysis and decisions on how the study was conducted formed part of the qualitative research design. These decisions informed the rest of the design (Maxwell 2013:104). Similarities and differences in qualitative research analysis are typically used to define categories and/or groups and to compare data per category. Similarity relations usually reflect common features or resemblances. In qualitative research, coding is a typical categorising strategy (Maxwell 2013:106). All interviews conducted in the study were audio recorded and transcribed. A reflexive journal was used to keep record of the raw data, notes and transcripts to create a clear audit trail. This assisted with the familiarisation of the data, to sort and cross-reference data, and also contributed to the reporting (Braun & Clarke 2012:60; Nowell et al 2017:3).

After the data had been collected from the interviews performed, transcriptions were imported into a computer-assisted qualitative data analysis software program (CAQDAS) (discussed below). The same process was followed when the data was collected from the document analysis. Codes are building blocks for data analysis and can provide an interpretation of the content included in the data (Braun & Clarke 2012:61). Preliminary codes were identified after the first interviews, and were repeatedly updated. These codes were referred back to the codes identified from the literature review. Initial codes were generated to identify and label data that was potentially relevant to answer research questions (Braun & Clarke 2012:61). Data can be coded on hard copy, or computer software can be used to manage and assist with the coding. It is important that the coding be thorough and systematic (Braun & Clarke 2012:62). After the coding of the initial interviews, a more focused approach was followed to develop themes and categories with the assistance of a CAQDAS program. A 'code category' can be described as a word or phrase that describes a segment of data, which is explicit (as indicated in Figure 4.4), while a 'theme' is a phrase or sentence that describes a more subtle and implied process (Saldaña 2016:16).

Thematic analysis is a method to identify, analyse and interpret patterns of meaning (themes) of qualitative data systematically (Braun & Clarke 2012:57; Clarke & Braun 2017:297). It is based on theoretical categories and comprises broad areas or issues the researcher wants to investigate or to order the data (Lincoln & Guba 1985:333; Maxwell 2013:107). Thematic analysis can be applied across a whole range of research paradigms and theoretical frameworks to identify patterns within and across data collected (Clarke & Braun 2017:297). The purpose of thematic analysis is to identify patterns relevant to answering a specific research question (Braun & Clarke 2012:57). This method works well with qualitative research where the active role of the researcher in coding and theme development allows for more flexibility (Clarke & Braun 2017:297). The emphasis is on producing a rigorous and high-quality analysis for both data-driven (inductive) and theory-driven (deductive) analyses (Clarke & Braun 2017:297–298). The theoretical categories are typically used as broader categories that will be used to sort data for further analysis to identify the content of statements or actions (Maxwell 2013:107). Thematic analysis assists the researcher to make sense of meanings and experiences shared by the participants to identify what the common opinions are (Braun & Clarke 2012:57).

ATLAS.ti™ 8 was used in this study to assist with the thematic analysis. ATLAS.ti™ 8 is a CAQDAS tool that has a variety of functions and features to assist with data analysis. It includes the option to write memorandums, comments, codes, hyperlinks, and it provides network views. In addition, it allows a researcher to document the entire study from supporting literature reviews, to the collection of data and transcriptions, and the presentation of the findings (Paulus, Woods, Atkins & Macklin 2013:1,10). From a study performed by Paulus et al (2013:9), the network views in ATLAS.ti™ 8 provided the clearest demonstration of how the program can “explore relationships between codes, categories and concepts, and to theorise conceptual relationships”.

In the current study, the data transcriptions were coded and analysed thematically as illustrated in Figure 4.4 (following Saldaña 2016:14). Pre-fixes were used to assist with the coding in ATLAS.ti™ 8 to pre-empt the possible thematic categories. These thematic categories linked well with the research objectives and theory supporting the study. Thematic analysis was used as a qualitative research method as it provides for a highly flexible approach that forces the researcher to adopt a well-structured

approach. Rigorous and trustworthy thematic analysis assisted with the process of interpretation and analysis of data (Clarke & Braun 2017:297; Nowell et al 2017:2,11). Figure 4.4 indicates how the codes-to-theory model from Saldaña (2016:14) was used to demonstrate the flow of the data analysis.

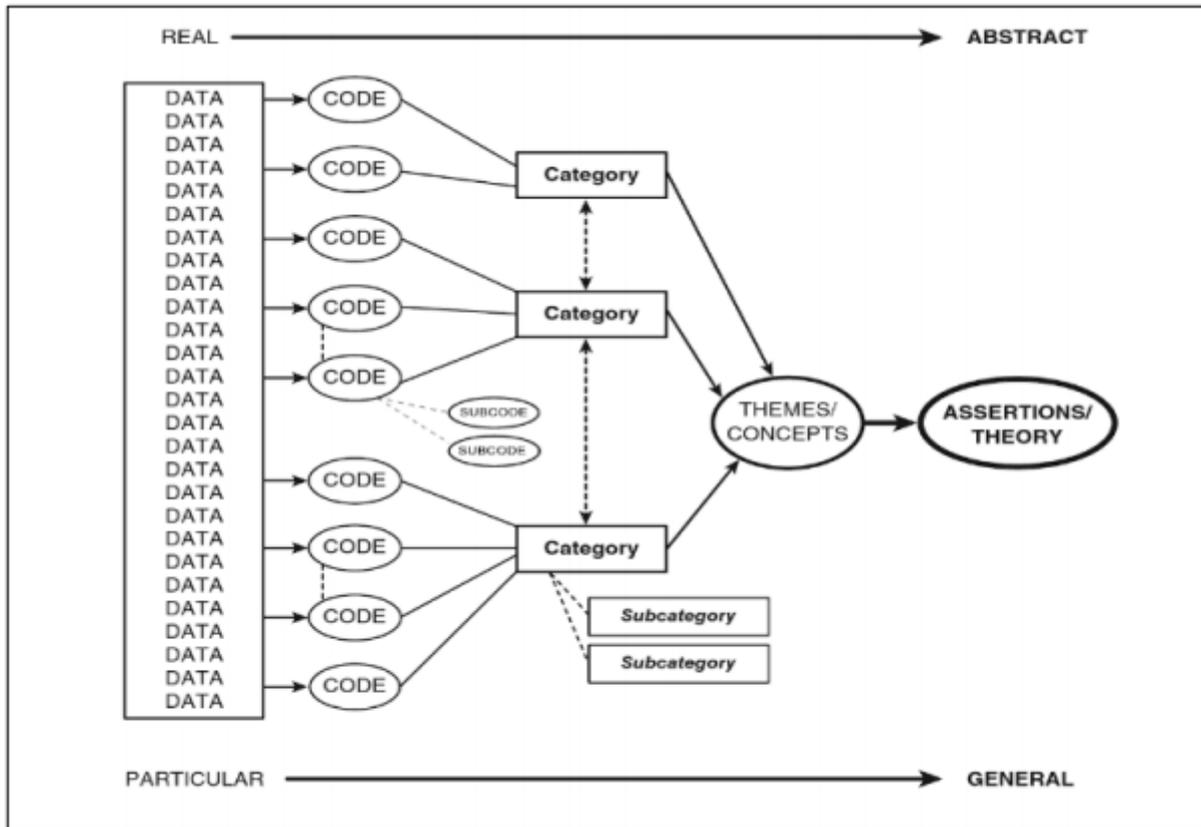


Figure 4.4: A conceptual codes-to-themes-to-theory model for qualitative data

Source: Saldaña (2016:14)

The Saldaña model (2016:14) linked well with Braun and Clarke’s (2012:57–71) phases of thematic analysis model. Table 4.3 describes the process followed in this study as well as how it was applied in ATLAS.ti™ 8.

Table 4.3: Braun and Clarke’s phases of thematic analysis model

Phases	Description of process	Applied in ATLAS.ti™ 8
1. Familiarisation with the data	Transcription of data, reading of data, listening to audio recordings of data and making notes of initial analysis of data	Import transcribed documents into ATLAS.ti™ 8
2. Generation of initial codes	Coding of interesting aspects systematically across the data set Collating codes and data extracts relevant to every code	Open or import codebook or create new codes
3. Search for the themes	Identifying all data relevant to specific possible themes Grouping codes into code categories Collating code categories into possible themes	Code groups and group networks
4. Review of themes	Checking whether themes align with code categories and entire data set in order to generate a thematic map of the data analysis	Code groups and group networks
5. Defining and naming themes	Ongoing analysis to define every theme and the overall picture of the analysis Clear definitions and names of each theme generated	Memo writing networks: free networks
6. Producing the report	Final analysis Vivid and compelling extracts can be provided as examples Scholarly coherent report of analysis with reference to the research questions and literature	Memo writing networks: free networks

Source: Adapted from Braun and Clarke (2012:60–70) and Clarke and Braun (2013:121).

In Table 4.3, the process of thematic analysis was described as well as how it was applied in ATLAS.ti™ 8. Figure 4.5 built on Figure 4.4 and indicated how ATLAS.ti™ 8 assisted (indicated in red) with determining themes from code groups.

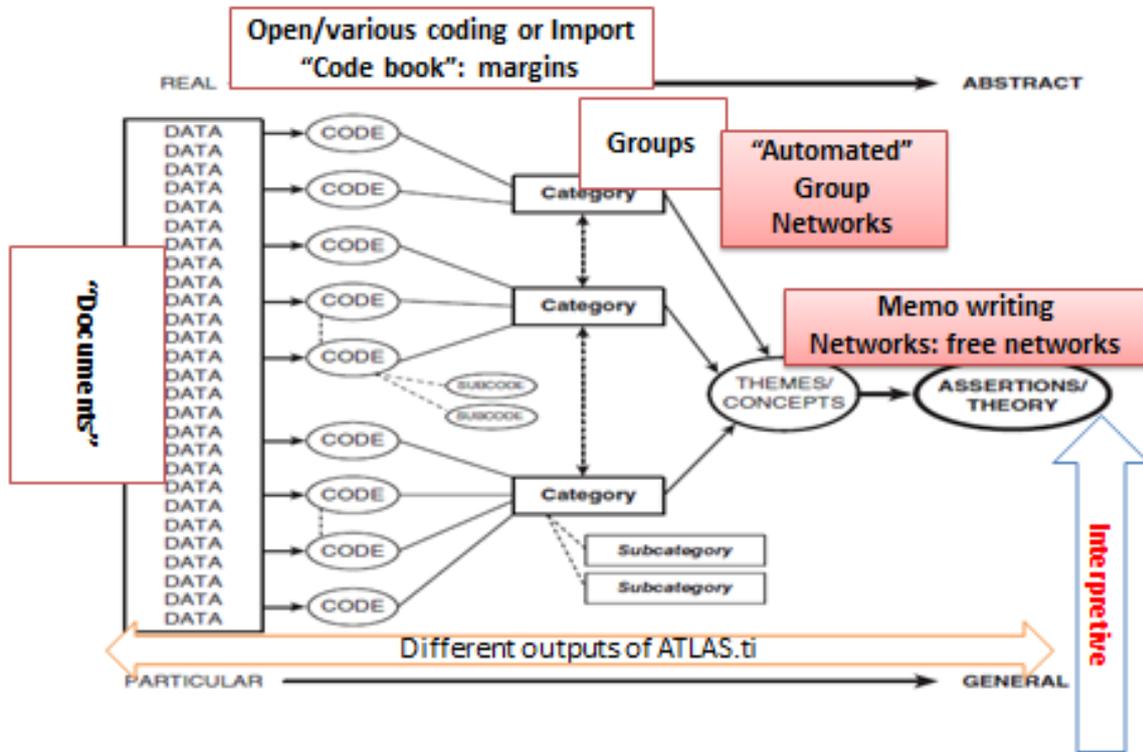


Figure 4.5: A conceptual codes-to-themes-to-theory model for qualitative data indicating Atlas.ti™ 8 application

Source: Adapted from Saldaña (2016:14) to include the application of ATLAS.ti™ 8

Figure 4.5 demonstrated how the codes were grouped into themes in ATLAS.ti™ 8. The evidence of choices and decisions made provided an audit trail to substantiate the rationale for the decisions made regarding theoretical and methodological issues throughout the study (Nowell et al 2017:3). The relationship between data, themes and theory is indicated in Table 4.4. The interpretation and analysis of the data are described in more detail in Chapters 5 and 6.

Table 4.4: Relationship between data categories, themes and theory

Data categories	Themes	Theory (analysis/framework)
- Various unique aspects	ODL institutions	Institutional theory
<ul style="list-style-type: none"> - Venue-based vs non-venue-based - Non-venue-based alternative assessment methods - Learning skills - Professional skills and/or competencies - Alternative assessment experience - Benefits and concerns regarding alternative assessment 	Assessment in accounting sciences	Neo-institutional theory (NIT) – Coercive and mimetic forces
<ul style="list-style-type: none"> - Professional bodies - Governing bodies 	Accreditation	NIT – normative forces
<ul style="list-style-type: none"> - Ethics - Identity verification 	Legitimacy	NIT – coercive forces
<ul style="list-style-type: none"> - Systems - Technology-enhanced assessments - Innovative ways 	Technology	Stakeholder theory NIT – mimetic forces

Source: Own compilation

Table 4.4 depicted the relationship between the data categories, the themes that resulted from the grouping in ATLAS.ti™ 8 and the theory applicable. The methodological criteria considered in the study are discussed in section 4.8 below.

4.8 METHODOLOGICAL CRITERIA

The methodological criteria namely trustworthiness and ethical considerations were considered in the study.

4.8.1 Trustworthiness

‘Reliability’ and ‘validity’ are terms used to describe the accuracy of quantitative data (Golafshani 2003:598–599). In the case of qualitative data, these terms are conceptualised as trustworthiness and credibility (Saldaña 2011:134–135). Lincoln and Guba (1985:218–219,328; 2013:104–105) introduced the concept of

trustworthiness in qualitative research to substitute reliability and validity used in quantitative research. According to them, trustworthiness has four aspects, namely credibility, transferability, dependability and confirmability. These aspects are also discussed by Levitt et al (2018:32), Nowell et al (2017:3), Cope (2014:89) as well as Sreejesh and Mohapatra (2014:58). The criteria to evaluate the trustworthiness of qualitative research in this study are explained in Table 4.5.

Table 4.5: Trustworthiness of qualitative research in this study

Trustworthiness	Description	Explanation of how trustworthiness was confirmed
Credibility	The rate at which the generated results appear to represent data in a better way (confidence in findings and interpretations)	In-depth semi-structured one-on-one interviews were conducted with lecturers and members of professional bodies. Second coding of the transcriptions contributed to the credibility of the findings.
Transferability	Extent of application of findings in different contexts or to other groups or subjects (generalisability)	Detailed descriptions of findings were provided in the current study. Reflection of the context as indicated in the study also ensured transferability. The context of the findings was confirmed during discussions with the second coder.
Dependability	Stability and consistency of findings. Logical processes that are traceable and clearly documented	Finding stability and similarities in opinions of participants to check for consistency. Interviews were recorded and transcribed to ensure that information was logical, traceable and clearly documented. The second coding also contributed to the dependability of the findings through active reflection and consensus.
Confirmability	Ability to demonstrate participant's interpretations clearly (free from researcher bias)	Quotes from the participants can be provided. An audit trail was kept by way of transcripts to provide evidence of the interviews conducted. Reasons for theoretical, methodological and analytical choices throughout the study were kept to substantiate the decisions made. A comprehensive codebook was prepared and were finalised with the assistance of an independent second coder. Thematic data analysis was done and linked to the theoretical contributions.

Source: Adapted from Levitt et al (2018:32–33), Nowell et al (2017:3), Sreejesh and Mohapatra (2014:58) and Lincoln and Guba (1985:328).

The reliability and validity criteria explained in a table compiled by Sreejesh and Mohapatra (2014:58) were adapted by Levitt et al (2018:32-33), Nowell et al (2017:3) and Lincoln and Guba (1985:328) to include trustworthiness and other methodological integrity criteria mentioned. The specific application of trustworthiness to the current study is shown in Table 4.5. Methodological integrity is the “underlying methodological basis of trustworthiness” (Levitt et al 2018:32) and enhances research design considerations. Faithfulness to the related subject and the usefulness of procedures to achieve the research goals can be used to evaluate the methodological integrity (Levitt et al 2018:33). Semi-structured one-on-one interviews with lecturers and other stakeholders using a clear and structured interview schedule to increase the methodological integrity of the data allowed for clarification of ambiguities. It also provided the opportunity to promote further in-depth discussion to add significance to the meaning of the data (Saunders et al 2016:391,394).

4.8.2 Ethical considerations

In the consideration of the essence of this doctoral study, the researcher established the ethical considerations beyond the procedural and substantive requirements of doctoral studies (refer section 4.8.2.2). The ethical considerations are discussed under two headings, namely discipline and study specific ethics and scholarly ethics.

4.8.2.1 *Discipline and study specific ethics*

At the heart of scholarship is ethics at a high level, as ethics form an integral part of the accounting sciences professional environment. Various accounting and auditing corporate scandals, such as the Enron crisis, Bernard Madoff’s Ponzi scheme and the Steinhoff scandal, to mention a few, resulted in major financial losses due to unethical behaviour (Bernardi et al 2016:90; Michaels 2018; Thompson 2018). For this reason, the professional accounting bodies, for instance SAICA, ACCA and CIMA, have professional codes of conduct (see section 3.7.2) to which members must adhere. Academic integrity is an essential part of ethics specifically in accounting sciences as it is discipline-specific and students should be educated about the importance of ethics in the workplace. Unisa has an academic integrity policy with the purpose to educate students on ethical behaviour and the consequences of contravening the policy (Unisa

2017b:9–13). Academic integrity and ethics in accounting sciences will form part of the data analysis in Chapter 5.

4.8.2.2 Scholarly ethics

Ethical clearance and permission to conduct the study were obtained from the College of Accounting Sciences Research Ethics Review Committee as well as from the Unisa Research Permission Sub-committee of the Unisa Senate, Research, Innovation, Postgraduate Degrees and Commercialisation Committee (refer to Annexure 5).

The following Unisa policies were adhered to in order to protect the rights of Unisa personnel and data:

- Policy for conducting research involving Unisa staff, students and data (see Unisa 2016a);
- Policy on research ethics (see Unisa 2016b);
- Research and innovation policy (see Unisa 2018b); and
- Intellectual property policy (see Unisa 2012).

The sampling, data gathering, and processing of the relevant data were undertaken in a manner that was respectful of the rights and integrity of all parties as stipulated in the Unisa policy on research ethics (Unisa 2016b) and the Unisa policy for conducting research involving Unisa staff, students and data (Unisa 2016a). Participants have to provide informed consent before participating in any study (Salmons 2015:2). Informed consent comprises informing research participants about the overall purpose of the study, the main features of the design and possible benefits and risks resulting from the participation in the study. This includes informing participants that they participate voluntarily and that they may withdraw at any time (Brinkmann & Kvale 2015:93). Informed consent was obtained from MRLs and/or other ODL lecturers on a first-year, second-year and third-year level in the four main subject areas as well as computerised bookkeeping, before the interviews commenced. Informed consent was also obtained from members of professional bodies before the interviews commenced. All participants in the study were informed that their privacy and confidentiality would be guaranteed, and that they could withdraw or choose not to participate at any time during the interview. Approval was also obtained from the institution to make use of

DIA reports and other relevant written and published or unpublished documentation (including policies) as well as related procedures relevant to the study.

All information collected through surveys or interviews, which relates to the study will be kept for five years and will be kept confidential. No person is referred to on an individual basis and will therefore remain anonymous. Data will only be available to the researcher and her supervisor.

4.9 SUMMARY

In this chapter, the details of the research design and collection of data were discussed. A high-level summary of the methodological decisions was provided at the beginning of the chapter. Research philosophies and paradigms were discussed, and specifically the interpretivist-pragmatist paradigm within which this study fell. The research approach was discussed, and it was linked to the research questions (see section 1.4). The design-based research design was used, and took place in three phases. The methods of data collection and sampling were discussed with reference to interviews and document analysis. Data analysis was also addressed. Lastly, the methodological criteria regarding trustworthiness and ethical considerations were discussed in the last part of the chapter.

The conceptual frameworks were evaluated and redeveloped through iterative cycles, and will be discussed during the report on the data analysis in Chapter 5.

CHAPTER 5

PRESENTATION AND ANALYSIS OF DATA GATHERED

5.1 INTRODUCTION

In Chapter 4, a high-level discussion of the methodological decisions was provided, which included the research philosophies for the qualitative approach used. Paradigms – and specifically the interpretivist-pragmatist paradigm in which this study fell – were discussed. The research approach was discussed, and it was linked to the research questions. Design-based research was considered the most appropriate research design taking the real-world context into consideration, and purposeful sampling was used to select participants. Semi-structured interviews were conducted with ODL lecturers and members of professional accounting bodies. Saturation of data collection was reached when no additional substantive information was obtained. Document analysis of all the available reports from a pilot project on non-venue-based alternative assessments, done by a task team, was conducted to assist with triangulation.

The interviews were transcribed and imported into ATLAS.ti™ 8 for coding purposes. Second coding was done by an independent data analyst to assist with the trustworthiness of the data. Prefixes were used to assist with the coding deductively in order to pre-empt possible themes. A thematic analysis of the qualitative data was conducted to explore relationships. Various ethical considerations were considered. The conceptual frameworks were evaluated and redeveloped, and the results from the data analysis are reported in this chapter. The presentation and analysis of theoretical contributions resulting from the data gathered are discussed in Chapter 6.

5.2 OVERVIEW

Figure 5.1 presents a visual outlay of the chapter, in which the data analysis as part of the development/prototyping phase of the study is discussed, and the conceptual frameworks are amended with the results to determine the final framework.

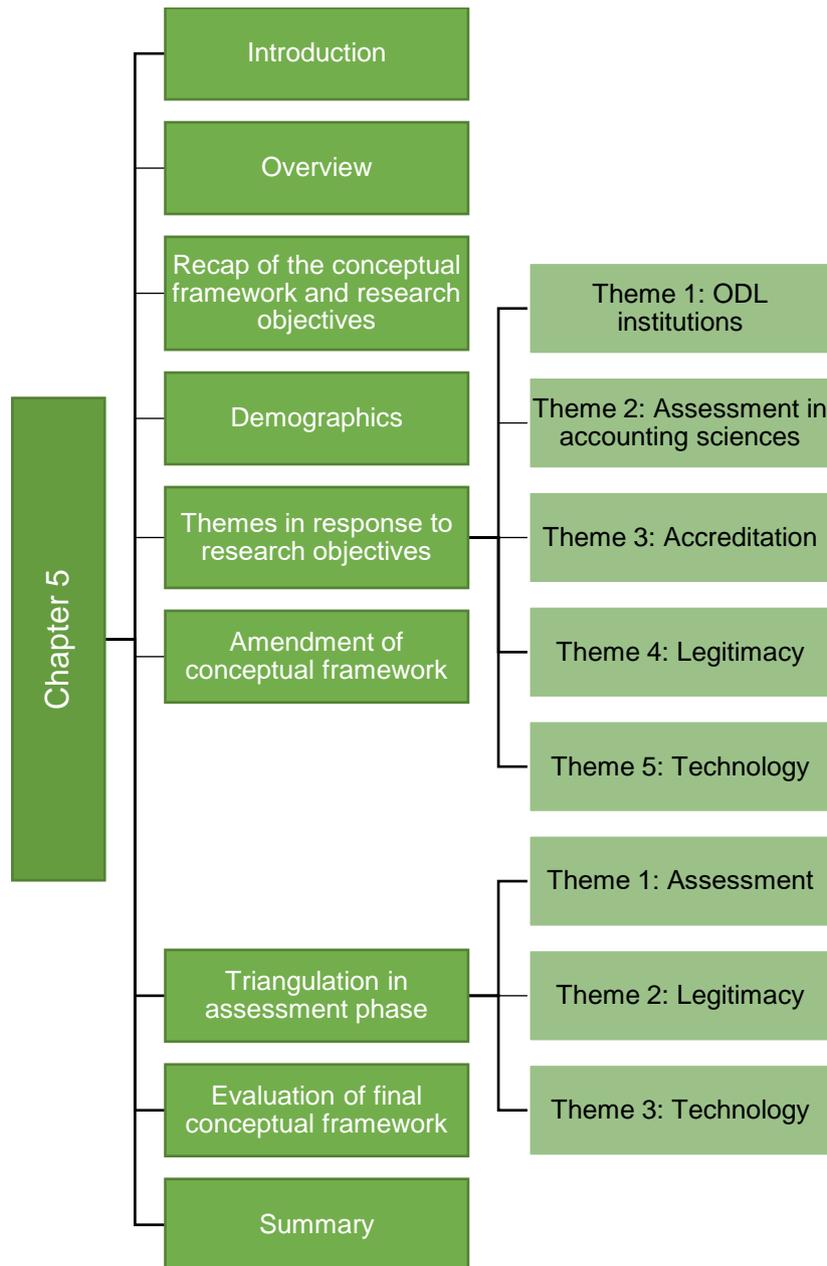


Figure 5.1: Chapter outlay

Source: Own compilation

5.3 RECAP OF THE CONCEPTUAL FRAMEWORK AND RESEARCH OBJECTIVES

The following conceptual framework on the context of non-venue-based alternative assessments was presented in Figure 3.3. It was compiled from the literature review in Chapters 2 and 3 in order to address the research objectives of the study, and is reflected here as Figure 5.2. The conceptual framework based on theoretical aspects

is discussed in Chapter 6. These two conceptual frameworks were combined in one final framework, as discussed in Chapter 7.

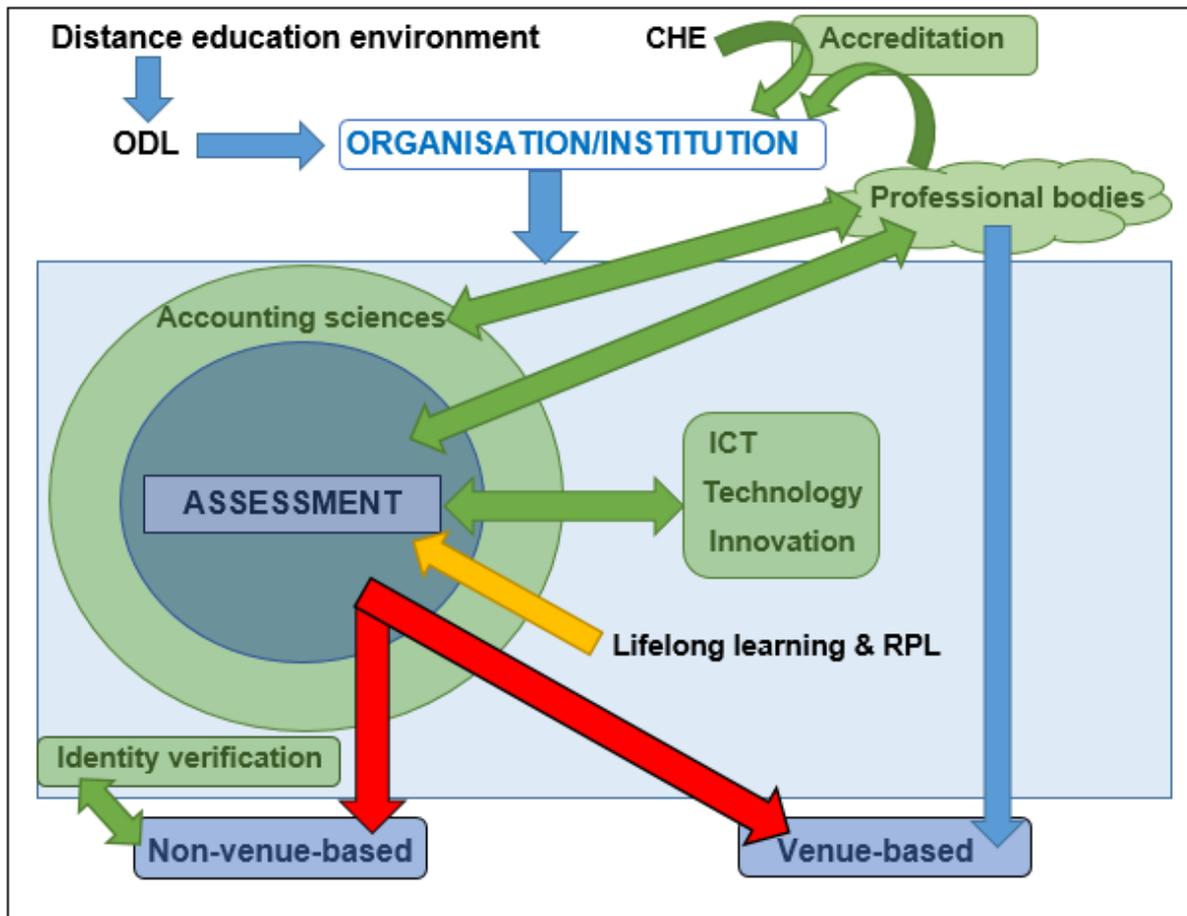


Figure 5.2: Conceptual framework of non-venue-based alternative assessments based within the ODL context

Source: Own compilation

The overall objective of this study was to develop an alternative assessment framework for undergraduate accounting sciences modules in an ODL institution. The following additional research objectives were crucial for the evaluation of the conceptual framework and were addressed in the semi-structured interviews with ODL lecturers and members of professional accounting bodies:

- to determine whether ODL universities in South Africa should introduce technology-enhanced non-venue-based alternative assessments to replace traditional venue-based examinations for undergraduate modules in accounting sciences;

- to determine the type of alternative assessments that should be used to assess accounting sciences effectively in an ODL environment;
- to suggest ways to verify the identity of students in an ODL environment; and
- to determine whether non-venue-based alternative assessment methods will have an influence on the accreditation of professional accounting bodies.

The participants in the study were selected through purposeful sampling in order to meet the research objectives. Interviews were conducted with lecturers in the ODL field and members of professional accounting bodies during the development/prototyping phase of the design-based research. The ODL institution is also referred to as the 'case entity' in the current study.

5.4 DEMOGRAPHICS

Purposeful sampling was used to select first-, second- and third-year CAS undergraduate MRLs or lecturers (also referred to as 'academics') with at least three years' experience in ODL in the main subject areas of accounting sciences, as well as members of professional accounting bodies. Semi-structured interviews were conducted with these participants.

A preliminary exploration was conducted with two academics. Interviews were conducted with 16 ODL lecturers of whom one was recruited through snowball sampling. The ages of the academics ranged from 25 to 65 years. The largest group (44%) of the population fell in the age group 35 to 44 years. The second largest group (22%) of the population fell in the age group 45 to 54 years. This information is summarised in Figure 5.3.

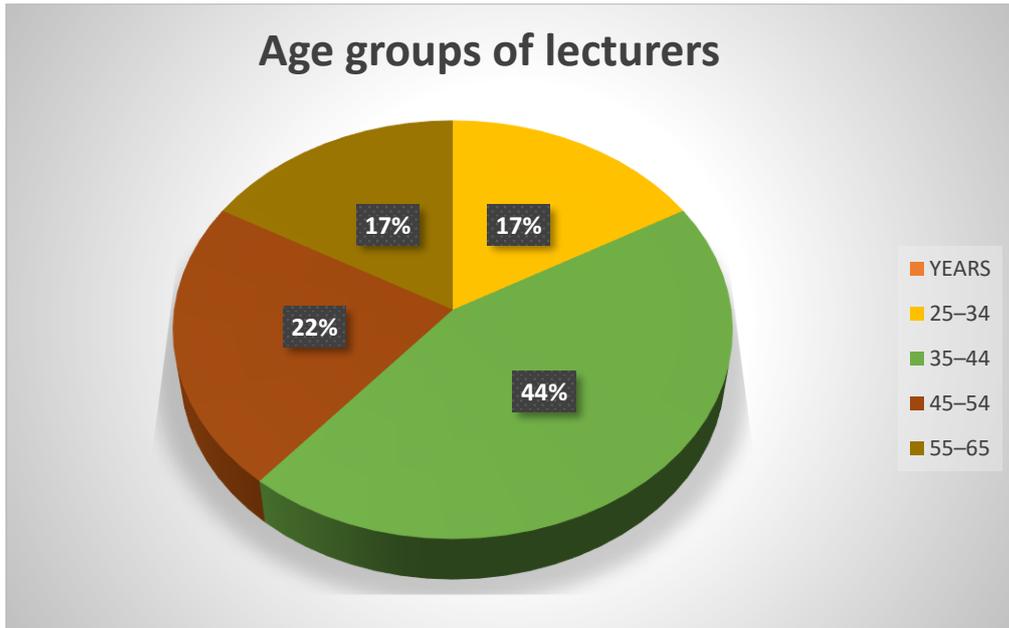


Figure 5.3: Age groups of lecturers interviewed

Most of these academics were females (67%), while 33% were male. These lecturers were also from a variety of race groups. Most of the lecturers (39%) had between five and nine years of teaching experience. The rest of the lecturers' teaching experience ranged between less than five years and more than 30 years. Refer to Figure 5.4 for the teaching experience of lecturers interviewed.

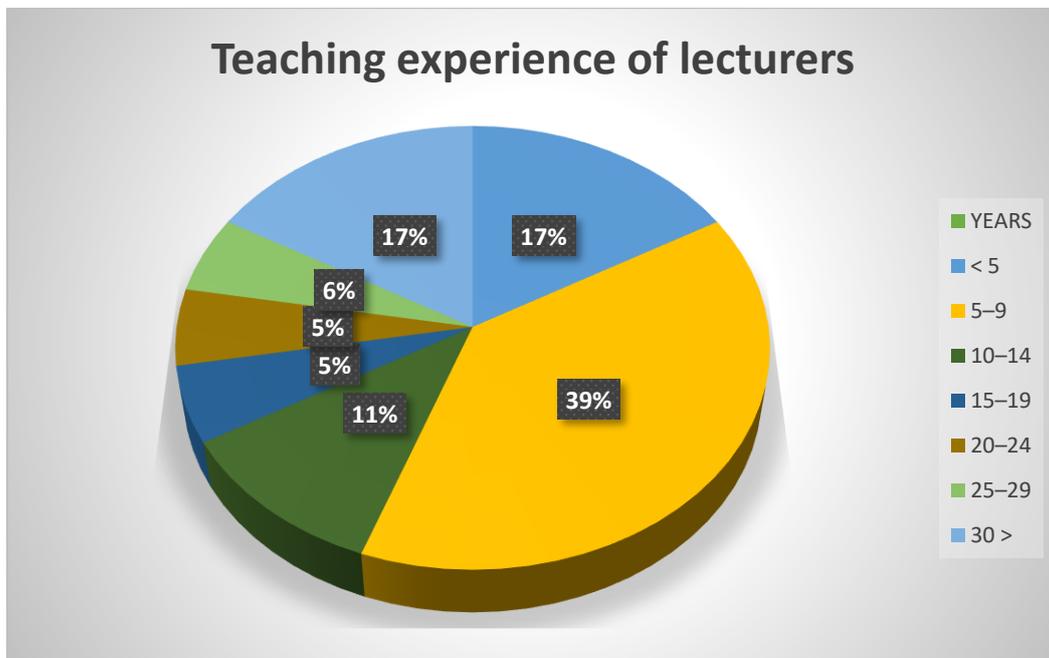


Figure 5.4: Teaching experience of lecturers interviewed

Lecturers from all the various accounting sciences areas in the ODL context were interviewed, with most (33%) from Financial Accounting. Financial Accounting also comprises the larger portion of the syllabi. The percentages of the various accounting sciences areas are indicated in Figure 5.5. All the undergraduate levels, namely NQF levels 5, 6 and 7, were fairly represented in the selection of participants. The lecturer who was chosen due to snowball sampling, was an NQF level 8 lecturer who was selected due to specific experience in non-venue-based alternative assessments.

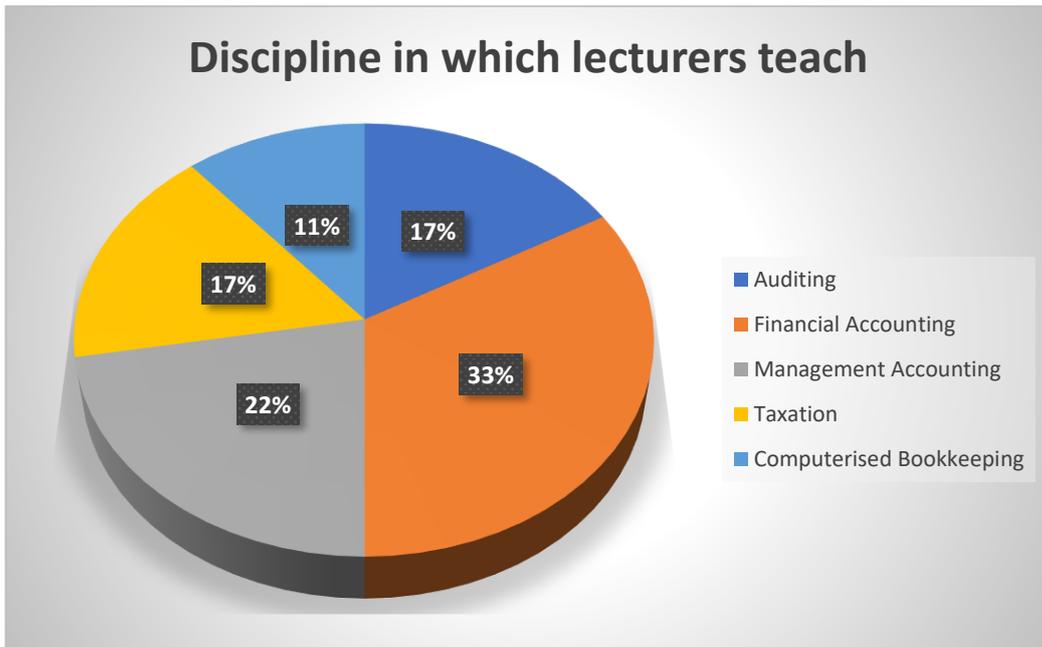


Figure 5.5: Various disciplines in which lecturers interviewed were teaching at the time of the study

Four semi-structured interviews were conducted with members of professional accounting bodies, of whom one resulted from snowball sampling. The age brackets varied between 25 and 65 with half of these members of professional accounting bodies between the ages of 45 and 54. Half were males and the other half were females, and participants were from different race groups. They all had a number of years' experience in the professional field (50% between 25 and 29 years) as indicated in Figure 5.6.



Figure 5.6: Years of professional experience of members of professional bodies

The sample therefore comprised lecturers from different age groups, genders, race groups, years' teaching experience, disciplines and NQF levels. The sampled members of professional accounting bodies were also from different age groups, genders, race groups and years' professional experience. The sample was therefore considered to be representative of the population in a real-life context in order to review the conceptual framework and to address the research objectives of the study.

5.5 THEMES IN RESPONSE TO RESEARCH OBJECTIVES

The conceptual framework was reviewed with reference to the relationship between the coded data, themes and theory as summarised in Table 5.1. A preliminary codebook, comprising the codes with prefixes, was provided to the second coder. The second coder reviewed it, taking into consideration the problem statement, research objectives, research statement and interview schedule. Initially, two interviews were coded deductively with the purpose of reviewing the codebook. The second coder suggested theoretical codes inductively after reviewing the theory chapter on institutional, neo-institutional and stakeholder theory. The researcher and the second coder then discussed the inclusion of theoretical codes with the researcher playing an active role in confirming and shaping the theoretical codes. Active reflection took place during this time. Following scholarly practice, consensus discussions on coding (Barbour 2001:1116) were held at various stages, and the coding proceeded with the

codebook being updated and becoming stabilised. Upon reflection, the researcher acknowledged that these theoretical codes with explanations raised the coding practise to a higher level and suggested theoretical insights in line with the thematic analysis. In addition, the second coding also contributed to the trustworthiness of the data by increasing the credibility, transferability, dependability and confirmability of the data analysis. After the second coding by the independent analyst had been completed, the theoretical contributions were discussed, and the results are presented in Chapter 6.

During data analysis, after rethinking and reworking some of the relationships that existed between the coded data, some of the codes relating to responses from participants were refined and grouped into five themes according to the prefixes and highest number of codes. The enumerative use of qualitative research (Grbich 2013:18) confirmed the empirical journey and also grounded the theory in limited quantitative data. The number of codes indicated in ATLAS.ti™ 8 provided complementary insights to determine the themes (refer Annexure 6). This contributed to the trustworthiness and credibility of data. The themes were also linked to the theoretical contributions that will be discussed in more detail in Chapter 6.

Table 5.1: Relationship between data categories, themes and theory

Data categories	Themes	Theory
- Various unique aspects	1. ODL institutions	Institutional theory
<ul style="list-style-type: none"> - Venue-based vs non-venue-based - Non-venue-based alternative assessment methods - Learning skills - Professional skills/competencies - Alternative assessment experience - Benefits and concerns regarding alternative assessment 	2. Assessment in accounting sciences	Neo-institutional theory (NIT) – coercive and mimetic forces
<ul style="list-style-type: none"> - Professional bodies - Governing bodies 	3. Accreditation	NIT – normative forces
<ul style="list-style-type: none"> - Ethics - Identity verification 	4. Legitimacy	NIT – coercive forces
<ul style="list-style-type: none"> - Systems - Technology-enhanced assessments - Innovative ways 	5. Technology	Stakeholder theory NIT – mimetic forces

Source: Own compilation

Every theme shown in Table 5.1 is discussed in more detail in sections 5.5.1 to 5.5.5. In the discussion that follows, it should be noted that the most data-grounded (plentiful) aspects are discussed, first under every section and next the less important aspects follow. Verbatim references (using exactly the same words as the participants used) are indicated in italics and without inverted commas. These verbatim references are also provided unedited. References to the contributions of the participants are indicated in brackets. The abbreviations used are as follows: PE for preliminary exploration, L for lecturers and P for members of professional bodies.

5.5.1 Theme 1: ODL institutions

Based on the empirical data, there are various aspects that are unique to ODL institutions and which had an influence on the central research objective. The relationship between the data category, ODL institutions theme and theory, is indicated in Table 5.2.

Table 5.2: Relationship between data categories, themes and theory: ODL institutions

Data category	Theme	Theory
Various unique aspects	ODL institutions	Institutional theory

In Table 5.2 the relationship between the data category, the ODL institutions theme that resulted from the grouping in ATLAS.ti™ 8 and institutional theory is indicated. The focus of ODL is to create a quality learning environment for students and to remove barriers (e.g. access to learning, the flexibility of learning, student-centredness, support of students and learning programmes) that contribute to their success (CHE 2014:4–5; DHET 2014b:6).

5.5.1.1 Opportunities in ODL

The interviewees mentioned various opportunities available in ODL, for instance, distance-learning students may be located hundreds of kilometres away in remote or rural areas, without an examination centre anywhere close by (P0003 & L0012). Non-venue-based alternative assessments could save these students much money if they do not have to incur costs to travel in order to be assessed (L0012). Students have different circumstances, and ODL is a way to allow students in difficult circumstances (e.g. students in prisons or hospitals) to further their education and be assessed wherever they are located (L0010). ODL allows access to accounting education, which is a scarce skill in many countries in Africa and makes it possible to educate a much wider population, making *education more openly available* (P0004).

Alternative assessments can also assist students to improve their computer skills. If students have access to a computer or laptop with a spreadsheet program (e.g. Excel), they can do their assessments quicker, more efficiently, without mistakes in calculating totals by using the basic functionalities of the program (L0012). Computer skills comprise one of the professional skills requirements of the professional accounting bodies to prepare students as competent graduates for their future employment.

These arguments complement existing literature reported in section 2.3, by emphasising the fact that there are not only challenges experienced in ODL (see below) but also opportunities. Opportunities include access to accounting education by saving costs, removing the distance, and allowing students to study when they cannot be assessed physically in venues due to various factors. It therefore makes ODL a

flexible method to enable a student to study (Altbach et al 2009:125,137; CHE 2014:4,12; DHET 2014b:20; Tung 2012:312).

5.5.1.2 Concerns and challenges in ODL

From the empirical data, it became clear that various participants were mostly concerned about the cost and viability of identity verification of students when using non-venue-based assessments in ODL. The concerns raised included the cost of hardware (e.g. a laptop or computer) as well as the cost of data, especially in cases where students can barely afford the cost of tuition and living expenses (L0006). Due to limited finances, students will not be able to afford data for a three-hour-long assessment where they have to be online for the whole period (L0016). Therefore, unless a student has uncapped Wi-Fi, or free access to the internet, it will be expensive to do an assessment (P0003). Some students may not even have access to Wi-Fi or the internet, especially students in rural areas (L0016).

Another concern raised was that distance education is faceless, and students might feel isolated. Not having a face-to-face lecturer and studying at a distance might make it easier for students to be dishonest during non-venue-based assessments because they might think that it is only *an institution; it is not a person* (L0006).

As cited below, these arguments support the literature, namely that, apart from the opportunities discussed earlier, various challenges are experienced in ODL. Challenges could include individual-related challenges (e.g. logistical experience, and problems with access and use of ICT), instructional-related challenges (e.g. limited face-to-face interaction, poor quality of study material, limited contact or feedback from lecturers) and institutional-related challenges (e.g. study material arriving late, problems accessing administrative assistance, inadequate student support services) (Musingafi et al 2015:61,63–64; Ohene & Essuman 2014:163–169). Notwithstanding the discourses above, this theme relates to institutional theory and the ODL institution in a theoretical context (refer to section 2.3) of non-venue-based institutional location versus venue-based institutional location. The very evolution, and thus the existence of distance learning, creates systems for more comprehensive and democratic educational access as highlighted by Altbach et al (2009:125,137) and Tung (2012:312) who argue this point through the centrality of the institutionalisation of

distance learning. Hence, this participant data was seen to relate to the more traditional institutional theory (Lawrence & Shadnam 2008:2288–2289; Meyer & Rowan 1977:340) of how an institution comes into being within the dynamics of historical internal structures. Alternative modes of assessment then evolved (through non-venue-based assessments) with consequent positive as well as less positive aspects, as highlighted by the data and theory. As the institution evolves into a more complex institution (with the addition of technology, for instance), more external influences have an impact on the institution; thus, emphasising the neo-institutional forces on the initial institution, as highlighted in the subsequent themes.

5.5.2 Theme 2: Assessment in accounting sciences

From the empirical data, various aspects relating to assessment in accounting sciences were addressed. The relationship between the various data categories, assessment in accounting sciences theme and theory, is indicated in Table 5.3.

Table 5.3: Relationship between data categories, themes and theory: Assessment in accounting sciences

Data categories	Theme	Theory
<ul style="list-style-type: none"> - Venue-based vs non-venue-based - Alternative assessment experience - Non-venue-based assessment methods - Learning skills - Professional skills/competencies - Benefits and concerns regarding alternative assessment 	Assessment in accounting sciences	Neo-institutional theory (NIT) – coercive and mimetic forces

In Table 5.3 the relationship between the data categories, the assessment in accounting sciences theme that resulted from the grouping in ATLAS.ti™ 8 and neo-institutional theory, is indicated. Lecturers in all the various accounting sciences areas were interviewed to ensure full coverage (as indicated in the demographics in section 5.4). These lecturers all had at least three years' experience with non-venue-based alternative assessments in their different subject areas.

5.5.2.1 *Experience with alternative assessments – venue-based and non-venue-based*

All the lecturers interviewed had been involved in non-venue-based alternative assessments previously and nearly 40% of these lecturers specifically indicated that they were of the opinion that the non-venue-based alternative assessments worked well, especially where a limited number of students were involved in the assessments due to a special examination. The qualitative reasoning of the lecturers gave substance to the 40% numerical finding (see Annexure 6). A few of the lecturers and all four members of professional accounting bodies had concerns about identity verification, which will be discussed in section 5.5.4 under Theme 4: Legitimacy. Another concern was the large student numbers in ODL. Only two of the lecturers were negative regarding non-venue-based alternative assessments. All the members of the professional accounting bodies had been involved in venue-based alternative assessments and provided their views based on their experiences, but they were more speculatively regarding non-venue-based assessments.

5.5.2.2 *Non-venue-based alternative assessment methods*

None of the participants knew of any other alternative assessment methods than those provided by the researcher in the interview schedule, namely: take-home examinations, online timed assessments, portfolios, e-portfolios, peer reviewing, webinars or continuous assessment as identified in the literature and discussed in Chapter 3. This reinforced the researcher's thoroughness in terms of reviewing the literature and best practices and the conceptualisation of the framework.

Most of the lecturers were of the opinion that take-home examinations, online timed assessments, portfolios, e-portfolios or continuous assessment could be used as alternative assessment methods in accounting sciences. Especially take-home examinations and portfolios were preferred as these can be used in the form of a case study, an essay, or answers that may require a longer duration. Literature confirmed that online tasks should include summative assessments as an incentive to increase student participation (Oraifige et al 2009:65). Several methods can be used for online summative assessment, namely quizzes, tests and examinations (Watwood et al 2009:108–109). The lecturers also indicated that they preferred to combine various

types of alternative assessments in continuous assessment. Literature confirmed this view. Isaksson (2008:5) found a statistically significant correlation between the grades of the students and the time into the course when the continuous assessment took place.

Participants were very positive about the use of case studies, especially the members of professional accounting bodies who made use of it in the professional examinations. A case study demonstrates assessment of a scenario by applying *ethical considerations, as well as professional consideration* (P0004). Numerous lecturers also made use of case studies in combination with the other alternative assessment methods as *it [case studies] aligns with the real world* (L0006). Competence of students writing professional examinations is best assessed with case studies because students have access to the information a few days before the professional examination to do research, but it is written at a venue (P0002). Case studies based on real-life scenarios can also be used for non-venue-based assessments. These real-life case studies should be very practical and may include *drafting diagrams, identifying risks and designing controls* (L0006). In such assessments, students must be able to identify risks and apply their skills. These assessments are however taxing for the lecturers because it takes considerable time to design case studies and setting the examination is a much more difficult cognitive exercise than setting a traditional two-hour examination paper (L0006).

When case studies are used, marking is usually also more intricate as more practical and professional skills are being assessed. Rubrics are often used to mark these case studies and often to mark portfolios. Most of the participating lecturers preferred the use of online timed assessments in assessing accounting sciences in non-venue-based assessments. Portfolios, take-home examinations and continuous assessments are also considered appropriate methods to assess accounting sciences. Often, the lecturers prefer using a combination of these methods, especially in formative assessments, to oblige students to work throughout the year. In the case of fully online modules, other assessment tools, such as *blogs, discussion forums, wiki tools, videos and self-assessments* are included as part of the non-venue-based formative assessment (L0006 & L0010).

5.5.2.3 Learning skills and professional skills/competencies

Professional accounting bodies require students to have a variety of competencies in order to become capable graduates. According to one interviewee, *the alternative assessment that takes place must align to what skills you are trying to assess, and it does give you a broader scope to develop more skills as opposed to just technical competence* (P0001). Technical competence of students is usually tested during venue-based assessments. Therefore, non-venue-based alternative assessments can play a much bigger role in future *because of more focus on the development of skills and competence and what is now referred to as 'enabling competence'* (P0002). The competencies needed by students are a very important aspect identified by participants, and included *critical thinking skills, higher-order skills* (L0016), *technical expertise* (P0004), *professionalism, professional values, adaptability, thinking strategically and being effective as a team player* (P0004).

The most important skills accounting sciences students should have, according to the participants, are the ability to complete assessments on practical and real-life experiences successfully and applying their knowledge in a real-world professional work environment (L0015). Case studies are typically used to assess these skills. Specifically, the use of case studies seems to be a preferred method to test real-life activities of accounting sciences students. It appears to assist their understanding of auditing and adds value to their knowledge of accounting sciences (Burdon & Munro 2017:435,442). It was found in the literature that the use of case studies in an ODL environment has the possibility to enhance and develop pervasive skills of students (Reyneke 2016:181). This view was confirmed by Eloff (2016:412) who considers case studies and simulations as suitable assessment methods in an accounting sciences environment. Case studies can also assist with the simulation of practical experience necessary for certain disciplines, such as auditing (Mihret et al 2017:352). If an assessment task simulates a real-life task, it appears to be especially relevant to students, because it provides them with a better understanding of theoretical principles and skills required and creates an environment for sustainable learning (Eloff 2016:412; Parle & Laing 2017:119; Rust 2002:150). The responses from the participants and the literature concur that non-venue-based alternative assessments

can contribute to students obtaining the necessary professional competencies and thereby increasing their employability.

5.5.2.4 Benefits of non-venue-based alternative assessments

Non-venue-based alternative assessments could benefit students because it is *convenient*. It could also benefit the lecturers because *you can arrange this in advance, so it is convenient for us in terms of planning* (L0009). One academic added that *flexibility* (L0009) for the students is also a considerable benefit. Another academic was of the opinion that it could also *speed up the process of learning* (L0001). As soon as the contents of a module have been mastered, students can do the assessment and progress to the next module (L0001). Students could also save costs on travelling if they live far from an examination venue, but they might incur other costs, for example printing costs (L0009).

Being ODL, our students are situated all over, so that would be of great benefit and it could reach a lot more students if the technology were in place (L0013).

From a global point of view, because of the footprint that [the case entity] has, there is definitely an opportunity to reach more people, to educate more people and also assess more people, provided the technology is enhanced (L0014) *[and will be able to function properly]*.

Technology-enhancement came out very strongly during the interviews.

If the technology is enhanced, it gives a student the opportunity to take an assessment in the comfort of their own home which will inspire learning (L0014).

[It will encourage learning because of their personal circumstances.] People have lives, they have families, they have jobs and they do not necessarily have the time to go and sit and write in a venue-based location or to do a venue-based assessment (L0014).

The university might also be able to save on paper (L0012) and other costs (L0007), such as the upkeep of facilities (L0009) *because they do not have to book venues and hire invigilators* (L0009) or do *physical printing and delivery of examination papers* (L0008). If they can administer the technology-enhanced non-venue-based alternative assessments effectively, *they can be seen as keeping up with technology and the way the world is moving* (L0013). It can also improve *the image of the university* (L0013).

5.5.2.5 Concerns of non-venue-based alternative assessment

In general, the interviewees were concerned about the hardware and technology of both the students and the university. Access to the internet and Wi-Fi was also mentioned as a concern. Another concern regarding students is *to find a way to address plagiarism* (PE2).

[Especially concerning integrity], it might end up costing the university more in invigilators, even though we are saving on paper, because each and every student will have to be watched while they are writing (L0012).

Students should not have access to the internet or any other documents or programmes on their computers or laptops that could possibly assist them while they do the alternative assessment (L0007). Possible problems with technology-enhanced non-venue-based alternative assessments could also arise from the number of students. If the volume of students is high, the system might be overloaded and the concerns regarding academic integrity increase (L0007).

Once it gets established and all the systems works seamlessly, then it might start becoming a cheaper method, but in the beginning, it might end up being more expensive (L0012).

The respondents concurred with the literature that the development of ICT opens up possibilities to interact with students and allow for continuous assessments throughout the assessment period with a much quicker turnaround time, that is if the technology allows for it (DHET 2014b:54). The use of technology in assessment should support meta-cognitive skills in the learning environment to enable students to reflect on how their study material related to the experience they had (Goolamally et al 2010:3931; Kim et al 2008:9). Various benefits were supported by the literature, but concerns were raised by the participants also contribute to this body of knowledge.

5.5.3 Theme 3: Accreditation

The respondents identified the accreditation of professional accounting bodies and governing bodies as one of the most important aspects that must be addressed where non-venue-based alternative assessments will be used. The relationship between the data categories, accreditation theme and theory, is indicated in Table 5.4.

Table 5.4: Relationship between data categories, themes and theory: Accreditation

Data categories	Theme	Theory
- Professional bodies - Governing bodies	Accreditation	NIT – normative forces

In Table 5.4 the relationship between the data categories, the accreditation theme that resulted from the grouping in ATLAS.ti™ 8 and neo-institutional theory is indicated. Professional and governing bodies determine and control the standards and conceptual frameworks that have an influence on education provided at the institution. Normative isomorphism results from the standards and conceptual frameworks created and controlled by professions and other regulators that determine standards for institutions (DiMaggio & Powell 1983:150,152; González & Hassall 2008:15; Karataş Acer & Güçlü 2017:1915; Lawrence & Shadnam 2008:2290).

5.5.3.1 Accreditation of professional bodies

The accreditation of qualifications forms part of the route to obtain a professional designation. Most of the academic interviewees raised the concern that professional accounting bodies may reconsider the accreditation of qualifications, specifically if the identity of students in non-venue-based alternative assessments cannot be verified. The most likely reason is *that everybody wants to protect the integrity of their qualification* (P0003) and provide *standardised* (P0004) quality accounting education. The following specific concerns were raised by lecturers:

- *I do not think they will have an issue with the alternative assessment – that is where the future is moving – but [the case entity] must make sure we can identify the student and we can make sure that what he [or she] hands in, was his [or her] own attempt* (L0001).
- *We cannot verify how honest students are and if they were really good enough to pass, because if their friends go and write for them there is no way for us to at the moment know that* (L0003).
- *They [professional accounting bodies] think it [the identity of the student] is not verifiable, you cannot place the body behind the work that has been done* (L0006).
- *The issue here is just making sure that the other person, the person on the other side, is the right person that should be writing the assessment* (L0005).

- *There are not effective, dynamic ways to determine if it is the student's own work (L0014).*
- *Because of the obvious plagiarism. It seems to me like the easy way out and even the students know this, you can see the trend (L0011).*
- *It is about the integrity, honesty, is it your own work, are you getting the skills yourself (L0015).*
- *I would want to believe that SAICA would be completely against these non-venue-based assessments, especially if the integrity of the assessments cannot be guaranteed (L0012).*
- *I do not think that SAICA or ACCA or CIMA will accept these non-venue-based alternative assessments because they have no clear-cut way to monitor the identity of the students. And it is not as highly regarded as a venue-based exam even though the venue-based exam could also have risks involved (L0016).*

However, some of the lecturers and members of professional accounting bodies were not too concerned about accreditation when using non-venue-based alternative assessments. It might be that the professional accounting bodies are waiting for higher education to go the route of non-venue-based alternative assessments.

People do not like being tied down to a specific place, even a specific time anymore. Everybody wants to work when it suits them (L0010).

This can however only be possible if the identity of students can be verified and if there are adequate control over the process, and these were confirmed by the academic interviewees as follows:

- There should be adequate control regarding the validation of assessments and the verification of the identity of students (addressed by both L0007 & L0013).
- Therefore, if it can be ensured that it is the right person doing his or her own assessment, the professional accounting bodies may accept non-venue-based alternative assessments (L0008).
- The professional accounting bodies will, however be very conscious of the measures put in place to ensure the validity and credibility of assessments (L0010).

All four members of the professional accounting bodies confirmed that they would not accept non-venue-based alternative assessments as the only form of assessment. However, if such assessment forms part of the continuous assessment and there is a mixture of non-venue-based and venue-based assessments with specifically venue-based assessments as a final summative assessment, the professional bodies should not have a problem with it (P0001). For this reason, members of the professional accounting bodies indicated that they preferred to have their final assessment for a professional qualification done as a computer-based assessment in a venue where the identity of students can be verified. Therefore, even if the professional bodies make use of examination centres to administer the professional assessments –

[I]t is important that ... authenticity is confirmed by independent third parties and in particular regulators in the jurisdictions in which they are operating (P0004).

This is in accordance with the response from lecturers who also preferred venue-based final assessments where the identity of students can be verified. One academic confirmed the preference for venue-based assessments:

[T]hat is for us a true reflection of the knowledge level of the students (L0008).

It is important to ensure that students obtain the necessary competencies according to the competency criteria as required by the professional accounting bodies (P0002). One of the lecturers thought SAICA would be of the opinion that students taking non-venue-based alternative assessments as the only method of assessment in their undergraduate qualifications, would not have the necessary competencies to progress into the CTA stream for postgraduate studies.

The alternative method of assessment is more like an open book exam and the competence of the student is not really tested (L0002).

This view was confirmed by a member of one of the professional accounting bodies (P0002).

The risk is that students at an undergraduate level who only participate in non-venue-based alternative assessments, might not perform well in the venue-based assessments of the professional body. *That might have an impact on the accreditation (P0002) of the qualification.*

According to a report compiled by ACCA (2016:10), employers have the expectation that students are capable and have the relevant competencies (P0004).

There is an obligation on the universities to make sure that they are delivering people to the work place that are relevant (P0001).

Non-venue-based alternative assessments could assist lecturers to test different skills that cannot be tested in a venue-based examination. Students should have *more skills-based* (L0006) competencies that are relevant for the working environment. They *actually need to be graduates of this university and be able to apply that knowledge in the economy of our country* (L0012) to address the fact that accounting sciences is a scarce skill and a profession with a strong focus on ethical behaviour in the economy. Universities should *produce students that can actually do the work* (L0006). It is therefore important to ensure that *the student is adequately trained or when the competency levels comes in*, the student has the necessary *calibre, integrity, values and morals* to apply it in *the real world* (L0015). This is very important in a profession, such as accounting sciences, which in any case should be an ethical profession.

5.5.3.2 Accreditation of qualifications by governing and regulatory bodies

Identity verification is also a concern for participants regarding the accreditation of qualifications by governing and regulatory bodies such as DHET, SAQA and CHE. The biggest concern is that if the identity of students cannot be verified, and *if it [the assessment] is not verified that it is his own attempt, it [the lack of verification] will have an influence on the reputation of the university* (L0001). The Council on Higher Education (CHE) places a very high emphasis on academic integrity.

If they think that non-venue-based technology is not fool proof, then it will most definitely affect the accreditation of the university (L0016).

This could have an effect on the *integrity* (L0012) of the qualifications presented by a university because –

[Y]ou will be able to get a degree or a qualification without doing your own work, without it being you doing the qualification (L0001).

The quality [of the qualification] is also a concern (L0009).

These aspects may also have an effect on the employability of students (L0004).

Students miss the point that they become alumni of this university and ambassadors of this university and if they have a sub-standard qualification and they are going to do sub-standard work out there, that they are actually hurting the university, themselves and the economy of our country (L0012).

Therefore, the institution should *identify the risks* (L0006) and put proper *controls in place* (L0001) to *administer* the system *properly* (L0013). However, regarding non-venue-based alternative assessment as summative assessment, if the integrity of the systems cannot be trusted, *I think these bodies will have a problem with the accreditation* (L0007). Therefore –

[I]f the technology is able to support the non-venue-based assessment then there should not be a negative effect on accreditations (L0014).

Half of the participants were of the opinion that non-venue-based alternative assessments will not have an effect on the accreditation of governing and regulatory bodies. This is especially true considering that an effective combination of the various non-venue-based alternative assessments should form part of *continuous assessment as part of the learning process* (formative assessment) to build up to a *venue-based final exam* (summative assessment) (L0015).

Non-venue-based assessments are already accredited in some qualifications as part of formative assessment, but it is not necessarily the case with summative assessments.

Going forward ... we might see more of those alternative assessments as being part of the curriculum or the modules that we offer and being approved by SAICA and the other institutions (L0005).

Numerous international universities are already making use of non-venue-based alternative assessments.

There are various programmes and things in place internationally where students can take their test anytime, anywhere, whenever they like to (PE1).

Moreover, short courses or mini-qualifications are becoming more readily available, allowing students to build on obtaining skills.

There will not be this glaring gaps in students' education – the building blocks that they need to get – because you cannot pass it if you do not have that module or that micro-certification (L0006).

Students must have the skill to search for information *because the world is changing so fast and [it is] the only place that you have to be a learner for life (L0006)*. The governing and regulatory bodies should ensure continued competency-based education to ensure continued accreditation. This places normative pressures on the HEIs to adhere to the requirements of the governing and regulatory bodies.

To summarise, if the identity of students can be verified and the necessary systems and controls could be put in place to ensure the integrity of the qualifications, the accreditation of professional accounting bodies and governing and regulatory bodies should not be affected by the use of non-venue-based alternative assessments. This is a confirmation of SAQA's national policy and criteria for designing and implementing assessment for NQF qualifications, part-qualifications and professional designations in South Africa with the purpose of providing guidelines and setting minimum criteria for effective, valid, reliable and consistent assessment that is fair, transparent and appropriate (SAQA 2014:15). Due to this normative pressure (neo-institutionalism) universities voluntarily submit to an accreditation system to ensure external assurance of delivering capable graduates. These normative pressures include accounting practitioners and professional bodies that heavily depend on the certification of qualified ethical accounting candidates and consequently demonstrating ethical behaviour in their professional careers (AICPA 2018c; Fisher et al 2016:61; SAICA 2018b).

5.5.4 Theme 4: Legitimacy

Political, economic and technological pressures in the operational environment constantly challenge the traditional role and institutional legitimacy of universities (Croucher & Woelert 2016:442). The relationship between the data categories, legitimacy theme and theory, is indicated in Table 5.5.

Table 5.5: Relationship between data categories, themes and theory: Legitimacy

Data categories	Theme	Theory
- Ethics - Identity verification	Legitimacy	NIT – coercive forces

In Table 5.5 the relationship between the data categories, the legitimacy theme that resulted from the grouping in ATLAS.ti™ 8 and neo-institutional theory is indicated. Coercive isomorphism results from political influence and legitimacy (rules and regulations) and from both formal and informal pressures from the government or other organisations they depend on for resources. The expectations in terms of cultural and social support within the environment in which the organisation functions also result in coercive isomorphism (DiMaggio & Powell 1983:150; González & Hassall 2008:15; Karataş Acer & Güçlü 2017:1914–1915; Lawrence & Shadnam 2008:2290). Ethics forms an integral part of legitimacy, especially in the accounting sciences profession. Participants in the interviews identified ethics as by far the most important aspect to address with non-venue-based alternative assessments. Complementing this view, the identity verification of students was also an important aspect addressed to ensure the legitimacy of non-venue-based alternative assessments.

5.5.4.1 Ethics

From the empirical data, it was evident that the lecturers were aware of, or had experienced, various fraudulent assessment aspects over the years in non-venue-based alternative assessments where students do not submit their own work. The participants highlighted specific situations:

- Collaboration: Students usually work together in groups and submit a combined effort or plagiarise another student's work. *It is so blatantly obvious that the students are copying from each other* (L0004). Similar responses were received from L0008 and L0009.

We have had a case where it seemed like it was one person that was actually writing the assessments for two or three different people (L0005).

- Dishonesty: Some students even just make copies of pages from a textbook and they just submit that as if it is their assessment answers (L0010).

- Plagiarism: Students copy from textbooks and study material. Alternatively, they make use of internet browsers and google the answers and copy and paste it exactly as their own work (P0002 & P0003). Where a module makes use of Excel, for example, it is actually easy to catch out students who plagiarise. Some of the subjects make use of templates in specific computer programs and others do not necessarily know where to change student numbers and other personal details if they do not know the program. This is one way *to identify that students have cheated or plagiarised using other students' work* (L0014). Perhaps there is some or other similarity-testing program available that could identify plagiarism (L0006 & L0011).
- Third-party involvement: Students pay somebody else to do the assessment on their behalf (P0002).

We have students that get 0% or 2% for the (venue-based) exam and now they got 96% for the (non-venue-based) exam (L0004, with similar scenarios reported by L0008; L0009 & L0013).

From the second time that these non-venue-based assessments took place, there was a tendency of students collaborating, getting together as a group at a venue where they had someone helping them and all of them submitting something extremely similar. And some of these students even admitted it afterwards doing so. And then from the third time, it was actually blatant where some of them received advertisements where they then got assistance and some people even submitted on [the LMS] on their behalf (L0012).

- Purchase solutions: Some students even purchase completed suggested solutions for assessments from available sites (L0001).

People are actually offering these services (L0005).

We found that they buy the assignments [... and] the students copied it exactly in the same way. [...] One or two students will purchase the assignment and then they will send it to all of their friends on the WhatsApp group (L0011).

The literature confirmed that cheating can be planned or spontaneous and could include various forms, for instance the improper use of material, papers or data (for example, crib notes during examinations), copying from other students, plagiarism or

collusion, such as hiring another person to complete the work (Fisher et al 2016:61; Jones et al 2008:20–21; Winrow 2016:10).

It seems that the more students enrolled for a module, the higher the risk for plagiarism and other transgressions (L0011). This confirms Nyoni's (2014:157) conclusion that the ODL environment might compromise the accuracy, fairness and appropriateness of assessments, given the large student numbers, if assessments are not aligned with the e-learning environment.

Students are getting creative in terms of enabling them to get access to other material in terms of watches and cell phones (P0002).

When students struggle with principles in a module, they do tend to plagiarise more (PE 2). It can be an ethical issue because their academic records are not a true reflection of their actual knowledge.

It might show that they are getting a distinction whereas they are actually a struggling student (L0013).

The creativity of students will always leave the opportunity for plagiarising or for identity theft in terms of who writes what (L0010).

However, academic integrity can be ensured through the monitoring and control of identity verification and authorship validation (Amigud et al 2017:206).

Systemic responses to the complexity of humanity or the environment are also ethical considerations. The living conditions of persons in a specific environment can have an effect on the perceived ethical considerations and one has to ensure that *the environment that the students are taking the thing [assessment] is equal and it is fair to all of them* (L0004). The environment includes access to hardware and access to the internet or Wi-Fi.

We cannot have a system that disadvantage some students over others (L0004).

It will depend where the country is in terms of communication networks, whether we are on the 4G network and everyone has access (L0004).

Students in rural areas should also have the same opportunities as a student in an urban area (P0003). All of these aspects should be considered, as they demonstrate more complex orientations that humans experience in relation to working within or outside of a system.

From the responses, it seems as if students would do anything to pass and they would even adapt to any kind of pressure to reach this goal.

[This adaptive system is the result of] *the culture of students who do not really ... want to learn the skill, but rather want to qualify so that they can get more money or good employment at whatever the cost (L0014).*

Unfortunately, it seems that our students have become so focused on getting a degree that they start forgetting about the bigger picture out there. And that they are actually lying and ... stealing by doing what they are doing (PE 2).

There is a lot of pressure on students to achieve a high stakes exam and therefore they are more inclined to do something that they would perhaps not normally do (P0001).

In some cases, trainee contracts are cancelled if the students do not pass their examinations.

There is often a rationalisation of behaviour and it is not viewed as unethical (P0002).

As long as we cannot verify the identity of a student in a non-venue-based alternative assessment, there will be *a lot of cheating and fraud and people obtaining degrees that should not obtain a degree (L0012).*

In terms of complex adaptive systems, whatever we plan to do, students will find a way around it, depending on the pressure that is on them (L0010).

In other words, students will adapt to the system, no matter what the consequences are.

Students cannot relate certain behaviour to the fact that it is unethical behaviour. It starts small and then it snowballs to more serious in terms of ethical behaviour. So, my view is that of course there is in many cases pressure and reasons and some sort of rationalisation for unethical behaviour for students to do well and that is the main reason why there is often unethical behaviour in assessments. But I also think that all can agree that rationalisation cannot be a reason for not taking action (P0002) [against unethical behaviour].

What is evident from the responses is that students should receive ethics education.

[Professional accounting bodies require their students to be] able to demonstrate proper understanding of ethics and the ability to be professional (P0004).

The whole reputation of accountants is currently really negatively affected by all the scandals that are going on. When ... students act without integrity and they are dishonest ... they will be most likely to again be dishonest in their lives, or in their professional work life (L0016).

The literature confirmed that unethical behaviour during undergraduate studies could lead to unethical conduct in the workplace resulting in major financial losses worldwide (Bernardi et al 2016:88,90; Jones et al 2008:25).

As a university and as lecturers we must sit back and look at what our primary goal is here. We want to teach and educate the future leaders and professionals of our country and with that we need to also teach them discipline and the discipline of deadlines and the repercussions if you do not do something right (L0012).

If there are any transgressions, harsh action should be taken against such students, as academic integrity is crucial to protect the legitimacy of the accountancy profession (L0012). The incorporation of the policies and procedures to limit cheating and to regulate the rationalised institutional behaviours increases the legitimacy of the organisations as well as of their survival prospects (Martínez et al 2016:10; Meyer & Rowan 1977:340).

Participants were of the opinion that there are a number of ethical issues to consider when using identity verification hardware. Most of the participants remarked that

students must give their consent to make use of hardware, such as cameras to verify their identity. At the very least, students must be informed of the fact. Students will think twice of acting unethically if they are aware that there are cameras (L0003). A few of the participants were also aware of the Protection of Personal Information (PoPI) Act (RSA 2013) that must be adhered to. Security of information is very important as soon as one has any record of a person's personal or biometrical information.

People can hack information and use your details to that perspective will really put the university at risk (L0014).

As soon as any personal information or biometrics is stored, it creates a risk for the institution as *it is almost like leaving a part of you, and you do not know what it could be used for beyond that day (P0003).*

Academic integrity is an essential part of ethics in accounting sciences as it is discipline-specific and students should be educated about the importance of ethics in the workplace.

The ultimate responsibility for the university should be to make sure that each graduate who walks out of this university with a degree is actually someone that will hold up high the name of this university (L0012).

Unisa has an academic integrity policy with the purpose of educating students on ethical behaviour and the consequences of contravening the policy (Unisa 2017a:9–13). There is a strong focus on the relationship between stability and legitimacy and neo-institutionalism (Powell & DiMaggio 1991:12). To ensure the stability and legitimacy of the institution, the identity verification of students with non-venue-based alternative assessments is crucial to reduce the coercive pressures on the institution.

5.5.4.2 Identity verification

According to the Unisa assessment policy, the university must be satisfied that “the work being assessed is attributable to the person being assessed” (Unisa 2015e:6). Throughout the study, identity verification was an extremely important aspect for all the participants (making sure the student is the correct student who does the assessment [PE 1]). The effect of identity verification on various aspects was already discussed under the previous themes. This included –

- *an influence on the reputation of the university* (L0001);
- *making sure that at the end of the day it is still a credible qualification* (L0005);
and
- *that the results we get from the examinations are valid and authenticated* (L0012).

These all affect producing employable graduates (L0014) who can contribute to the economy.

The following resulted from questions regarding identity verification:

- More than half of the participants were of the opinion that it is not possible to verify the identity of a student in non-venue-based alternative assessment, while the others were of the opinion that identity verification can be done if technology is in place. These technology-enhanced methods to ensure identity verification will be discussed under Theme 5 (see section 5.5.5).
- Nearly a third of the participating lecturers were also not aware of possible ways or hardware available to verify the identity of students, even though they had experience of the use of non-venue-based alternative assessments for a number of years.

A few participants were of the opinion that identity verification must be done more than once to ensure validity and authenticity. Identity verification should be done initially when a student registers for a qualification (addressed by L0014 and P0001). Verification of the student's identity should be confirmed at the time of assessment by comparing it with the initial identity verification (addressed by L0014 and P0003). The identity of the student and activities should also be monitored continuously during the assessment to confirm the authenticity of the process (addressed by L0006, L0014 and P0001).

Students must be educated on what academic integrity and unethical behaviour is. Especially aspects like plagiarism and the use of third parties to assist should be addressed. Students must be made aware of a student code of conduct and sign an honesty declaration, specifically in the case of non-venue-based assessments (L0002). In addition to the signed honesty declaration, if the students do an e-

assessment on the LMS, *before they take the assessment, they [have to] tick a box there as a pledge to confirm that it is their own work* (L0005). In case of unethical behaviour, there must be consequences for the student, which must be enforced by the university.

I created a front page where I warned them about plagiarism. They declare that they did not commit plagiarism, they did not share their work with someone else and they know that they will get 0% in total if that is found in any way (L0006).

[By signing, they therefore] abide by these rules (L0009).

If there is not someone watching the students, some of them disregard the rules by sitting with a third person who does *it [the assessment] for them while they sit* (L0004) next to them.

Ideally, we should be looking at their handwriting from their previous exam paper but that will be a mission for us to get that (L0005).

Lecturers were of the opinion that there is a risk to verify identity because they cannot fully rely on only the honesty declaration.

It is just a mere form that they are signing, saying I am going to be honest and I declare this is my own work and I have not copied, and I have not met anyone or nobody else is doing it on my behalf, but there is no way verifying that (L0015).

Currently, lecturers *rely on the integrity* of the students (L0008). However, some of the lecturers were of the opinion that –

[T]he security measures must be extreme, and the students must also be informed of the consequences if they are in any way found to be guilty of malpractice in this alternative assessment (L0016).

Ideally, the honesty declaration should be combined with a technology-enhanced method such as biometrics to make the process more reliable and verifiable (L0004). This technology-enhanced methods are discussed under Theme 5 (section 5.5.5).

An honesty declaration can also be used as a form of a mock exam. Students have to write down the honesty declaration and sign it. They upload the signed honesty

declaration to the LMS to test how the uploading works. Without it, they may not do the non-venue-based alternative assessment.

That gives them that experience and then it does put some form of accountability on them to say I have signed that I am not going to plagiarise, and it is going to be my own attempt (L0013).

Students should also be aware that they are studying towards professional qualifications and that the professional accounting bodies have professional codes of conduct to which members should adhere. If there is a transgression of the code of conduct, there are consequences that are enforced by the professional body including the publishing of the findings of disciplinary committees and/or cancellation of membership of the professional body (P0004).

The data analysis confirmed the literature where academic integrity, namely identity verification, verification of authorship and monitoring, and controlling the online environment are very important for validation (Amigud et al 2017:194). Academic work and assessments submitted should be validated continuously and concurrently with other assessments to provide both identity verification and authorship validation (Amigud et al 2017:206). As emphasised in the literature, the importance of ethics education was raised by the interviewees. Students must be held accountable for transgressions. Ignorance due to a lack of communication of the policies and procedures can be eliminated by insisting that students sign an honesty declaration (Khare & Lam 2008:389; Unisa 2017a:13–14). From the empirical data, it is however clear that students do not always understand the importance and implications of an honesty declaration, and lecturers are of the opinion that they cannot rely on it.

It was clear from the responses that the traditional role and institutional legitimacy of universities are constantly challenged by neo-institutional externalities, such as dynamic political, economic and technological pressure in the operational environment (Croucher & Woelert 2016:442). Ethics and identity verification of students add to these challenges. Coercive pressures, such as ethics and identity verification, drive changes in policies and procedures from the perspective of neo-institutional theory to increase legitimacy in an organisation (Martínez et al 2016:10; Meyer & Rowan 1977:340). Technology is therefore of the utmost importance to ensure the legitimacy of the online environment as addressed in the next section.

5.5.5 Theme 5: Technology

Uncertainty in the environment, goals, technology or market dynamics results in institutions implementing structures and practices that model or mimic other prominent organisations in their fields (DiMaggio & Powell 1983:150–151; González & Hassall 2008:16; Karataş Acer & Güçlü 2017:1915; Lawrence & Shadnam 2008:2290). The relationship between the data categories, technology theme and theory, is indicated in Table 5.6.

Table 5.6: Relationship between data categories, themes and theory: Technology

Data categories	Theme	Theory
<ul style="list-style-type: none"> - Systems - Technology-enhanced assessments - Innovative ways 	Technology	Stakeholder theory NIT – mimetic forces

In Table 5.6 the relationship between the data categories, the technology theme that resulted from the grouping in ATLAS.ti™ 8 and stakeholder and neo-institutional theory, is indicated. Technology, or rather the lack thereof, or the ineffective use of technology, creates uncertainty in the institution. Mimetic isomorphism is the standard reaction to uncertainty. One interviewee mentioned that the world is changing considerably due to the technology available and this influences *how we work, how we live, how we learn, how we consume just about everything in our lives* (P0003).

5.5.5.1 Systems

The literature also suggested that uncertainty in technology results in mimetic isomorphism (Croucher & Woelert 2016:451–452). The interviewees concurred that the stability of the computer system is very important in an institution. This was confirmed by the data analysis. The computer system should support the assessment system of the university. *I think everything is there but the support to keep the system stable is not always there* (L0006). Lecturers experience problems to get onto the LMS.

The history is that there have been technical problems most of the time with [the case entity] systems so unfortunately, I am not very positive about that (L0007).

Making effective use of technology available will contribute to the stability of the system. *I know, as we speak, they are moving our whole [LMS] and everything to the Cloud (L0006).* This however, has its own challenges.

The international link [to the Cloud] would also be a factor because previously it was local in South Africa (L0006).

The above may contribute to additional technological or connectivity challenges.

The size of the institution also creates many challenges. The high number of students accessing the LMS could cause the system and servers to become overloaded.

The system cannot handle the number of students at once (L0008) because of the quantity of students (L0009).

However, as long as *the systems do not let us down (L0013)* and *the integrity of the systems can be trusted (L0007)*, students can benefit from non-venue-based alternative assessments. There should nevertheless always be a backup plan in case the computer system or servers fail.

You need to have also an email system that you can use if the [LMS] is down then you send these things per email to the students (L0001).

Although there were negative comments regarding the systems, some of the lecturers were of the opinion that the system would be able to support technology-enhanced assessments.

I think the current system is actually quite good. What's not so good is the support of the system at the background. So, the tools are there, the problem is, it is not always available (L0006).

The online *functionality is very limited, but it looks like the capacity should be fine (L0004)*. However, if the ODL institution with a large number of students, go fully online, *I would not know what the influence of that technology would be on [the case entity's] systems (L0006)*.

As mentioned during the preliminary exploration interviews, it is also very important that if a new system is used, it should be tested, taking the volumes into account, before it is implemented (L0013).

They say they can now create a separate website just for the exams so then you do not have the traffic problem that we normally have when there is assignments and things like that. So, for that point, I think there is a solution (L0004).

One interviewee (L0013) specifically stated that technical issues should be addressed immediately, and lecturers must have the proper training before a system is used. This comment confirms the view of Arinto (2016:173) that academics need technology-related training in content development, learning activities, teaching strategies and assessment to teach online or e-learning modules successfully.

External factors can also have an effect on the successful completion of an assessment. During February–March 2019, load shedding was implemented. Load shedding means that electricity delivery is intentionally shut down over different parts of the region for varying periods, which do not overlap. It is usually implemented where the demand for electricity exceeds the power supply capability of the network (Wikipedia 2019).

When we had our most recent alternative assessment, it was with all the load shedding and then that was also a big concern of the students. You always think they can make an alternative plan and go somewhere but maybe they cannot (L0013).

Participants were of the opinion that being online for an assessment would specifically pose a challenge because ... *I just think it is unfair to give someone a timed assessment (L0006)* if there is load shedding on that specific planned date and time. A functioning uninterrupted internet connection is a crucial factor during online assessments.

At an institution with the size of the case entity, the computer systems and servers should be top of the range with the best programmes and measures to protect data and other information (L0006; L0008; L0009; L0014).

[Members of professional accounting bodies] have an expectation, being an open distance learning provider, that we do have the right technology to support (P0001) [technology-enhanced assessments].

How else do you do open distance learning if you have not got the right tools and the tools must surely be the technology? (P0001)

The complexity of the uncertainty in the environment and technology increases the mimetic forces in an institution. One interviewee specifically mentioned –

[Being in an online environment where there are] a lot of risks and you know information needs to be protected. I do not know how our current systems will be able to support agile ... programmes and software to be able to assess students effectively (L0014).

According to the literature, the assessment system must be secure and it should comply with effective assessment criteria that include validity and reliability, fairness, credibility, transparency and accountability (Chaudhary & Dey 2013:212; CHE 2016:13,15). The empirical data added to the body of knowledge by emphasising the importance of the stability of the computer systems and servers of an institution in order to support the assessment system so as to ensure validity, reliability and credibility of qualifications of the institution.

5.5.5.2 Technology-enhanced assessments

Technology has an influence on various aspects in assessment, and there are already various methods available of which participants were aware to assist with identity verification of students (see section 5.5.4).

My understanding is that there is technology that is available through which it is possible to make sure that the person that is taking the assessment, sitting for the assessment is the person that is supposed to sit for the assessment (P0002).

The following are available according to the participants:

- Proctoring or virtual invigilator:

There are proctoring services that you can use. Cost a lot of money. I think there is a role for online proctoring where they have to show their student card, show their face, show themselves in front of the computer doing it (L0006).

One of the participants referred to an online proctor as a ‘virtual invigilator’:

There is a virtual invigilator monitoring you, to ensure that there is no one in the room with you, monitoring that you are not reading the script or the exam questions when you should not be (P0003).

- Lockdown browser: This is software that controls access to certain programmes and internet browsers where *the entry code and the exit code* is provided to students (P0001 & L0012).
- Keystroke recognition: A student's keystrokes must be recorded preferably during registration, to provide a basis for comparison.

At a prior stage you will have to be able to identify this signature, typing signature and then verify it against the person that does your final exam (L0006).

- Biometrics, such as fingerprint recognition, facial recognition, retinal scanning and voice recognition (P0002; P0003; L0006 and PE1). As with keystroke recognition, it will however be necessary to establish a record of these biometrics at registration already.
- IP addresses: Students can work on one laptop and continue on another laptop.

That IP addresses will change but it does not mean that it is not the same student (L0014).

Most of the participants were of the opinion that the identity of students can be verified with the necessary technology in place. Seven of the participants mentioned that a combination of technology-enhanced methods should be used to monitor the identity of students continuously during assessments. One specifically said:

[I]n an ideal situation, every single student gets the program, they get a unique fingerprint ... reader ... and they are the ones who need to log in. They log in and the system is able to identify this is the same person who is doing the assessment from start to finish ... and when you step away ... the system logs you out. If someone logs in again it needs to ensure that there is a continuous flow and a continuous view of who the person is (L0014).

This should be the same person as the one who should do the assessment. Empirical data in the literature confirms that it should be considered to make full use of technology available like proctoring sites and monitoring of IP addresses (Watwood et

al 2009:108), but eventually, the honesty of the student is also of importance in order to reduce plagiarism or cheating during non-venue-based assessments.

The data analysis supports the literature that claims a high-stakes assessment, such as a final summative examination, will usually require multi-layered authentication through identity verification, verification of authorship as well as constant monitoring and control during the assessment (Amigud et al 2017:194; Fisher et al 2016:66). Specifically, for non-venue-based technology-enhanced alternative assessments, proctored examinations should be considered in combination with biometrics to compare with the initial student biometric profile created at registration to ensure the verification of the student's identity (Amigud et al 2017:194; Fisher et al 2016:68; Rovai 2000:144). Rapid changes in technology also have an effect on the accounting profession, as there is mimetic pressure on the institution to keep up with the changes (Pincus et al 2017:6).

5.5.5.3 Innovative ways

Although it is important to foster a climate for innovation in technology, it is not necessarily sufficient for the successful implementation of innovation in an institution (Braunscheidel et al 2010:447). Interviewees acknowledged that they should embrace technology.

The 4IR ... that is where we are moving towards. So, for an ODL institution, I mean we need to be at the forefront of those types of things (L0014).

The space that we live in now is changing how we work, how we live, how we learn, how we consume just about everything in our lives (P0003).

How we build intelligence into accessing the system (P0004) could lead to new and innovative ways to assess students. Artificial intelligence will probably be used in future to predict responses from students.

I think the opportunities are endless and I think our own creativity is the only limit to the opportunities that there are (L0010).

We just have to come up with innovative ways to make sure that we limit the extent of suspected plagiarism (L0005).

Artificial intelligence (L0011) can even assist lecturers in marking assessments in the future.

Where technology is used to ensure the verification of the student's identity, it should be virtual invigilation, but this information should not be saved on a server where there can be any transgression of the PoPI Act (L0004; L0005; P0001; P0003). Some of the interviewees were very creative in their suggestions of how the verification can be done.

There is security, there is information protection, there is data protection that you know the student will not be exposed in that their face will not be used for any other stuff. There is no recording of the face, the software itself just makes sure, the technology just makes sure that if this person is logged on, they are there. It does not need to be recorded ... from a data integrity point of view (L0014).

Artificial intelligence should be able to assist with the facial verification of a student.

The technology must be able to identify if it is a different face structure that now sits in front. If so, then that needs to be recorded (L0014).

Perhaps invigilators can be in the form of robots or even *drones* (L0016). A robot or drone can be used as a virtual invigilator with a 360-degree vision around you *to make sure that there is no one with you ... and that you were not cheating* (P0003).

Innovation in technology and lateral networks could result in major changes in an online environment, placing the focus on mimetic isomorphism (Krücken 2014:1449). Technology, being considered in a novel way, as a defined and tangible stakeholder has a considerable influence on the institution. The possibilities during the 4IR and the 5IR are endless and the technology available through artificial intelligence, robotics and other innovations should be embraced as it is clear that technology will always be a mimetic (and increasingly normative) institution in organisations and therefore it also needs to be considered as a stakeholder, along with other stakeholders.

5.6 AMENDMENT OF CONCEPTUAL FRAMEWORK

The conceptual framework has been amended with the themes that resulted from the empirical data as included in Figure 5.7. The symmetrical bi-directional arrows in Figure 5.7 indicate a two-way, reinforcing relationship which makes the linkage between the aspects very strong. Unidirectional arrows have a single directional impact. From the empirical data, it is clear that the initial conceptual framework as described in Figure 5.2 has been amended as follows:

- The “distance education environment” and “ODL” were combined under one description namely “ODL institution” as the framework can be applicable to all distance learning institutions.
- The reference to “CHE” was extended to include **all** governing and regulatory bodies.
- “Identity verification” was included in “legitimacy” to indicate the importance of legitimacy and legitimising qualifications in an ODL institution.
- The reference to “assessment” was amended to “alternative assessment” to make it clear that the study specifically focused on non-venue-based alternative assessments, which is an alternative to traditional venue-based examinations.
- Venue-based alternative assessments were initially considered in the conceptual framework, because professional accounting bodies already make use of these technology-enhanced alternative assessment methods, but due to the focus of the current study on non-venue-based assessments in an ODL institution, it was excluded from the final framework.
- “Lifelong learning and RPL” was removed from the amended framework. Even though lifelong learning and RPL are usually assessed as non-venue-based assessments, the methods used are included under “alternative assessment” and are not considered separate items because none of the participants in the study referred to RPL and only one participant referred to lifelong learning.
- Due to the importance of “technology” and “innovation” in an ODL institution, the two principles were separated to highlight it. “ICT” was included as part of technology.

- The stakeholders have also been identified in the amended conceptual framework due to the importance of especially technology (as an anthropomorphic stakeholder, technology now almost takes on the role of being 'human' in that it does or will do much that humans do).
- The influence of 4IR and the 5IR on technology and innovation was also added.

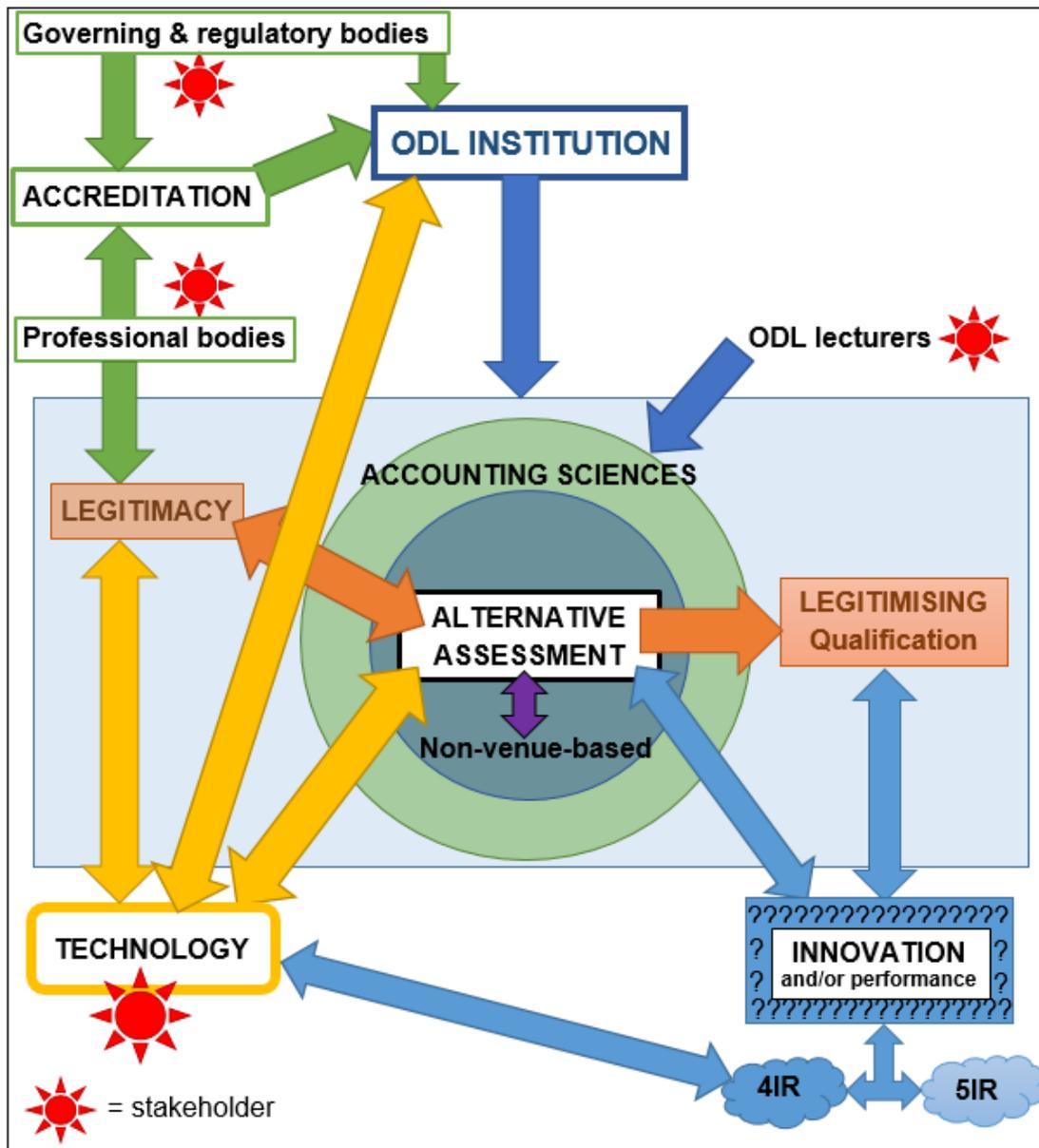


Figure 5.7: Amended conceptual framework of non-venue-based alternative assessments based within the ODL context

Source: Own compilation

Figure 5.7 includes the conceptual framework that has been amended with the themes that resulted from the empirical data. The amended conceptual framework was evaluated by way of triangulation through document analysis in the assessment phase of the design-based research, to include the experiences of students with non-venue-based alternative assessments.

5.7 TRIANGULATION IN ASSESSMENT PHASE

Document analysis of electronic documents is often combined with other qualitative research methods in order to corroborate findings by way of triangulation. This is an iterative process that leads to content and thematic analysis (Bowen 2009:27–28; 32). It therefore assists to increase the credibility of the study (Flick 2018:535; Maxwell 2013:102,128).

In this study, document analysis was conducted of all available institutional documents to assist with triangulation in the prototyping phase of the design-based research. After a pilot study on non-venue-based alternative assessments at Unisa, institutional reports were prepared by the DIA (Unisa 2015a; 2015b; 2015c; 2015d). Four reports were provided to the researcher, which specifically dealt with feedback and experiences of students who took part in this alternative assessment pilot project, and are valuable additions to the knowledge base (Creswell & Plano Clark 2011:173–174; Palinkas et al 2015:534). The reports carried data that was related to the first semester of the 2015 examination period, which was the first time non-venue-based alternative assessments were used. Two of the reports related to postgraduate modules – both in the law discipline (i.e. Unisa 2015c and Unisa 2015d) and the other two (i.e. Unisa 2015a and Unisa 2015b) to undergraduate modules – one in Investments and the other one in Anthropology. The questionnaires (which were not designed nor intended directly for the current study, but which served only for providing data for the reports as ‘documentary analysis’) DIA reported on, were only sent to students and therefore no lecturers or professional accounting bodies or other stakeholders had been consulted. A total of 141 responses were received from students. For undergraduate modules, 77 responses were received, and in the case of postgraduate modules, 64 responses were received. None of these modules was from CAS.

The feedback from the students included in the reports were analysed in ATLAS.ti™ 8, and the documentary feedback relevant to the current study were grouped into themes similar to the themes determined during the interview data analysis reported in section 5.5 (refer Annexure 7). ODL institutions and accreditation were excluded from these themes, as it was not addressed in the questionnaires sent to the students. The ‘assessment’ theme was analysed in general, because it was not specifically applicable to accounting sciences, as shown in section 5.5.2. The relationship between the data categories, themes and theory is indicated in Table 5.7.

Table 5.7: Relationship between data categories, themes and theory

Data categories	Themes	Theory
<ul style="list-style-type: none"> - Venue-based vs non-venue-based - Non-venue-based assessment methods - Learning skills - Benefits and concerns regarding alternative assessment 	1. Assessment	Neo-institutional theory (NIT) – coercive and mimetic forces
<ul style="list-style-type: none"> - Ethics 	2. Legitimacy	NIT – coercive forces
<ul style="list-style-type: none"> - Systems - Technology-enhanced assessments 	3. Technology	Stakeholder theory NIT – mimetic forces

Source: Own compilation

The themes as indicated in Table 5.7 are discussed in more detail in sections 5.7.1 to 5.7.3. Verbatim comments from students (drawn from document analysis of the reports) are again indicated in italics and all comments are reproduced unedited. It is therefore emphasised that these verbatim comments are outputs that validate the documentary analysis and not the primary data collection from the interviews. These comments could not be referenced, as the reports did not include this information.

5.7.1 Assessment theme

The assessment theme includes various data categories. The relationship between the data categories, assessment theme and theory, is indicated in Table 5.8.

Table 5.8: Relationship between data categories, themes and theory: Assessment

Data categories	Theme	Theory
<ul style="list-style-type: none"> - Venue-based vs non-venue-based - Non-venue-based alternative assessment methods - Learning skills - Benefits and concerns regarding alternative assessment 	<p>Assessment</p>	<p>Neo-institutional theory (NIT) – coercive and mimetic forces</p>

In Table 5.8 the relationship between the data categories, the assessment theme that resulted from the grouping in ATLAS.ti™ 8 and neo-institutional theory is indicated.

5.7.1.1 Venue-based vs non-venue-based

The opinion of most of the students that responded to the questionnaire, was that non-venue-based alternative assessments were more convenient as traditional venue-based examinations and they therefore preferred it above traditional venue-based assessments. This confirmed literature and the empirical data that distance learning makes it easier for students to accommodate a university experience while working, and students can study according to their own personal schedules and needs (CHE 2014:4,12; Tung 2012:312).

5.7.1.2 Non-venue-based alternative assessment methods

The type of alternative assessments used in the four reports comprised take-home assessments, online timed assessments, e-portfolios and continuous assessments and corresponded to the literature in this regard. These alternative assessments are described in the literature (see Dreyer 2016; Mentz 2016; Rapoo 2016; Swart 2015b; Symington & Steyn 2015; Van Niekerk 2015). The document analysis showed that take-home assessments could be very useful in testing certain skills, for example in law and management qualifications due to the vocational nature of take-home assessments (LSE 2013). Several methods, such as quizzes, tests and examinations can be used for online summative assessment (Watwood et al 2009:108–109). An e-portfolio could be used as a tool to promote students’ learning (scaffolding approach), leading to better understanding and engagement skills (Alexiou & Paraskeva 2010:3053). Summative portfolios provide a retrospective function by documenting the

students' achievements and professional skills (Meyen et al 2002:194). Isaksson (2008:5) found a statistically significant correlation between the grades of students and the stage of continuous assessment during the course. In the current study, the types of alternative assessment methods were also confirmed by the empirical data.

5.7.1.3 Learning skills

Several students indicated that the use of the alternative assessments improved their computer skills. They could focus more on their learning skills, and experienced the alternative assessments as a real-life experience. In the two postgraduate modules addressed in the DIA's report (see Unisa 2015c; 2015d), the students indicated they had a better reflection of their knowledge obtained, and they could apply their knowledge with a thorough understanding of the study material on which they were assessed. Only one student referred to his or her technical competence that improved. Some of the students indicated that the alternative assessments allowed them to collaborate with other students. The collaboration with other students or third parties might have indicated possible dishonesty. This places coercive pressure on the university, and it is therefore very important that the quality and validity of assessments be addressed. The empirical data and the literature confirmed that the accuracy, fairness and appropriateness of assessments might be compromised in the ODL environment, given the large student numbers (Nyoni 2014:157).

5.7.1.4 Benefits of non-venue-based alternative assessment

Several students commented that the environment to take these non-venue-based assessments was less stressful than venue-based assessments as they could maximise their study time without the stress of travelling to the examination venue.

I do not really enjoy cramming my head full of information and trying to apply it in a stressful environment. The alternative method provided me with a relaxed environment which is more akin to the way in which I work undertaking assignments (Unisa 2015d:28).

Students enjoyed the flexibility in terms of time and convenience to do the alternative assessment at home. This confirms the finding reported in literature that distance learning enables students to study according to their own personal schedules and needs (CHE 2014:4,12; Tung 2012:312). Students were also of the opinion that the

alternative assessments provided them with more time to prepare and complete the assessments and they were better prepared for it.

I feel it is a better assessment of what has been learned, a better method of assessing students who may be hindered by traditional exam methods, and more enjoyable learning experience (Unisa 2015a:30).

[It allows you to be] able to control your time easier and work out the answers and actually learn over a period as opposed to spotting and learning at the last minute (Unisa 2015d:30).

Students were of the opinion that they stayed more focused, improved their morale and increased their motivation to study. *It's less about guessing and more about thorough knowledge (Unisa 2015a:28).* They confirmed that there was less pressure on them than in a traditional venue-based examination and allowed them to work at their own pace. *I did not have to cram for exam like usual and then forget it afterwards (Unisa 2015a:28).* A few students also mentioned that the alternative assessment assisted to keep costs down and were quick and paperless. *It is faster, easier, cheap and efficient to submit my work (Unisa 2015a:33).* A student with disabilities also perceived the alternative assessments to be a fairer assessment method than a traditional venue-based assessment.

5.7.1.5 Concerns of non-venue-based alternative assessment

Only a few concerns were raised by the students. From the students' comments, it was clear that they were concerned about load shedding and suggested that there should be a backup plan. Poor internet connectivity was also raised as a concern. One student felt that alternative assessments are confusing.

[Traditional] exams are ridiculously stressful but are far less confusing and up in the air than the alternative assessment approach. It seems so arbitrary (Unisa 2015d:30).

These concerns about uncertainties also supported the literature and data analysis regarding mimetic pressures on the institution (Croucher & Woelert 2016:451–452).

5.7.2 Legitimacy theme

Coercive pressures from political, economic and technological areas in the operational environment constantly challenge the traditional role and legitimacy of a university as an institution (Croucher & Woelert 2016:442). The relationship between the data category, legitimacy theme and theory, is indicated in Table 5.9.

Table 5.9: Relationship between data categories, themes and theory: Legitimacy

Data category	Theme	Theory
- Ethics	Legitimacy	NIT – coercive forces

In Table 5.9 the relationship between the ethics data category, the legitimacy theme that resulted from the grouping in ATLAS.ti™ 8 and neo-institutional theory is indicated. Ethics forms an integral part of legitimacy in the expectations for cultural and social support within the environment (DiMaggio & Powell 1983:150; González & Hassall 2008:15; Karataş Acer & Güçlü 2017:1914–1915; Lawrence & Shadnam 2008:2290). Students raised the following ethical aspects following from the document analysis.

5.7.2.1 Ethics

Several students raised concern over the risk of cheating, plagiarism and third-party involvement:

- [A traditional venue-based examination] *is fair, online exam might not be fair. I think to improve an online exam, students must be invigilated* (Unisa 2015b:33).
- [In a traditional venue-based examination], *I can be sure that I got plenty of knowledge on my study and understood the work unlike alternative assessments, where students can fully discuss and sometimes commit plagiarism, without the lecture realising this* (Unisa 2015a:30).
- [For example, if I use] *a clever person to do the work* (Unisa 2015a:30).
- *Your alternative method of assessment is also flawed because it is easily allowing students to possibly pay other parties to perform the work for the assessment and ensure they get good marks* (Unisa 2015a:47).
- *Be careful with the students who can pass the examination with flying colours without even writing a single word on the assessments by using other people to complete the work. This I have seen happening by some students* (Unisa 2015a:48).

These concerns from the students confirmed the findings reported in literature that cheating can be planned or spontaneous. They also mentioned various forms of cheating, such as the improper use of material, papers or data, copying from other students, plagiarism or collusion, such as hiring another person to complete the work (Jones et al 2008:20–21; Fisher et al 2016:61; Winrow 2016:10).

5.7.3 Technology theme

Technology, or rather the lack thereof, or the ineffective use of technology, creates uncertainty in the institution. The relationship between the data categories, technology theme and theory, is indicated in Table 5.10.

Table 5.10: Relationship between data categories, themes and theory: Technology

Data categories	Theme	Theory
- Systems - Technology-enhanced assessments	Technology	Stakeholder theory NIT – mimetic forces

In Table 5.10 the relationship between the data categories, the technology theme that resulted from the grouping in ATLAS.ti™ 8 and stakeholder and neo-institutional theory is indicated. The systems and technology-enhanced assessments are discussed in the sections below.

5.7.3.1 Systems

Even though the task team’s questionnaire did not specifically include questions on the case entity’s systems, questions regarding what worked well on the LMS and what could be improved were included. A few comments from students did address the availability of the system, and these were very positive:

- *I never experienced any downtime, the site was always available. Any technical work being done on the site was communicated in advance (Unisa 2015a:19).*
- *Minimal downtime, full access to all module material at any time (with an internet connection). Email alerts are very useful (Unisa 2015c:22).*
- *The system worked very well in such a way that there were no unforeseen disruptions, and if any, we were informed of them timeously. There were no mishaps when it was time to submit the assignments (Unisa 2015c:22).*

A few negative comments were also included where students complained about the LMS connection and the slow speed of some of the resources (podcasts). One student did mention the challenges they experienced when they had to do online assessments and there were internet problems. These problems put mimetic pressure on the institution because of an emphasis on technology (Krücken 2014:1449) thereby confirming the findings reported in literature and the empirical analysis.

5.7.3.2 Technology-enhanced assessments

Students were in general very positive about the use of technology in alternative assessments.

- *I feel that this assessment method is progressive and is aligned with the times (Unisa 2015b:36).*
- *The fact that the world is being mechanised and automated with ever-increasing levels of work being done on digital platforms (Unisa 2015b:38).*
- *As technology keeps improving in our world, education at university level should follow the same route (Unisa 2015b:38).*
- *Everything is going online and internationally it is the trend (Unisa 2015b:38).*
- *It is also important that as such initiatives are taking place around the world, that [the case entity] should also be at the forefront of advancing and promoting such initiatives in order to leverage on such opportunities as [the case entity] is a world class institution catering for both international and domestic students (Unisa 2015b:38).*

The students were of the opinion that especially the computer skills that they learned increased their employability in a future workplace.

It prepares one for the world of work and makes integration into a computerised workplace and society easy after one's studies (Unisa 2015b:38).

Computers are becoming the new norm and the 21st-century generation must be prepared for such initiative in order to be competitive in the working environment (Unisa 2015b:38).

It also links to the 4IR and 5IR.

An online approach makes life easier as we have all the tools in our homes or office to communicate directly with the world. We use computers for most of our daily activities, why not include it in the way we are assessed in our learning approach as well? (Unisa 2015a:33).

The comments of the students also confirmed literature where it is reported that the latest innovations in technology put mimetic pressure on the institution and thereby result in more interactive and efficient involvement in the ODL environment (Altbach et al 2009:134,137; CHE 2014:6,12). These students also referred to the centrality and tangible contributions of technology; hence, confirming the anthropomorphising of technology as a stakeholder.

Even though only four reports were available to review, the comments from students confirmed the findings reported in literature and the interview responses from ODL lecturers and members of professional accounting bodies (as indicated under the specific sections). The document analysis, therefore assisted with triangulation by confirming the importance of technology and legitimacy for non-venue-based alternative assessments to increase the credibility of the study (Flick 2018:535; Maxwell 2013:102,128).

5.8 EVALUATION OF FINAL CONCEPTUAL FRAMEWORK

The amended conceptual framework, as depicted in Figure 5.7, was evaluated through triangulation as obtained from document analysis reported on in section 5.7. The final conceptual framework of non-venue-based alternative assessments is depicted in Figure 5.8, and the results of the triangulation were delimited as follows:

- Triangulation of documentary reported comments obtained from students confirmed the amended conceptual framework (Figure 5.7), which was derived from the addition of primary interview data to the initially suggested and literature-derived conceptual framework depicted in Figure 3.2.
- Importantly, students were added as stakeholders and incorporated as being in a direct and symmetrical relationship with alternative assessments done as non-venue-based assessments. This important insight therefore highlights student-centredness as a key element of the final conceptual framework and confirms

the work of Subotzky and Prinsloo (2011:184) and O'Neill and McMahon (2005:31–32) inter alia to improve student success. The final conceptual framework of non-venue-based alternative assessments within the ODL context after triangulation, to include students as a stakeholder, is indicated in Figure 5.8.

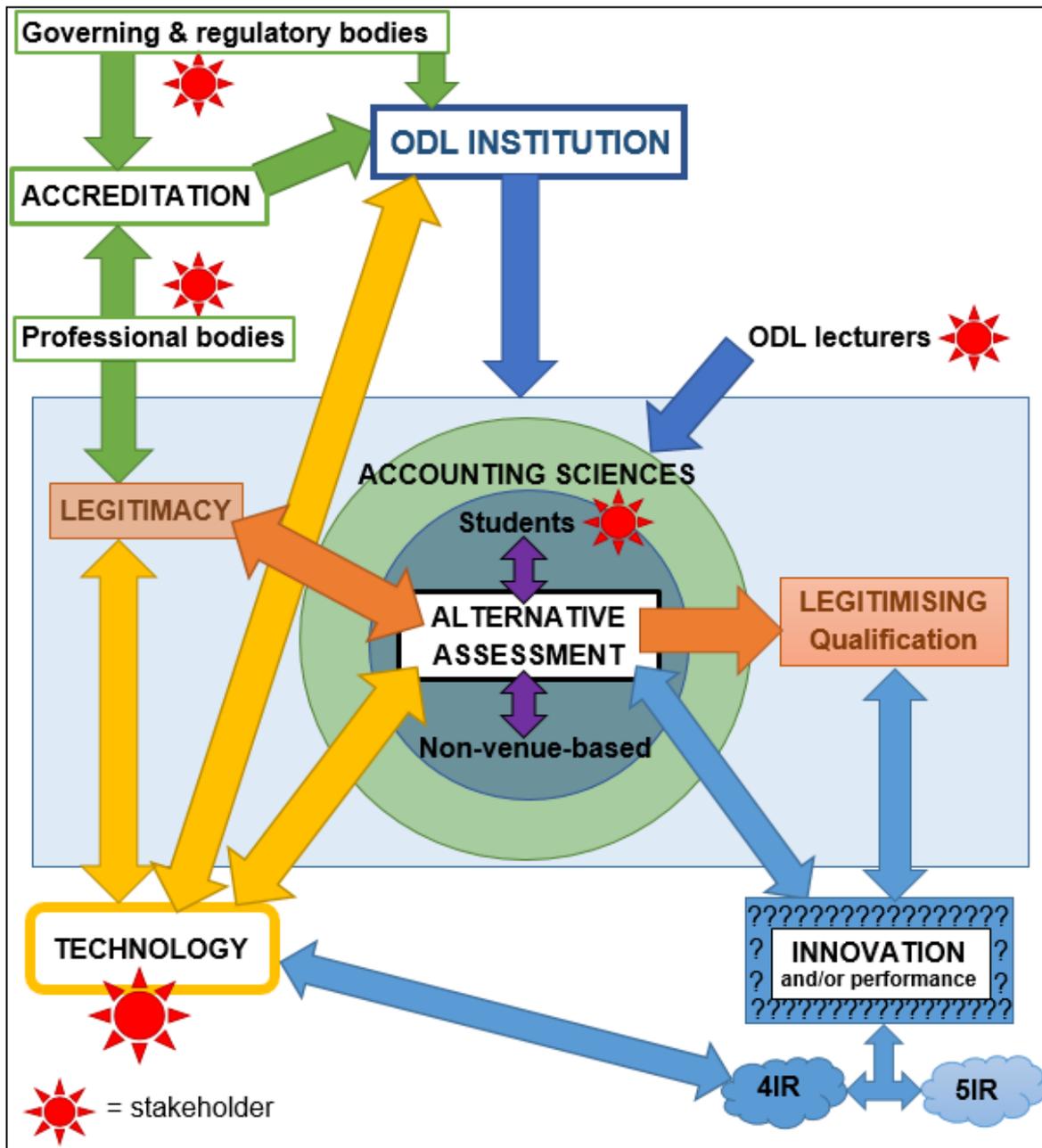


Figure 5.8: Final conceptual framework of non-venue-based alternative assessments within the ODL context after triangulation

Source: Own compilation

The symmetrical bi-directional arrows in Figure 5.8 indicate a two-way, reinforcing relationship, which makes the linkage between the different aspects very strong. Unidirectional arrows have a single directional impact. The “ODL institution” refers to the distance education and ODL environment context of this study. The accreditation of governing and regulatory bodies as well as professional accounting bodies has an impact on the ODL institution by influencing the legitimacy of qualifications presented by the institution. The study specifically focused on non-venue-based alternative assessments in accounting sciences. The importance of the identity verification of students doing non-venue-based alternative assessments and therefore the legitimacy of qualifications was evident. The influence of technology on the legitimacy of the non-venue-based alternative assessments and specifically the ODL institution, was very clear from the empirical evidence, which led to the inclusion of technology as an anthropomorphic stakeholder in the study. The various stakeholders were identified in the amended final conceptual framework and comprised the ODL lecturers, professional accounting bodies, governing and regulatory bodies, students as well as technology. The effect of the 4IR and the 5IR on technology and innovation is included in the framework as innovation could affect the performance of the institution and therefore the legitimacy of qualifications in an ODL environment.

This final conceptual framework of non-venue-based alternative assessments within the ODL context were combined with the final conceptual framework on the theoretical contributions, and this is reported in Chapter 6. The final framework is presented in Chapter 7.

5.9 SUMMARY

The data from interviews with ODL lecturers and members of professional accounting bodies was presented, analysed and interpreted to evaluate the conceptual framework. This evaluation informed an amended conceptual framework. Reference was made to the contextual and theoretical chapters on the literature to support the themes and empirical data. The final evaluation of the amended conceptual framework was done by triangulating the results with the data analysis, consisting of responses from students. Therefore, contributions from various stakeholders in the institution were considered, and it was also clear that technology anthropomorphised into a stakeholder.

The framework is a novel contribution to theory and the context of non-venue-based alternative assessments at an ODL institution. In Chapter 6, the theoretical contributions regarding institutional, neo-institutional and stakeholder theories to the body of knowledge will be discussed.

CHAPTER 6

PRESENTATION AND ANALYSIS OF THEORETICAL CONTRIBUTIONS RESULTING FROM DATA GATHERED

6.1 INTRODUCTION

The study set out to develop a conceptual framework for alternative assessments for ODL undergraduate accounting sciences modules with a view to address assessment challenges encountered by accounting graduates and universities in an ODL environment. As the contextual review pointed out, this research took place in the age of the 4IR and the 5IR, globalisation and massive HEIs. The latter issues are pertinent areas that a mega ODL institution, such as Unisa, could address fruitfully and innovatively.

Chapter 5 provided the data presentation, analysis and interpretation for the conceptual framework, concluding with a revised conceptual framework from the one initially postulated. Chapter 5 also referred to the literature, drawing from both contextual and theoretical chapters to make sense of the themes and empirical data. Chapter 5 concluded by asserting that both theory and practice informed the revised conceptual framework and that the framework is a novel contribution to theorising and offering a lens and means through which non-venue-based alternative assessments may be engaged and applied.

Chapter 5 provided an outcome, which has also been theorised at the level of utility for future ODL assessment strategies. Chapter 6 extends the body of knowledge in the light of the data and the theory gaps, by offering fresh theorising around institutional and neo-institutional theories as well as stakeholder theory to develop a non-venue-based alternative assessment framework for accountancy modules in ODL.

6.2 OVERVIEW

Figure 6.1 presents a visual outlay of the chapter in which the theoretical contributions of the study are discussed, contributing to the body of knowledge regarding institutional, neo-institutional and stakeholder theories.

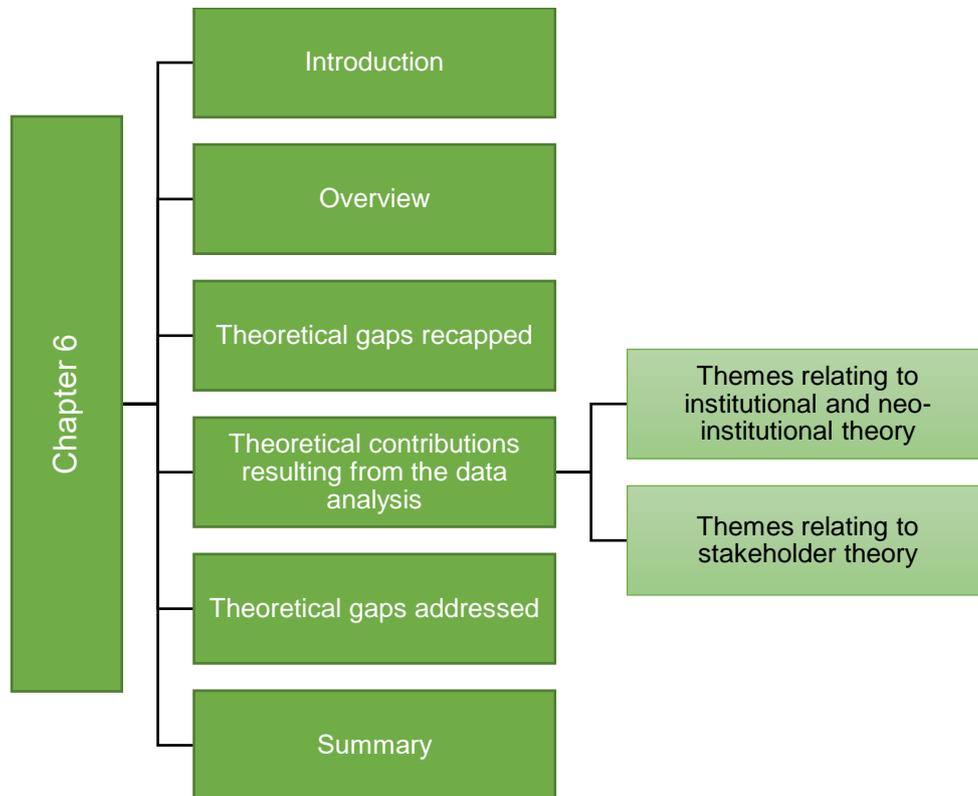


Figure 6.1: Chapter outlay

Source: Own compilation

6.3 THEORETICAL GAPS RECAPPED

From the literature review on institutional, neo-institutional and stakeholder theories, as well as the aspects that arose from the literature relating to the research objectives, gaps were identified that relate to uncertainties, and these factors or pressures influenced the outcomes of the study.

The following gaps – as indicated in Chapter 3 – were identified in the literature and the participants’ responses. These were addressed in Chapter 5 as indicated, and were included in the final conceptual framework on non-venue-based alternative assessments reflected in section 5.8:

- Events occurring in the environment of the institution are used to explain how the institution reacts, usually resulting in a large gap between the actual behaviour of the institution and the way the behaviour is explained (Suddaby 2010:16; Suddaby et al 2013:332). Various unique aspects in ODL institutions were identified during the data analysis. Concerns and challenges as well as opportunities in ODL were discussed in section 5.5.1 under Theme 1: ODL institutions.
- There is worldwide a gap in available technology and limited actual utilisation of technology in the university sector. Technology forces and technology-enabled globalisation lead to a growing skills gap between skills available and skills needed, resulting in an increasing gap in accounting and finance skills (Pincus et al 2017:6; WEF 2016a). The current systems, technology-enhanced assessments and innovative ways were discussed in section 5.5.5 under Theme 5: Technology, and in section 5.7.3 under the Technology theme.
- Professional accounting bodies are concerned with the growing skills gap in accounting and finance (Pincus et al 2017:6; WEF 2016a). Chartered accountants are one of the occupations that are in high demand in South Africa (DHET 2014a:19; 2018:8–9). Experience with alternative assessments – venue-based and non-venue-based, non-venue-based alternative assessment methods, learning skills and professional/competency skills, as well as benefits and concerns of non-venue-based alternative assessments – was discussed in section 5.5.2 under Theme 2: Assessment in accounting sciences, and in section 5.7.1 under the Assessment theme. Accreditation of professional and governing bodies was discussed in section 5.5.3 under Theme 3: Accreditation.
- Currently, there is a gap between affordable measures available to verify the identification of students in the online distance environment. It is very important that the identity of students in an ODL environment be verified, to ensure the legitimacy of assessments and degrees awarded. Ethical considerations and identity verification were discussed in section 5.5.4 under Theme 4: Legitimacy and in section 5.7.2 under the Legitimacy theme.

These gaps may be integrated to provide a unified call for improved theoretical knowledge to address the various expressions of the gaps in the literature. Extending

theory and applying it to these specific contextual expressions as evidenced by these gaps, means that the body of knowledge on institutional and neo-institutional theory is incrementally extended. A study that theorises (i.e. provides these more universal insights) may be said to have extended the body of knowledge. These gaps are dealt with at the end of Chapter 6 with reference to the various theoretical contributions that addressed it.

6.4 THEORETICAL CONTRIBUTIONS RESULTING FROM THE DATA ANALYSIS

The institutional and neo-institutional theories have a strong foundation attesting to their status as theory (DiMaggio & Powell 1983; Meyer & Rowan 1977; Powell & DiMaggio 1991). While there are many intricacies to both these theories, within this study, and drawing on the conceptions of Williamson (2018), Figure 6.2 below, formed a starting point to the researcher's theorisation.

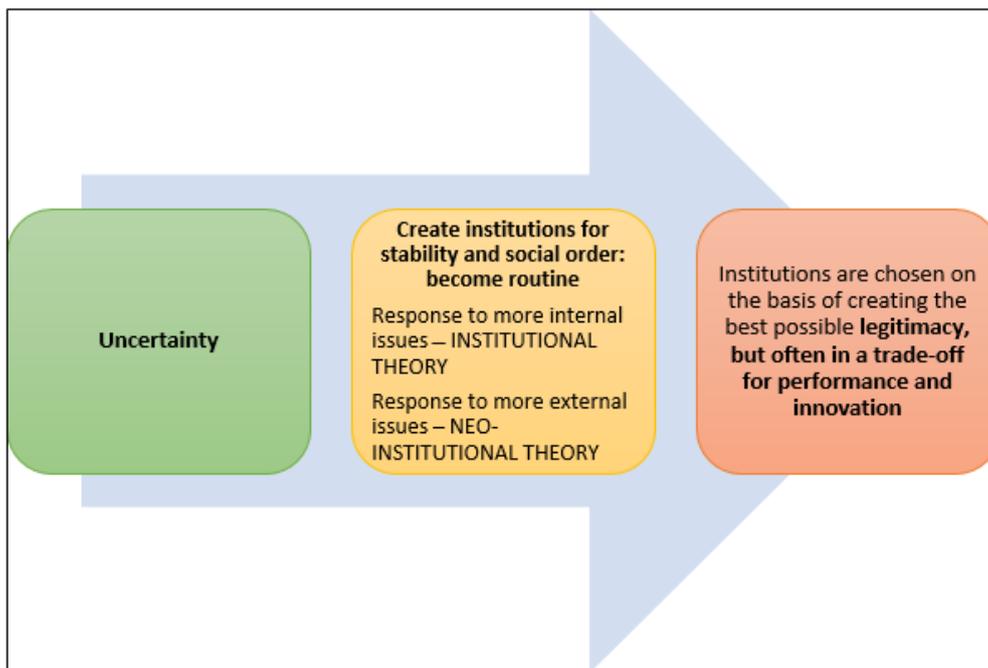


Figure 6.2: Application of institutional and neo-institutional theory

Source: Williamson (2018).

Using this interpretation of the explanatory power of the theory, the data was mapped over this heuristic approach or rubric (Figure 6.2) in order to contribute to the body of knowledge on these theories. Authors such as Powell and DiMaggio (1991), DiMaggio

and Powell (1983) as well as Meyer and Rowan (1977) all confirm that institutions are formed by or respond to environments that are uncertain and have flexible parameters. Organisational pathways are not clear-cut and create ambiguity and cloudiness (DiMaggio & Powell 1983:150–151). This means that momentum towards action may be paralysed or delayed. In the search for structure, movement and progress, people in workplaces then create formal structures, such as internal and external institutions (DiMaggio & Powell 1983:147–150; Meyer & Rowan 1977:340–341) for organisational survival and achievements. There is usually considerable uncertainty (diversity in approach and form) during the initial forming stages of an institution to incorporate practices and procedures (DiMaggio & Powell 1983:148; Meyer & Rowan 1977:340). A loosely coupled institution will also lead to more uncertainty (usually where the relationship between the means and the end is uncertain resulting in gaps between the formal structure and actual work activities) (DiMaggio & Powell 1983:154; Meyer & Rowan 1977:341). Uncertainty is also the result when the goals of an institution are ambiguous (DiMaggio & Powell 1983:155). The complexity of internal relations is increased to the size and technology of an institution (Meyer & Rowan 1977:342). Therefore, the more uncertainties there are, the greater the effect of institutional isomorphism in order to achieve homogenisation.

The following central findings recap the key areas of the foundational theoretical contributions as provided in the relevant chapters of this study:

- Meyer and Rowan (1977) used institutional theory to address how the formal structure of an institutionalised organisation can be regarded as a certainty while “the myth and ceremony” (Meyer & Rowan 1977:340), as indicated in the title of the article, relate to uncertainty.
- DiMaggio and Powell (1983) introduced neo-institutional theory where the formal structure of the organisation is regarded to be in an “iron cage” (DiMaggio & Powell 1983:147) due to the formality of institutional theory. Institutional theory was extended to include institutional isomorphism and the uncertainty of the various forces that influenced the rationality in organisational fields.
- Powell and DiMaggio (1991) built further on the complexity of neo-institutional theory and certainty in order to create stability and homogeneity in an unstable and uncertain world.

During the literature review, the stakeholder theory was considered where Mitroff (1983) and Freeman (1984:25) discussed how stakeholder theory influences the various stakeholders of the organisation. At that stage, the researcher decided that it did not form part of the foundation or bedrock of institutional and neo-institutional theories. However, through the data analysis as discussed in Chapter 5, stakeholder theory became more pronounced and was confirmed as an instrumental theory, to extend and support institutional and neo-institutional theories as the initial foundational theories (Galle 2011:81–82). The instrumental theory is traditionally invoked at the data analysis stage if needed (Galle 2011:82).

The following findings from the literature could support the inclusion of stakeholder theory for its foundational concepts applicable to the study:

- Mishra and Mishra (2013:262) implicate that stakeholder theory may have an influence on technology.
- Mitchell, Agle and Wood (1997:869) discuss how power, legitimacy and urgency could affect the significance of stakeholder claims, and as a result, they define stakeholders as latent, expectant or definitive depending on their influence on the organisation. Legitimacy is also an important part of neo-institutional theory, which was discussed in section 6.4.1.3.

A visual depiction of the ATLAS.ti™ 8 network indicating the theory (institutional theory and neo-institutional theory as foundational theories) is reflected in Figure 6.3 (see section 6.4.1). The extension of the institutional theory and neo-institutional theory with stakeholder theory as an instrumental theory (and specifically with regard to legitimacy) is indicated in Figure 6.6 (see section 6.4.2.2).

For the purposes of extending theory, the researcher coded 22 interviews in order to see whether the data offered a fruitful avenue to provide novel insights into the theories as summarised above. In the same instance as for the contribution of Chapter 5 to the discipline and context, the researcher followed Saldaña's codes-to-theory model (Saldaña 2016:14) in Chapter 6 for the contribution to theory. Both the coding and the model were validated by a second coder/independent qualitative advisor. In addition, second coding and qualitative model consensus meetings (Barbour 2001:1116) took place. The final list of codes was confirmed at 186 with 17 being specifically theory-

related. In the output document of “All codes and quotations” from ATLAS.ti™ 8 (refer Annexure 7), the textual basis for the 186 research objectives-related codes as well as the 17 theory-related codes may be reviewed in their full context. The 17 theory-related codes (identified with a TH prefix) are provided in Table 6.1 below for presentation of data to build up this theoretical contribution:

Table 6.1: Summary of theory-related codes

TH_Coercive_address student-related issues
TH_Mimetic_respond to complex cases
TH_Mimetic_technology provides alternatives
TH_Neo Inst_acknowledges uncertainty
TH_Neo Inst_human-centric responses
TH_Neo Inst_responsive intervention(s)
TH_Neo Inst_self-reflection of lecturers
TH_Neo-Inst_draws from broader society
TH_Neo-Inst_improves legitimacy
TH_Neo-Inst_symbolic power
TH_Normative_standards from profession/academic
TH_Stakeholder audit firms/employers
TH_Stakeholder_close knowledge of students
TH_Stakeholder_diverse groups for effectiveness
TH_Stakeholder_peer group
TH_Stakeholder_technology as stakeholder
TH_Stakeholder-appeals to broader stakeholders

Source: Own compilation

Therefore, following Saldaña (2016:14), the TH codes in Table 6.1 were themed (with the theme being the grouping of the TH codes as indicated below), attached to quotations, being viewed through the graphics based on theory in Figure 6.2. In ATLAS.ti™ 8, the TH codes were arranged into five software-driven ‘groups’ as follows:

1. Uncertainty – mimetic and complexity (43)
2. More certainty – normative and coercive (34)
3. Interventions – more formally scoped (73)
4. Interventions – more open-ended (52)
5. Achievements or examples of legitimacy (17)

It is important to note, for the sake of building this theoretical contribution, that each of these themes or groups had extensive code-quotation data, grounding it in the

empirical realities of the data. The numbering behind the groups shows how many codes there were in each group, and it should be noted that those codes were anchored 'quotations' which were the participants' views. The numerical power alone (noting the enumerative use of qualitative research as per Grbich (2013:18) behind each of these themes, indicates that the researcher had stayed true to the empirical journey to ground theorisation in data. This implies trustworthiness and credibility for the novel contribution of this study.

Based on these themes, therefore, the contribution is presented at an aggregate level and then each theme is explained in more detail relating the codes or themes to the literature, culminating in the summative assertion for institutional and neo-institutional theory. This is then followed by the contribution of original perspectives for stakeholder theory. These perspectives are shown as inter-related, both in the narrative of the argument for the newer versions of these theories as well as through the graphic views provided in Figure 6.3 (see section 6.4.1) and Figure 6.6 (see section 6.4.2).

6.4.1 Themes relating to institutional and neo-institutional theory

Figure 6.3 provides an aggregate summary of the theoretical contribution of institutional and neo-institutional theory of this study. The red dotted lines indicate the ATLAS.ti™ 8 pre-set relationships caused by the coding and grouping functions of ATLAS.ti™ 8. The black lines and relationships were created by the researcher in order to theorise.

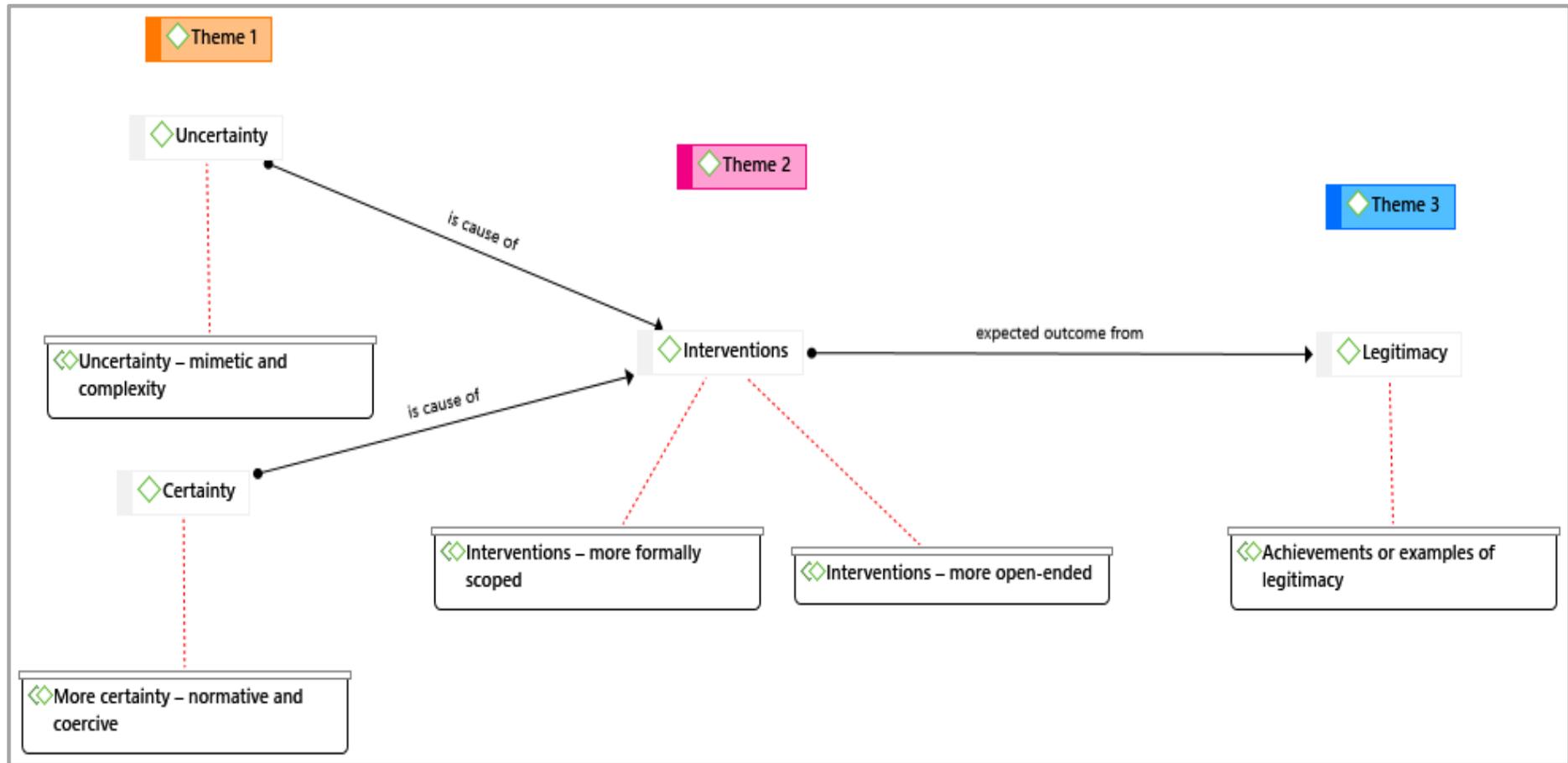


Figure 6.3: Summary of theoretical contribution

Source: Own compilation (prepared in ATLAS.ti™ 8)

Figure 6.3 provided a summary of the theoretical contribution relating to institutional and neo-institutional theory. Three themes were evident from the data analysis, namely:

- Theme 1: More certainty complements uncertainty as ‘initial condition’ for institutional and neo-institutional explanations of organisational institution building.
- Theme 2: Institutions created for alternative assessments pendulate between more formally scoped and more open-ended interventions.
- Theme 3: Legitimacy achieved with examples.

These three themes are discussed in 6.4.1.1–6.4.1.3.

6.4.1.1 Theme 1: More certainty complements uncertainty as ‘initial condition’ for institutional and neo-institutional explanations of organisational institution building

The first assumption of the themed data was that both institutional and neo-institutional theory are premised mainly on uncertainty (DiMaggio & Powell 1983:147; Lawrence & Shadnam 2008:2289; Meyer & Rowan 1997:340–341). Surprisingly, the data showed a healthy interplay of how strongly structure or certainty exists in ODL assessments and also the articulation of how much of this certainty may already be described as existing in the foundational thinking or systems for alternative assessment, despite this being a new field. Certainty was expressed in the following ways:

- Lecturers are certain that some students will find a way to behave unethically, due to inconsistent results of students compared to previous venue-based examinations.

Maybe if they had the module for a few semesters and then suddenly they do very well (L0003).

They have hired a tutor to sit with them and help them to complete the assessment (L0013).

- Honest and ethical students will not have a problem with the institution using identity verification methods.

The honest students will not have any issue with it, but the not so honest students might (L0011).

- Forcing students to work hard with a large, extensive portfolio to complete, could improve academic integrity. Third parties may say –

I am not going to do it, it is too much work. You do it; you paid for your studies (L0006).

- When intricate case studies are used in assessment, the lecturers and the markers must be highly skilled due to the higher cognitive requirements.

It cannot be someone who is just coming in and going to mark from a memorandum. It has to be someone that understands (L0006).

The result is that students must also display higher cognitive skills and can therefore not just make use of third parties to complete the case study on their behalf.

They have to get the skills. And then they will be more likely to be the one sitting there for their own exams (L0006).

- Good-quality tuition, including the use of non-venue-based alternative assessments, should not have an influence on the accreditation of governing bodies.

Maybe they will even like the alternative assessment way (L0003).

These verbatim sources show that in the ODL undergraduate accounting sciences assessment context, whether non-venue-based alternative assessments or venue-based assessments, there is a high tendency towards certitude and sureness and confidence in the exemplars of such certainty.

Not only then were these certainties expressed but theoretically, they may be seen through coercive and normative isomorphisms, showing how these isomorphisms inherently want to move an uncertain, less bounded environment towards more and more sureness. Coercive isomorphism results from political influence and legitimacy (rules and regulations). It results from both formal and informal pressures from government or other organisations on which they depend for resources as well as the expectations of cultural and social support within the environment in which the organisation functions (DiMaggio & Powell 1983:150; González & Hassall 2008:15;

Karataş Acer & Güçlü 2017:1914–1915; Lawrence & Shadnam 2008:2290). Lecturers have experienced that students make use of coercive forces, namely unethical methods in the case of non-venue-based alternative assessments, in order to pass their assessments. In order to limit dishonesty and improve academic integrity, identity verification measures should be in place and students should be provided with extensive portfolios or intricate case studies.

Normative isomorphism results from the standards and conceptual frameworks created and controlled by professions and other regulators that determine standards (DiMaggio & Powell 1983:150,152; González & Hassall 2008:15; Karataş Acer & Güçlü 2017:1915; Lawrence & Shadnam 2008:2290). The formal education provided by universities and other educational institutions as well as the growth in professional networks that influence the development of standards in the institution, result in professionalisation (DiMaggio & Powell 1983:152; González & Hassall 2008:15). Where normative forces, such as non-venue-based assessments, may affect the standards of qualifications, quality tuition should ensure that the accreditation of universities is not influenced by the use of non-venue-based alternative assessments and may even be welcomed in the age of technology.

The isomorphic forces of coercive, normative and mimetic changes as indicated in Figure 6.4, are a result of the individual or combined forces in an attempt to create stability and homogeneity in an unstable, more complex world (DiMaggio & Powell 1983:147; Karataş Acer & Güçlü 2017:1915).

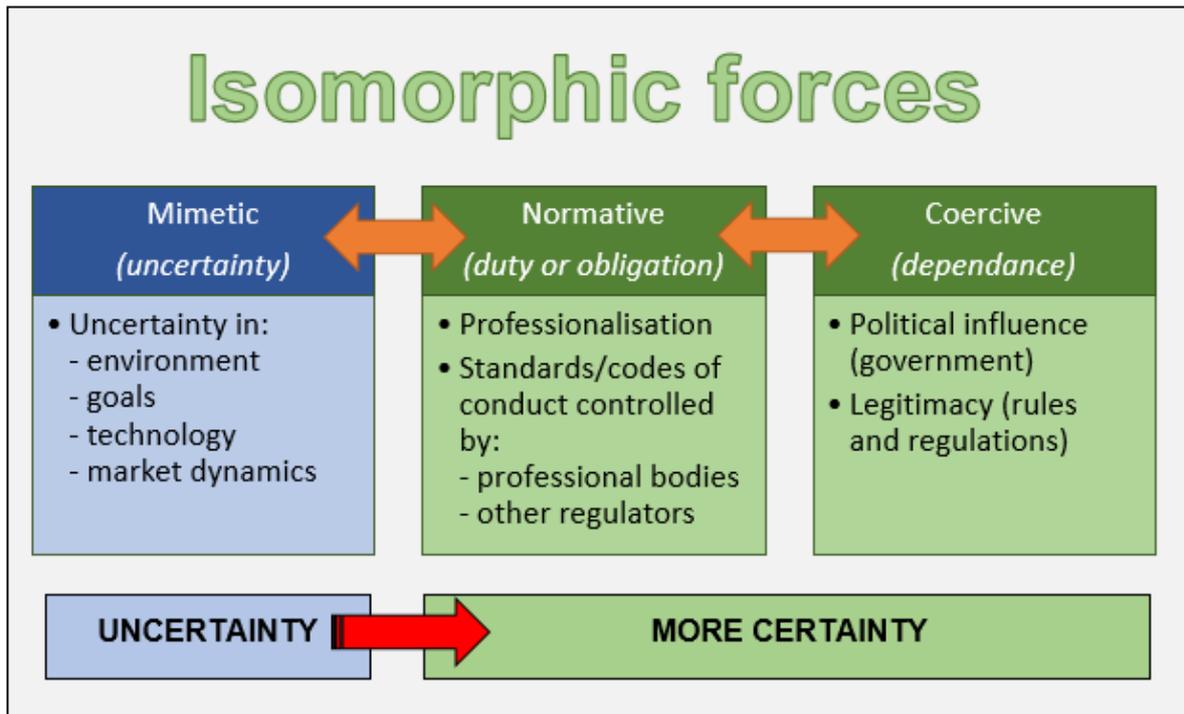


Figure 6.4: Summary of isomorphic forces to indicate uncertainty/more certainty

Source: Own compilation (based on Karataş Acer & Güçlü 2017:1915; Lawrence & Shadnam 2008:2290; González & Hassall 2008:15; DiMaggio & Powell 1983:150).

As indicated in Figure 6.4, this does not mean that there is not uncertainty in the system. The theme of uncertainty is strengthened by mimetic isomorphism and how the systems respond to complexity and equivocality through trying to copy better to best practices from the environment. Uncertainty was depicted in the literature as uncertainty in the environment, goals, technology or market dynamics resulting in institutions implementing structures and practices that model or mimic other prominent organisations in their fields (DiMaggio & Powell 1983:150–151; González & Hassall 2008:16; Karataş Acer & Güçlü 2017:1915; Lawrence & Shadnam 2008:2290). Mimetic isomorphism is the standard reaction to uncertainty (DiMaggio & Powell 1983:151). The mimetic forces of the uncertainty regarding the greater emphasis on technology have an enormous influence on the institution due to the gap in available technology and the limited actual utilisation of technology in the university sector (Krücken 2014:1449). There are strong mimetic forces for change in higher education due to rapidly advancing technology (Pincus et al 2017:14). The mimetic pressure on the institution will result in universities becoming more similar or remaining uniform (Croucher & Woelert 2016:451–452).

The above discussion of the first theme therefore complements the ‘uncertainty’ premise of institutional and neo-institutional theory. After this study and this suggested theorisation, one may therefore modestly read institutional theory and neo-institutional theory with a lens of certainty and the antecedent isomorphisms as being illustrative of creating assurances that need to be considered and factored in, in the same way these theories, as they exist, factor in uncertainty.

6.4.1.2 Theme 2: Institutions created for alternative assessments pendulate between more formally scoped and more open-ended interventions

Following on the thread of uncertainty contrasted with certainty in this study, the interventions that arise from the practical application of institutional and neo-institutional theory also show a consistent pattern.

The study found that, for alternative assessments, there are interventions that are ‘more open-ended’. These are mimetic concerns about the unethical behaviour of students, complexity of variables and trustworthiness of the system, the validity of qualifications as well as various pressures of ODL on students and the institution.

- *I mean all these scandals that happen. And I am actually quite interested in ethics. We always have this conversation if you just possess ethics or can you actually be taught ethics. So you wonder if these students actually understand what it is to be ethical and they do not understand the dire consequences of doing things like this and how important it actually is in the profession (L0013).*

Stakeholder theory acknowledges the non-human stakeholders, such as technology being instrumental in the institution.

- *I think it is [concerns about] technology. Do we have the technology to do it? Do we have the measures in place to control it? And then it does put a lot of strain on the academics as well (L0001).*

These aspects therefore seem to confirm the uncertainty premise of the theories. Equally, though, and not surprising in the face of the applied contexts of how assessments are done at a practical level as well as the finding of ‘more certainty’, there are interventions that are ‘more formally scoped’. These are the coercive and normative pressures relating to the types of non-venue-based alternative assessment

already available, competency skills needed by students as required by professional accounting bodies and regulatory and governing bodies, as well as technology-enhanced methods already available to assist with enforcing academic integrity.

- *...I would want to believe that SAICA would be completely against these non-venue based assessments especially if the integrity of the assessments cannot be guaranteed (L0012).*

All of these interventions attempt to assist with the legitimising of qualifications.

Considering the interventions dimensions of the model in Figure 6.3, this study has confirmed existing theory and therefore extended it with additional data analysed in this specific research setting. What is exciting, from a knowledge basis however, is how the initial conditions of 'uncertainty' complemented by 'more certainty' pull through coherently to the next stage of interventions in a patterned way ('more formally scoped' to 'more open-ended'), which is not an over-simplification, considering the wealth of data behind these themes.

6.4.1.3 Theme 3: Legitimacy achieved with examples

The data then also confirmed the outcome for which institutional and neo-institutional theory argue, namely that there is legitimacy as an outcome. Legitimacy was evident in the following examples and may be viewed against the literature accordingly. From the responses, it was clear that institutions should have rules and regulations in place to control the complex social networks (Meyer & Rowan 1977:342). These measures should address unethical behaviour of students in order to ensure the legitimacy of their qualifications:

- *I would ideally have liked to run all of their exams through something like Turnitin or similar program that you can evaluate it for plagiarism. I created a front page where I warned them about plagiarism (L0006).*
- *I do not think there should be an ethical issue to make use of a camera but obviously I will beforehand tell them that you are being invigilated through your laptop camera (L0012).*
- *I am a very big proponent of someone saying they must have a big enough year mark of smaller assignments so that you can actually force that person to work.*

If you want to force them to work more, you have got to have more assignments
(L0006).

From the above responses, it is clear that to ensure the legitimacy of qualifications, the integrity of qualifications must be protected by adhering to standards and other requirements from professional accounting bodies as well as governing and other regulatory bodies.

Where prevailing concepts of practices and procedures are rationalised and institutionalised by organisations, such organisations increase their legitimacy and survival prospects (Martínez et al 2016:10; Meyer & Rowan 1977:340; Tolbert & Zucker 1996:178). The result of these isomorphic mechanisms (specifically coercive forces) implies that institutions react very similarly and seek bounded rationality and/or stability in response to environmental behaviours to ensure the legitimacy of the organisation (González & Hassall 2008:15; Martínez et al 2016:10; Meyer & Rowan 1977:352). Organisations align their structures with the institutional context to adopt practices in order to gain legitimacy, resources, stability and better chances at survival. They prefer to sacrifice the efficiency of task-performing functions and performance in order to do so (Lawrence & Shadnam 2008:2290; Meyer & Rowan 1977:341; Suddaby et al 2013:331).

6.4.1.4 Assertion relating to institutional and neo-institutional theory

The three themes congregate around the assertion or newer theorisation for this study, which is indicated in the composite model provided in Figure 6.3. This model should be seen for its aggregated contribution to new thinking on institutional and neo-institutional theories, particularly emphasising the addition of more certainty to the theoretical basis, but also the alignment between Theme 1 and Theme 2, which led to the destination of Theme 3.

Two theories were considered for this study, and the discussion now turns to stakeholder theory and what the theme-ing of this study found.

6.4.2 Themes relating to stakeholder theory

Stakeholder theory incorporates various stakeholders that have an influence on the institution. According to Freeman (1984:25), a stakeholder can be defined as “any

group or individual who can affect or be affected by the decisions and the achievement of corporate objectives”. Various authors contributed to defining stakeholders over the years, and according to Mitchell’s model depicted in Figure 6.5, the types of stakeholders and their various attributes can be demonstrated according to the number of attributes they have. These attributes refer to power, legitimacy and urgency, which could affect the significance of stakeholder claims and could change for any specific entity (Mitchell et al 1997:869). Depending on the number of attributes (as indicated in Table 6.2), stakeholders can, therefore, based on the influence they have, be defined as:

- latent stakeholders (with only one of the three attributes);
- expectant stakeholders (with two of the three attributes); and
- definitive stakeholders (with all three attributes).

These stakeholders can be classified ever further depending on the number and type of attributes as indicated in Table 6.2 and Figure 6.5.

Table 6.2: Types of stakeholders and their attributes

Latent stakeholders	Expectant stakeholders	Definitive stakeholders
<i>Dormant stakeholders</i> Power <input checked="" type="checkbox"/> Legitimacy <input type="checkbox"/> Urgency <input type="checkbox"/>	<i>Dominant stakeholders</i> Power <input checked="" type="checkbox"/> Legitimacy <input checked="" type="checkbox"/> Urgency <input checked="" type="checkbox"/>	<i>Definitive stakeholders</i> Power <input checked="" type="checkbox"/> Legitimacy <input checked="" type="checkbox"/> Urgency <input checked="" type="checkbox"/>
<i>Discretionary stakeholders</i> Power <input type="checkbox"/> Legitimacy <input checked="" type="checkbox"/> Urgency <input checked="" type="checkbox"/>	<i>Dependent stakeholders</i> Power <input type="checkbox"/> Legitimacy <input checked="" type="checkbox"/> Urgency <input checked="" type="checkbox"/>	
<i>Demanding stakeholders</i> Power <input type="checkbox"/> Legitimacy <input type="checkbox"/> Urgency <input checked="" type="checkbox"/>	<i>Dangerous stakeholders</i> Power <input checked="" type="checkbox"/> Legitimacy <input type="checkbox"/> Urgency <input checked="" type="checkbox"/>	

Source: Own compilation based on Mitchell et al (1997:874–878)

The more attributes that are applicable, the more influence the stakeholder has. Mishra and Mishra (2013:255,257) confirm that the available literature on stakeholder theory has been limited to specific areas of information technology and only refers to individuals or groups within the organisation. They conclude that stakeholder theory may have an influence on technology (Mishra & Mishra 2013:262).

The two themes related to stakeholder theory were evident from the data analysis, namely:

- Theme 1: Technology as stakeholder: Anthropomorphic
- Theme 2: Legitimacy outcome of institutional and neo-institutional theories extended into stakeholder theory through technology as stakeholder (Theme 1) creating better performance and providing potential for innovation.

The two themes are discussed in 6.4.2.1 and 6.4.2.2.

6.4.2.1 Theme 1: Technology as stakeholder: Anthropomorphic

What has not been considered sufficiently for stakeholder theory is the fresh insight, which is offered by this research as a contribution to this theory. This fresh insight is that technology should be considered anthropomorphically (see sections 5.5.5 and 5.6) in creating institutions (as per institutional and neo-institutional theory) for non-venue-based alternative assessment. Thus far, we have seen technology as driving our working or innovations and as part of 'things' on which we may draw. The data of this study and the researcher's attendant interpretation depict technology as much more robust.

The 4IR and the rapid move to the 5IR, will result in a crisis of trust in technology (Lindsay & Hudson 2019). This will have a considerable influence on legitimacy, and enforces the view of technology as an anthropomorphic stakeholder in an institution. This was confirmed by participants in the study.

The world is changing so fast ... we have to be connected and share information (L0006).

With the technology in place, students can speed up the process of their learning. As soon as you feel that you have mastered the contents of the module you can log on ... do the assessment and if you pass, you can move on to the next one (L0001).

Lecturers also said they prefer to make use of innovative methods to assess a variety of skills and the students' experience in a real-world context. One of the lecturers, for example, tasked students to observe paying for articles in a shop and asking how a refund will work. They had to use their mobile phones to *photograph the screen and show how the article is being replaced* (L0006). These photos had to be submitted as an assignment. Students must have access to technology to obtain competency skills as required by professional accounting bodies and in addition –

[They must have] access to the technology so that you can actually say this is the only way that we are going to identify you. ... The biggest challenge is that a big portion of South Africa do not have internet and ... we are excluding all those students already. There ... is an ethical side to it (L0006).

From these examples, it is very clear how important technology as a stakeholder is.

The big influence of the technology is therefore analysed as being as critical and as predominant in non-venue-based alternative assessments. Technology functions in the same way as a human stakeholder and therefore technology should, in the consideration of its powerful role, be treated anthropomorphically. It should be considered a stakeholder, especially if the attributes of power, legitimacy and urgency are present, according to Mitchell's model (Mitchell et al 1997:874). This view of stakeholder theory has not been theorised thus far, and is offered for future considerations of this theory as well as for its applied usage in the context of non-venue-based alternative assessments.

6.4.2.2 Theme 2: Legitimacy outcome of institutional and neo-institutional theories extended into stakeholder theory through technology as stakeholder (Theme 1) creating better performance and providing potential for innovation

As indicated, the novel contribution in terms of institutional and neo-institutional theory is provided through the narrative and the aggregated depiction of how to adjust

modelling these theories in the light of this offering of originality by the current research. The researcher has also set out to contribute to stakeholder theory. What was valuable for the data collected during this research in the view of intersecting two theories, was how the interpretations of the data translated itself in providing an inter-locking picture as well as an argument between institutional and neo-institutional theories on the one hand, and stakeholder theory on the other. This is graphically shown in Figure 6.6. The red dotted lines indicate the ATLAS.ti™ 8 pre-set relationships caused by the coding and grouping functions of ATLAS.ti™ 8. The black lines and relationships were created by the researcher in order to theorise.

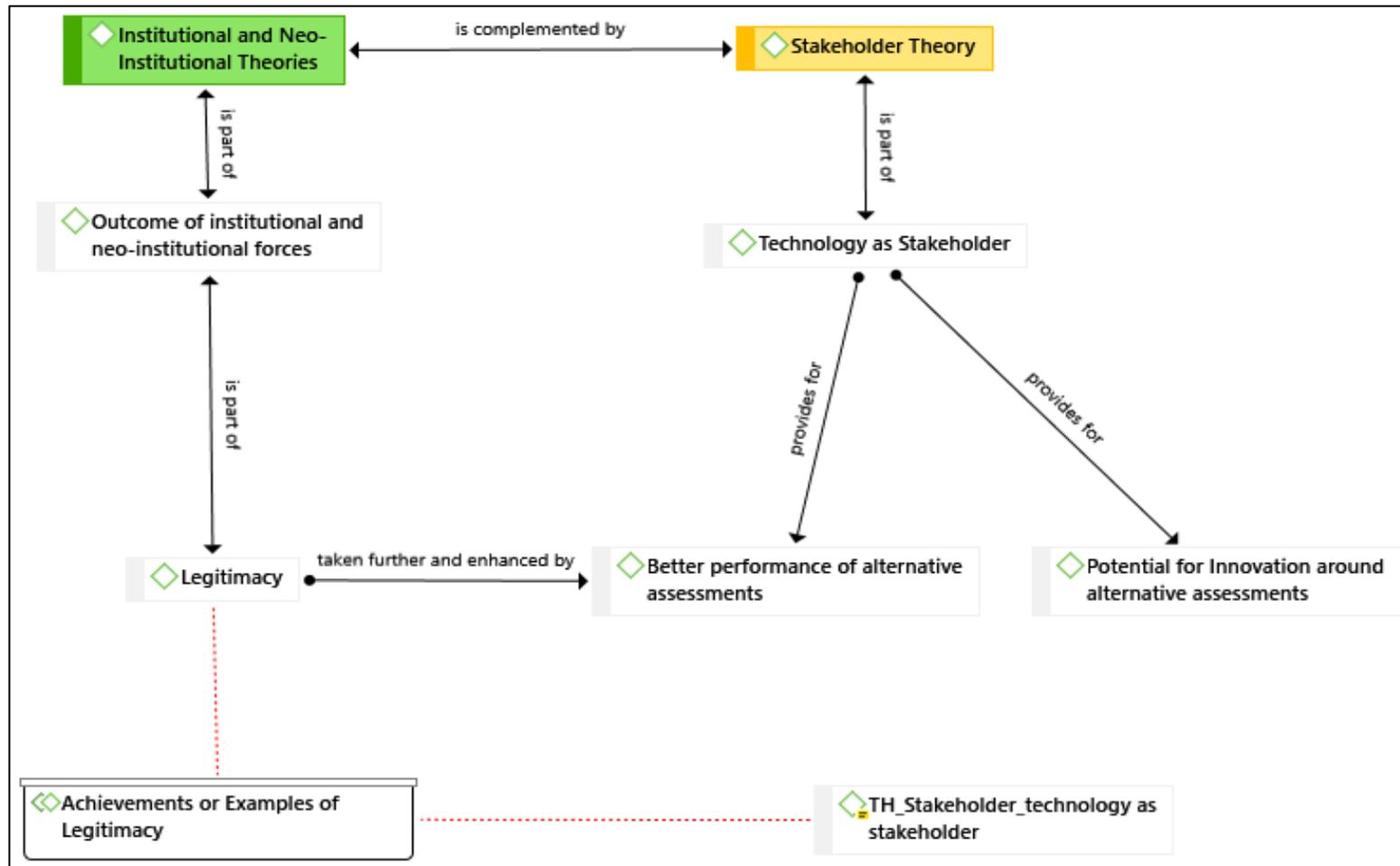


Figure 6.6: Relationship between institutional and neo-institutional theory as well as stakeholder theory

Source: Own compilation (prepared in ATLAS.ti™ 8)

Figure 6.6 shows that, while institutional and neo-institutional theories have legitimacy as an outcome, legitimacy may also be a limiting outcome.

- *I would ideally have liked it to run all of their exams through something like Turnitin or similar program that you can evaluate it for plagiarism (L0006).*

The trade-off for legitimacy is compromised performance and lowered or no innovation. This was confirmed by the literature (Lawrence & Shadnam 2008:2290; Meyer & Rowan 1977:341; Suddaby et al 2013:331). In consideration of this research and its interpretive journey, the researcher now argues that, should technology be treated as a stakeholder, legitimacy may be taken further and enhanced by better performance and heightened potential for innovation around alternative assessments.

Considering Mitchell's model (Mitchell et al 1997:874), the attributes of power, legitimacy and urgency should be present to influence an institution as a stakeholder significantly.

- *Power*: The accreditation of professional accounting bodies as well as governing and other regulatory bodies is a very powerful attribute. According to Mitchell et al (1997:865), a party can impose its will in a relationship if it has power (by way of coercive, utilitarian or normative means).
- *Legitimacy*: The legitimacy of qualifications is crucial in order to protect the integrity of qualifications and to produce capable graduates where technology-enhanced non-venue-based alternative assessments are used. Legitimacy is also a coercive force where institutions should have rules and regulations in place to control complexity (Meyer & Rowan 1977:342). This corresponds with Suchman's (1995:574) definition of legitimacy, namely that within a socially constructed system of norms, values, beliefs and definitions, the general perception is that the actions of the institution are desirable, proper or appropriate.
- *Urgency*: The need for technology is urgent due to the 4IR and the rapid move to the 5IR (Lindsay & Hudson 2019). This has a considerable influence on legitimacy, and enforces the view of technology as an anthropomorphic stakeholder in an institution.

6.4.2.3 Assertion relating to stakeholder theory

The two themes discussed in subsections 6.4.2.1 and 6.4.2.2 lead to the second theoretical assertion of this study, namely that technology functions in the same way as a human stakeholder and therefore technology should, in the consideration of its powerful role, and should therefore be treated anthropomorphically. The researcher asserts that there is an interlocking of two substantive theoretical spaces to consider or entertain the convening and instrumental power of technology as being placed hierarchically with human stakeholders. When considering this premise, spaces are opened up for innovation and the advancement of the Internet of Things and the 4IR as well as the 5IR (GSMA 2014:1–2).

This theoretical contribution chapter has provided five themes across two theoretical domains (see sections 6.4.1 and 6.4.2). Following Saldaña's (2016:14) model, these five themes were inferred empirically and from a scholarship point of view into two assertions (see subsections 6.4.1.4 and 6.4.2.3), which provided the modest contributions to the theories of this study and their attendant and identified theoretical gaps.

6.5 THEORETICAL GAPS ADDRESSED

Following the theoretical contribution discussed in section 6.4, the gaps that were identified in the literature were addressed as indicated:

- Events occurring in the environment of the institution are used to explain how the institution reacts, usually resulting in a large gap between the actual behaviour of the institution and how the behaviour is explained (Suddaby 2010:16; Suddaby et al 2013:332).

More empirical evidence on why these gaps exist was provided. The principles of neo-institutional theory, namely complexity, uncertainty and mimetic behaviours were used to explain this behaviour.

- There is currently a gap in available technology and the limited actual utilisation of technology in the university sector. Technology forces and technology-enabled globalisation lead to a growing skills gap between skills available and

skills needed, resulting in an increasing gap in accounting and finance skills (Pincus et al 2017:6; WEF 2016a).

Technology was identified as a stakeholder due to anthropomorphism (based on its importance, technology gained human attributes). Stakeholder theory was used to address technology as an anthropomorphic stakeholder as a result of its influence on the institution.

- Professional accounting bodies are concerned with the growing skills gap in accounting and finance (Pincus et al 2017:6; WEF 2016a). Chartered accountancy is one of the occupations in high demand in South Africa (DHET 2014a:19; 2018:8–9), and distance education is one of the measures to assist with the growing skills gap since more students can be accommodated this way.

Institutional and neo-institutional theories were used to address the growing skills gap through the themes of certainty and more coercive and normative measures.

- Currently, there is a gap between affordable measures available to verify the identification of students in the online distance environment. It is very important that the identity of students in an ODL environment be verified to ensure the legitimacy of assessments and degrees awarded.

Technology was identified as a stakeholder due to anthropomorphism and in combination with neo-institutional theory, it addressed the issue of legitimacy.

The final **theoretical** conceptual framework compiled from the literature (refer to Figure 3.2 in Chapter 3) was extended to include not only institutional and neo-institutional theory, but due to the importance of technology and its anthropomorphic attributes, stakeholder theory was also included in the framework as indicated in Figure 6.7.

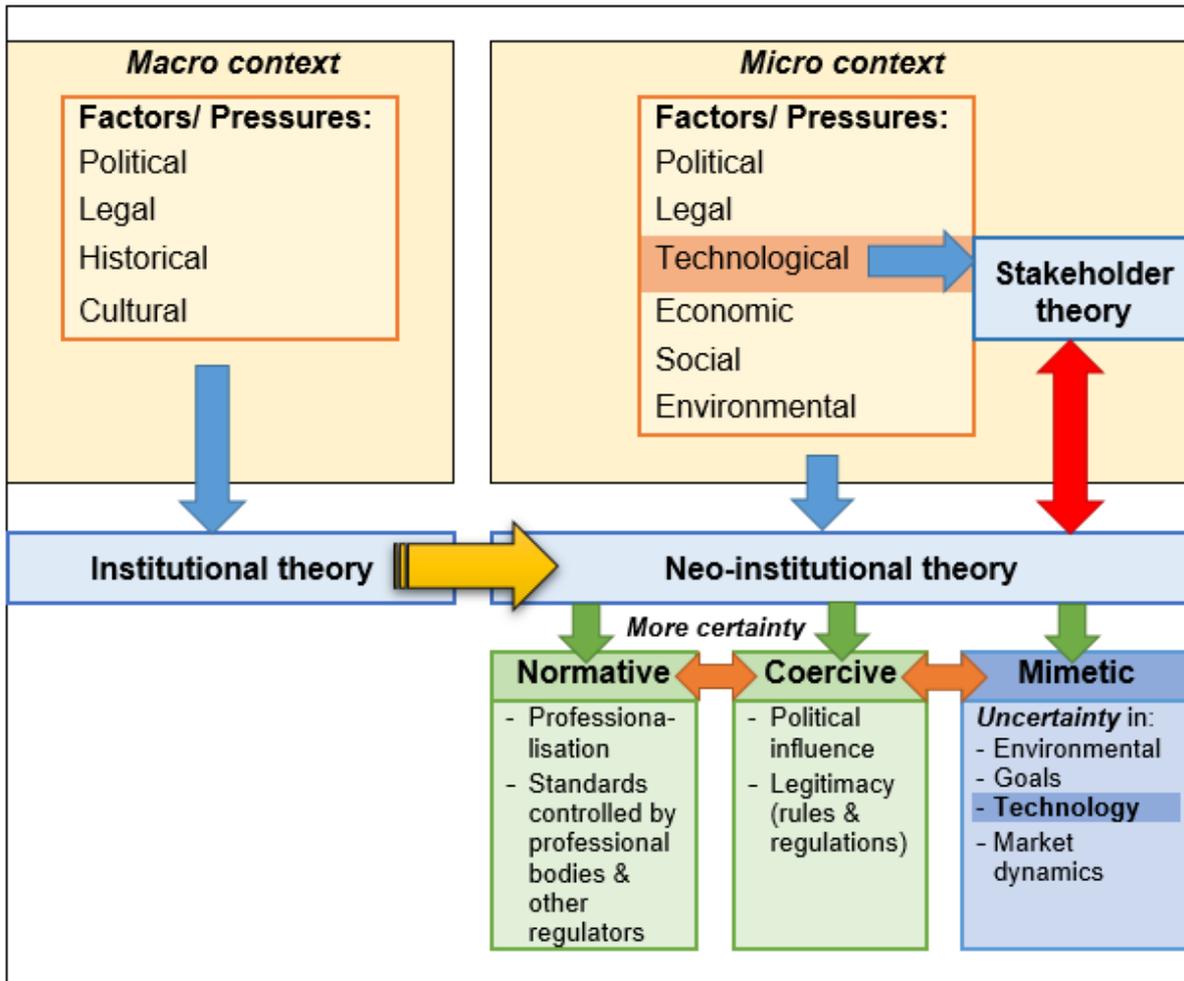


Figure 6.7: Final conceptual framework for theoretical elements of non-venue-based alternative assessments based on theoretical aspects

Source: Own compilation

In Figure 6.7, the symmetrical bi-directional arrows indicate a two-way, reinforcing relationship, which makes the linkage between aspects very strong. Unidirectional arrows have a single directional effect. The interaction between stakeholder theory and neo-institutional theory is indicated with the bi-directional red arrow, and this resulted specifically from:

- technology as a stakeholder, and the uncertainty in and complexity of technology and innovation as a mimetic force; and
- more certainty from coercive and mimetic forces to enforce the legitimacy of qualifications, by creating a better performance and potential for innovation.

This interaction between the different theories was discussed in detail in section 6.4.2.2.

6.6 SUMMARY

In Chapter 6, a theoretical contribution was made by providing two theoretical assertions consisting of five themes. Saldaña's (2016:14) model was followed to determine these five theoretical themes from the empirical data to address the theoretical gaps. Technology was identified as an anthropomorphic stakeholder following stakeholder theory and the legitimacy outcome of institutional and neo-institutional theories, was extended into the stakeholder theory to create better performance and providing potential for innovation. The theoretical conceptual framework was also updated to include stakeholder theory.

Chapter 7 will include a summary of the findings, conclusions, limitations and recommendations for further research.

CHAPTER 7

CONTRIBUTION – SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

There is worldwide a need for scarce places in universities, and the demand exceeds the supply, specifically in developing countries (Altbach et al 2009:14,123). In South Africa, the infrastructure did not keep up with the exponential growth in the number of students in need of tertiary education (DHET 2019:21,26,28; NPC 2012:319). The NDP proposed the expansion of distance education in order to address these shortages (NPC 2012:318,320). There are various occupations in South Africa considered to be in short supply. One of these occupations is chartered accountancy, which is in high demand (DHET 2014a:19; 2018:8–9). As it is considered an ethical profession, it is important to ensure the legitimacy of qualifications, specifically when non-venue-based assessments are used in a distance education environment. Advances in the use of technology play a considerable part in distance education and specifically online learning and assessment. The current study aimed to create a framework to assess undergraduate accounting sciences students in an ODL environment optimally by way of non-venue-based alternative assessments to ensure the continued accreditation of professional accounting bodies.

In this chapter, the findings from the literature review and the empirical research are summarised with reference to the specific chapters. A visual representation of the final framework is provided (see Figure 7.4) with reference to the fundamental theories on which this study was based. This is followed by a discussion of the findings as well as the theoretical contribution made. Finally, the recommendations for further research are discussed.

7.2 OVERVIEW

Figure 7.1 presents a visual outlay of the chapter where the findings are summarised, discussed and recommendations are made for further studies.

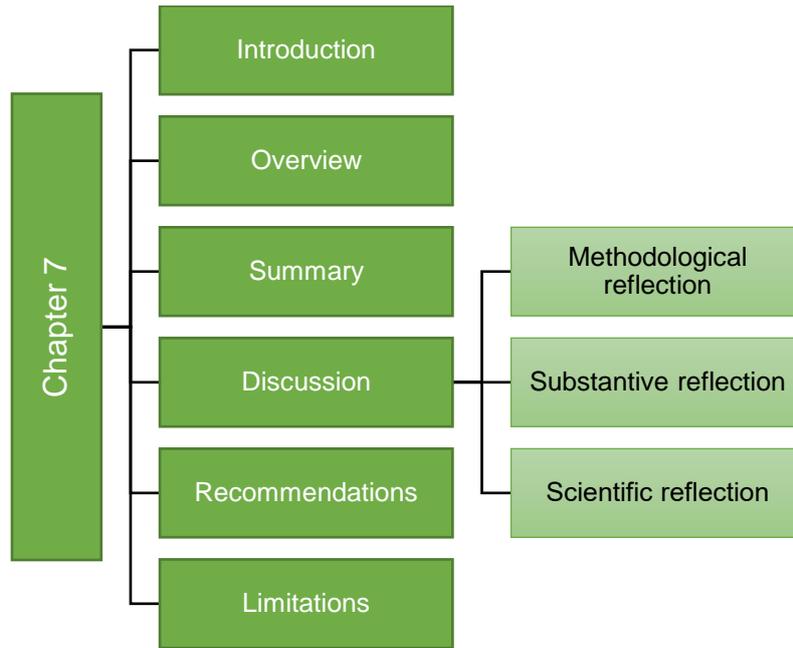


Figure 7.1: Chapter outlay

Source: Own compilation

7.3 SUMMARY

In the past, Unisa as an ODL institution mainly conducted traditional venue-based examinations. The problem addressed in this study related to the challenges faced by an ODL university to assess undergraduate modules in accounting sciences by way of technology-enhanced non-venue-based alternative assessments. The legitimacy of qualifications was also considered by reviewing the identity verification of students and other ethical issues as well as its influence on accreditation by professional and other regulatory and governing bodies. Figure 7.2 presents a visual presentation of the outlay of the chapters to provide a visual overview of the study.

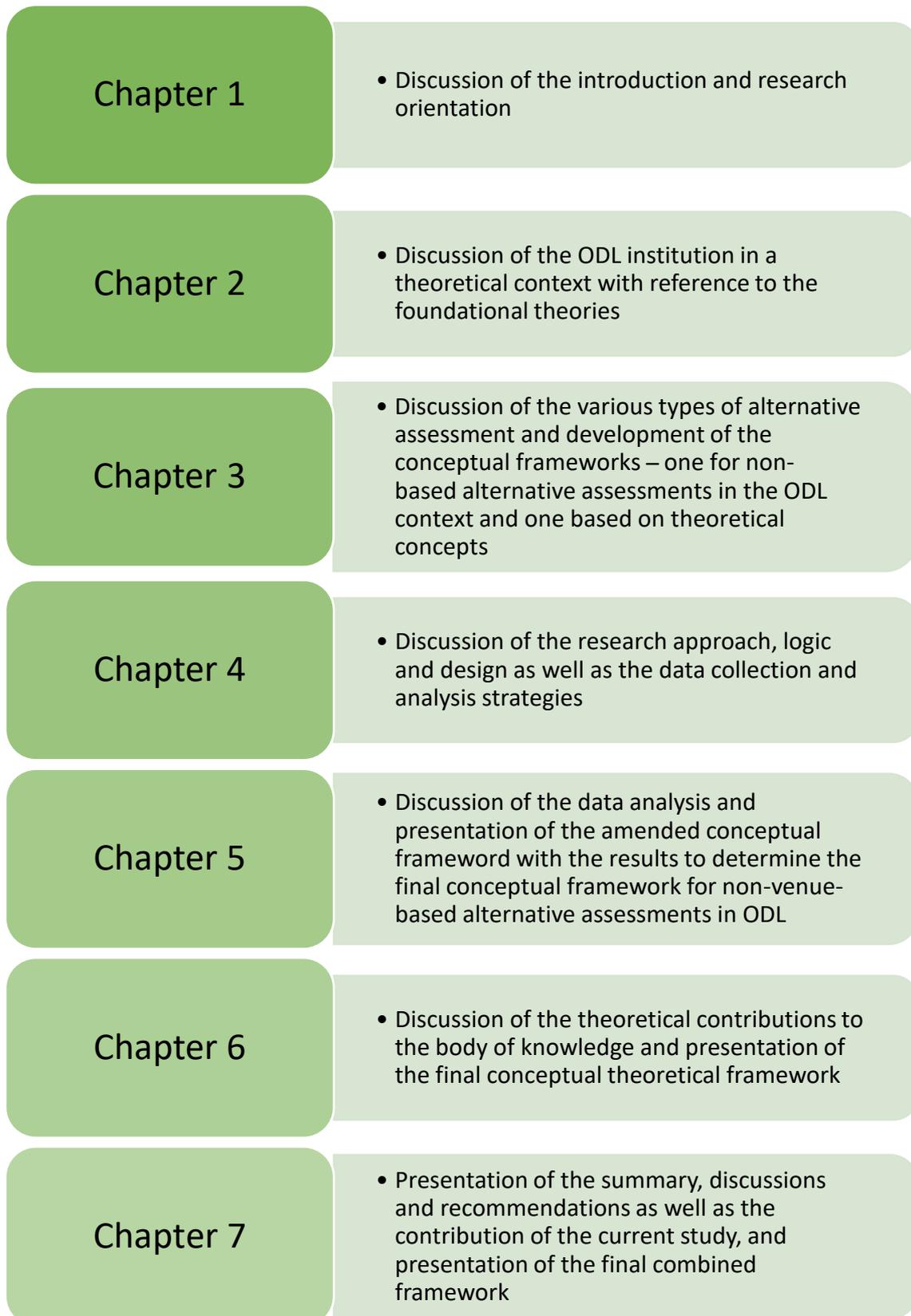


Figure 7.2: Structure of outlay of the chapters

Source: Own compilation

With reference to Figure 7.2, institutional, neo-institutional and stakeholder theories were used as foundational principles in the study, and these were discussed within the ODL context in Chapter 2. The literature review continued in Chapter 3 with reference to the specific aspects applicable to the study, and the conceptual frameworks were then compiled. Chapters 2 and 3 formed part of the preliminary phase of the design-based research. The conceptual frameworks were evaluated through interviews conducted with ODL lecturers and members of professional accounting bodies. The research approach, logic and design and the data collection and analysis strategies were discussed in Chapter 4. The data from the respondents were analysed in Chapter 5 through thematic analysis, and these themes were used to amend the alternative assessment conceptual framework. These chapters formed part of the development or prototyping phase of the design-based research.

Triangulation was used as final evaluation of the conceptual framework by analysing comments from students included in reports from the preceding alternative assessment pilot study and reported on in Chapter 5. The final conceptual framework (literature and empirical) was provided at the end of Chapter 5. The triangulation was reported on at the end of Chapter 5 and formed part of the assessment phase of the design-based research. The theoretical contributions to the body of knowledge were discussed in Chapter 6, and formed part of the assessment phase of the design-based research. The final conceptual framework (literature and empirical) for alternative assessment was presented in Chapter 5, and the final theoretical conceptual framework was provided in Chapter 6. The two conceptual frameworks were combined in a final framework depicted in Figure 7.4. Chapter 7 is the final chapter in which the conclusions, limitations and recommendations for further research are discussed.

Figure 7.3 acts as a reminder of the visual representation of the design-based research method provided in Chapters 1 and 4 to demonstrate the different phases.

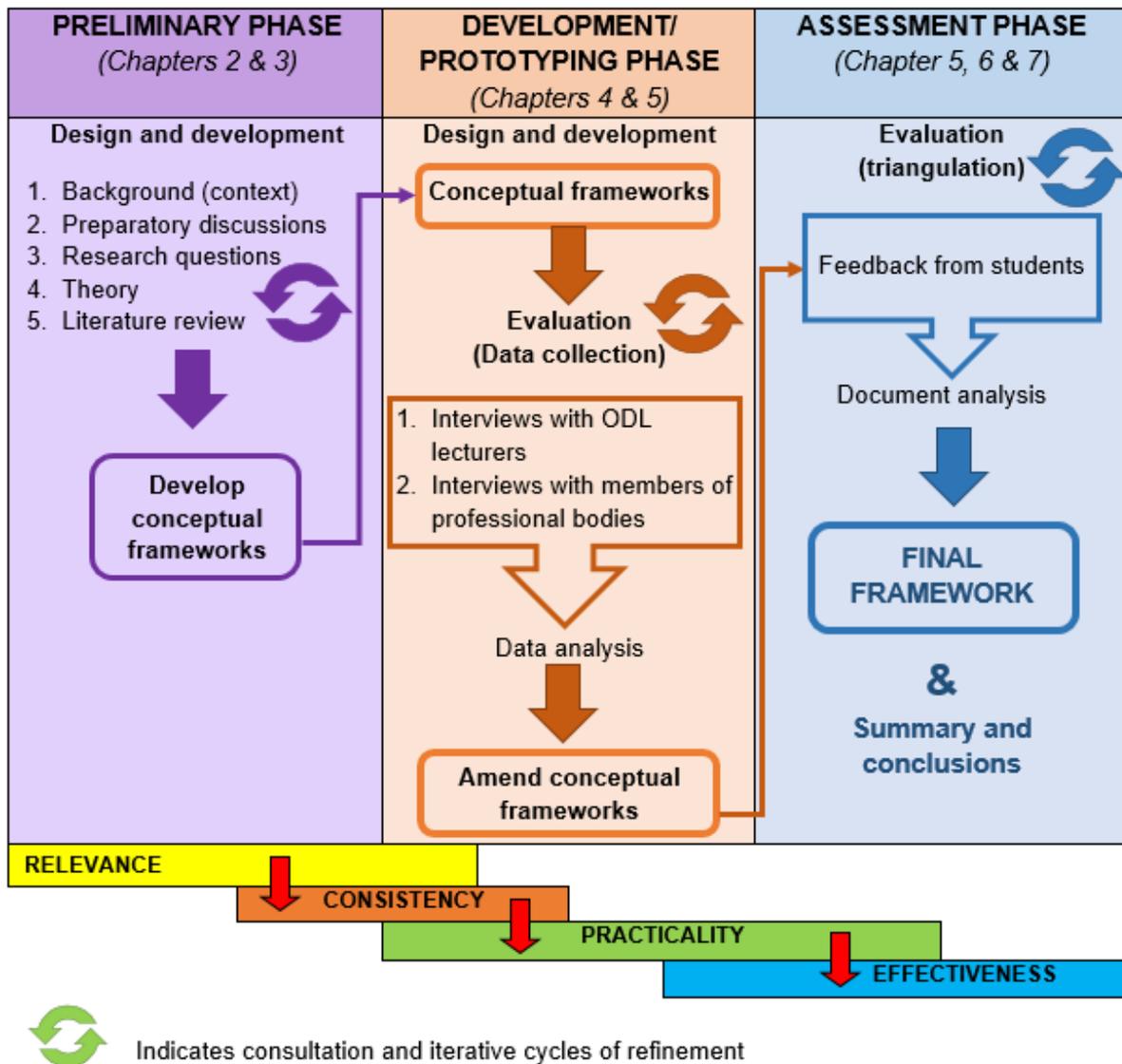


Figure 7.3: Diagram demonstrating the design-based research method used in this study

Source: Own compilation (based on Goff & Getenet 2017:111,115; Nieveen & Folmer 2013:154–165; Plomp 2013:19,30).

The final conceptual framework on non-venue-based alternative assessments for undergraduate accountancy modules in ODL, was discussed in detail in Chapter 5 (Figure 5.8). This framework was combined with the final conceptual framework of the theoretical aspects in Chapter 6 (Figure 6.7) and resulted in the following final framework (Figure 7.4). Figure 7.4 is a visual representation of the institutional, neo-institutional and stakeholder theories and how it was applied to the identified aspects and issues that had an impact on the compilation of the final framework of non-venue-based alternative assessments at an ODL institution. As discussed in previous

chapters, the symmetrical bi-directional arrows indicate a two-way, reinforcing relationship, which makes the linkage between aspects very strong. Unidirectional arrows have a single directional effect.

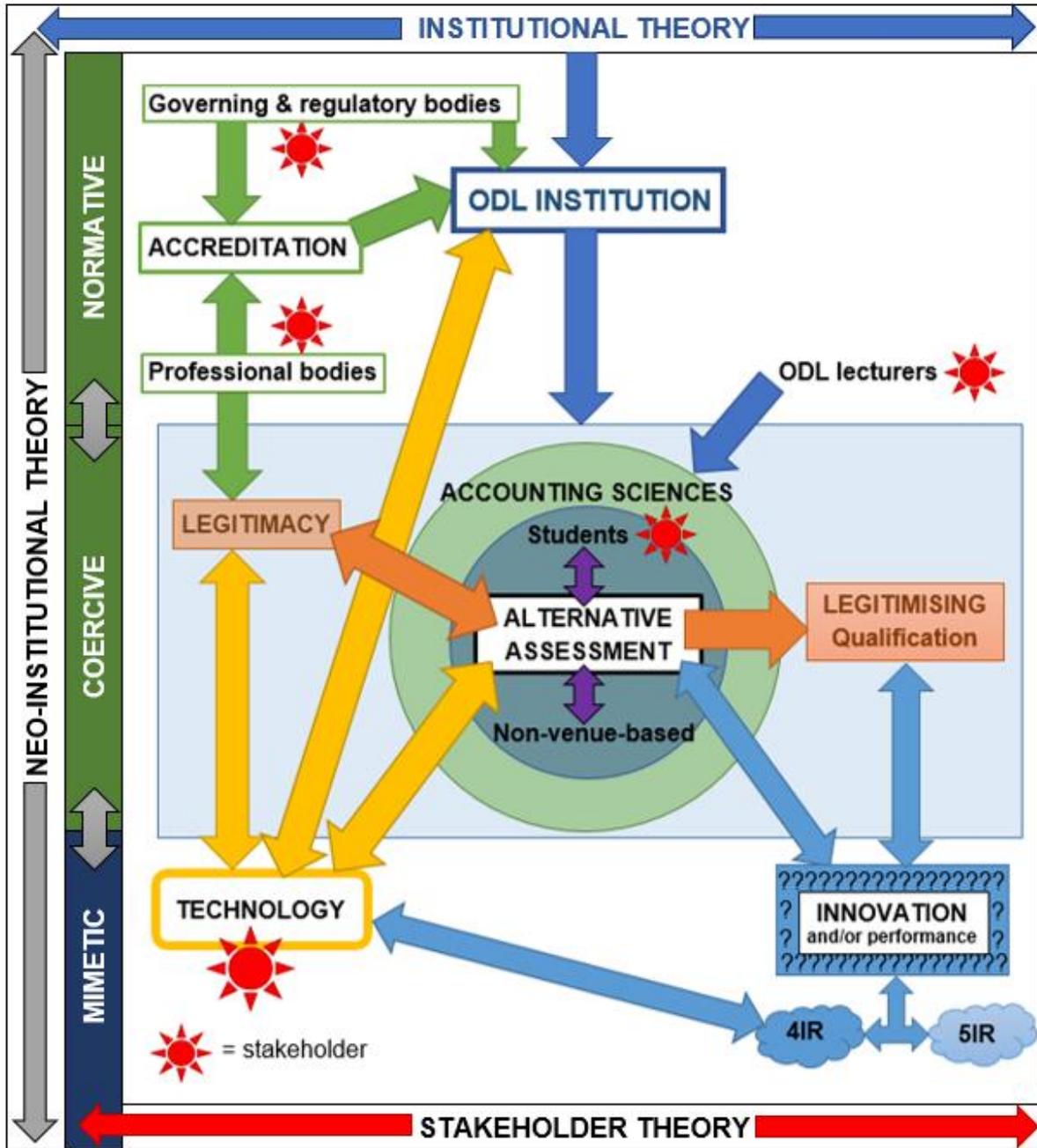


Figure 7.4: Alternative assessment framework developed including the application of the theory

Source: Own compilation

In Figure 7.4, it is demonstrated how the institutional theory affects the institution and specifically internal issues. However, due to the greater complexity of the ODL institution, external influences (such as technology) have an effect, resulting in aspects of the neo-institutional theory becoming even increasingly relevant. This complexity together with the mimetic forces of technology and innovation create uncertainty. However, it became clear from the data analysis that coercive and normative forces result in more certainty. The alignment of these isomorphic forces resulted in legitimacy. Due to the importance of technology in the ODL environment, it became clear that technology should be anthropomorphically considered a stakeholder in the ODL institution. The inclusion of stakeholder theory creates improved performance and the potential for innovation in order to ensure the legitimacy of qualifications. The interlocking of the theories was discussed in detail in Chapter 6, and cross-references were made to the three important figures (Figures 6.2, 6.3 and 6.6).

7.4 DISCUSSION

The following contributions were evident from this research and are discussed below.

7.4.1 Methodological contribution

The study was conducted in an ODL environment and an interpretivist-to-pragmatist research paradigm was chosen because the research objectives included various macro and micro factors that had an influence on the research objectives. A qualitative data analysis was done. Semi-structured interviews were conducted with ODL accountancy lecturers and members of professional accounting bodies. The data analysis and interpretation of interviews followed an interpretivist research paradigm (see sections 4.3, 4.5 and 4.7.1.1). The document analysis used for triangulation followed a pragmatic view (see sections 4.3, 4.5 and 4.7.1.2). Design-based research was an effective research method for this study as it allowed for iterative cycles of evaluation and redevelopment of the frameworks as indicated in Figure 7.3. It also linked well with the foundational (institutional and neo-institutional) theories on which the study was based and allowed for the inclusion of stakeholder theory as instrumental theory at the data analysis stage. A final framework as indicated in Figure 7.4, integrated the theories applied and the different aspects resulting from the study to

develop an alternative assessment framework for undergraduate accountancy modules in ODL. This was the overall objective of the current study.

7.4.2 Substantive contribution

There was very little literature available on non-venue-based alternative assessments and specifically in accounting sciences. In addition to the normal accreditation of the governing and regulatory bodies, accounting sciences is also governed by the accreditation of professional bodies. To ensure continued accreditation, there should be compliance by the specific qualifications with the competency frameworks of the relevant professional accounting bodies (see Figure 7.4).

7.4.3 Scientific contribution

From the data analysis, the following contributions were made to the existing theories:

7.4.3.1 Institutional and neo-institutional theory

Three themes resulted from the data analysis, namely:

- ‘More certainty’ complemented ‘uncertainty’ as the initial contribution to institutional and neo-institutional theory, allowing us to read institutional and neo-institutional theory with a lens of certainty. This is similar to the manner in which the isomorphisms factor in uncertainty is read.
- Interventions resulting from the practical application of institutional theory and neo-institutional theory to alternative assessments can be more formally scoped or more open-ended, coherently relating to the initial conditions of ‘uncertainty’ complemented with ‘more certainty’ in the first theme.
- Legitimacy was achieved (with examples – see subsection 6.4.1.3). The integrity of qualifications must be protected by adhering to standards and other requirements from professional as well as governing and regulatory bodies to protect the survival of the institution.

These themes culminated in the novel contribution to theory as provided in the assertion that this model should be seen for its aggregated contribution to new thinking on institutional and neo-institutional theories, particularly emphasising the addition of

more certainty to the theoretical basis, but also the alignment between Theme 1 and Theme 2, which led to Theme 3 as discussed in section 6.4.1.

7.4.3.2 Stakeholder theory

Two themes resulted from the data analysis, namely:

- Technology should be considered an anthropomorphic stakeholder in creating, improving or restructuring of institutions (according to the institutional and neo-institutional theories) due to its importance for non-venue-based alternative assessments. This led to the inclusion of stakeholder theory as instrumental theory at the data analysis stage.
- The legitimacy outcome of the institutional and neo-institutional theory was extended to stakeholder theory with technology as stakeholder. This extension was to create a better performance and to provide potential for innovation in the process.

One of the additional objectives of this study was to suggest ways to verify the identity of students in an ODL environment. Various aspects were addressed in the current study to address this objective and 4IR and 5IR innovations in technology will allow for even more possibilities. At the aggregate level of assertion around theory, the central assertion of the interlocking of two substantive theoretical spaces when scholars consider or entertain the convening and instrumental power of technology as being placed hierarchically with human stakeholders, was made. When considering this premise, spaces are opened for innovation and the advancement of the Internet of Things and the 4IR as well as the 5IR.

These assertions from the empirical data addressed the theoretical gaps. In addition to the theoretical contributions, it was clear from the data analysis that if technology is in place, innovation can possibly improve performance to assist the legitimising of non-venue-based alternative assessments in accounting sciences. Therefore, it addresses the additional objective of the study to determine whether ODL universities in South Africa could introduce technology-enhanced non-venue-based alternative assessments to replace traditional venue-based examinations for undergraduate modules in accounting sciences, if technology is in place. The outcome will be that

professional and governing bodies should not have a problem with the accreditation of the qualifications offered by ODL institutions. This aspect addressed the additional objective of the current study to determine whether non-venue-based alternative assessment methods will influence the accreditation of professional accounting bodies. The importance of technology as anthropomorphic stakeholder in the institution is thereby reinforced.

One of the additional objectives of the current study was to determine the type of alternative assessments that should be used to assess accounting sciences effectively in an ODL environment. Non-venue-based alternative assessments, such as take-home examinations, online timed assessments, portfolios and e-portfolios as well as continuous assessments can be used in accounting sciences. Specifically, the inclusion of case studies in combination with the various other alternative assessments mentioned above was considered a valuable method to assist with students' learning competencies that cannot necessarily be learned or assessed with venue-based examinations.

7.5 RECOMMENDATIONS

Participating ODL lecturers and members of professional accounting bodies believed that until the legitimacy of qualifications can be guaranteed by the efficient use of technology to ensure and verify the identity of students, final examinations should be venue-based.

The following areas of further research are therefore recommended to ensure the legitimacy of non-venue-based alternative assessments:

- Further research is required on the most cost-saving and effective methods (hardware and software) available for identity verification for both the institution and students.
- The institution should investigate and implement the latest technology to assist with identity verification of students in an ODL environment in terms of both formative and summative assessment. This could include a combination of technology available, such as biometrics in combination with proctoring.

- Biometrical information of students should be obtained as part of the registration process. The institution should investigate what the best methods are to store this information to ensure compliance with the PoPI Act.
- Methods to monitor the continued verification of the identity of students during assessments should be investigated. This should include verification of the biometrics during the assessment against the biometrics at registration of every registered student and the use of proctoring or other innovative methods to monitor and verify the identity of students continuously.
- Future research can include questionnaires to first-year, second-year and third-year accountancy students as well as lecturers on the necessary skills and competencies necessary to complete alternative assessments. The knowledge of students on ethics over the three years can also be determined.

7.6 LIMITATIONS

This study was conducted in an ODL context only, with the focus on distance learning. The findings and results will not necessarily be applicable to other universities in South Africa. However, the principles can be applied in a contact university as more and more universities are making use of non-venue-based assessments.

In this study, the focus was on undergraduate accountancy modules only. The same study on postgraduate accountancy modules will not necessarily have the same results.

Only qualitative research was used in the study and one of the limitations is that the findings cannot necessarily be extended with the same degree of certainty that quantitative studies can.

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ANNEXURE 1: RESEARCH INTERVIEW SCHEDULE

1. Have you ever been involved in non-venue based assessment?
If yes – please describe your experience with the process?
2. a) Are you aware of any other non-venue based assessments in ODL that were not described in the information sheet? (If yes – please explain)
b) In your opinion are there any of the mentioned non-venue based alternative assessments that are feasible in Accounting Sciences in ODL, specifically in your subject area? Why do you say that?
3. Regarding students who take part in non-venue based alternative assessments, in your opinion:
 - a) Is it possible to verify the identity of these students?
 - b) How do you think the identity of students can be verified? Are you aware of any hardware that can assist?
 - c) What will the ethical considerations be?
 - d) Do you have any other concerns regarding academic integrity (honesty) of students?
4. Do you think the case entity's systems will be able to support any form of technology enhanced alternative assessment? Explain which ones could be supported.
5. In your opinion, why or why not will professional bodies like SAICA, ACCA and CIMA, accept or not accept non-venue based alternative assessments as part of the route to obtain a professional qualification?
6. In your opinion, in what way will non-venue based technology enhanced alternative assessments influence the accreditation of university qualifications (governing bodies like SAQA, DHET and CHE)?
7. Explain the possible opportunities or concerns you have regarding non-venue based technology enhanced alternative assessments.
8. If you could design a non-venue based alternative assessment:
 - a) How will you structure it? You are welcome to illustrate this by way of a drawing or diagram.
 - b) How will you address any opportunities or concerns around non-venue based alternative assessments?
9. Is there anything else to consider?

ANNEXURE 2: INFORMATION SHEET

From the literature various alternative *non-venue based assessments* are available. It includes the following:

- **Take home examination** - In the ODL-context take-home assessments are defined as assessments that must be completed by students without assistance, over a longer period of time than the usual two-hour examinations. It can be in the form of a case study, an essay, or answers that may require a longer duration. Take-home assessments are downloaded from the LMS and do not necessarily have to be completed online, but the answer must be submitted online, at or before a prescheduled time.
- **Online timed assessment** – In ODL timed online assessments are arranged for a set period. These assessments are similar to take-home assessments but open and close at a predefined time and are completed online on the LMS, in an uninterrupted manner.
- **Portfolio** - A portfolio is defined as a compilation of a variety of documents and artefacts that demonstrate the achievement of learning outcomes and their associated assessment criteria so that assessors can judge the competence of students from the evidence submitted. Knowledge, skills and values from all aspects of a module are integrated in a portfolio. It can also provide evidence of the successful application of what has been learnt in a module. Portfolios provide the opportunity for students to showcase their innovation and creativity in teaching and learning.
- **E-Portfolio** - An e-portfolio is used to develop digital literacy among students and others. The e-portfolio facilitates the management of documents, media, artefacts and communication between different students and between lecturers and students. It is a tool used to create innovations and creativity in teaching and learning and integrates a whole range of media representing different dimensions of learning such as videos, audio, photographs, web links and text-based documents.
- **Peer-review** - A peer review assessment is defined as a structured arrangement for peers to consider the level, value, worth, quality or success of the products or learning outcomes for other students. It means that ODL students assess and give

feedback on the work of other students registered in the same semester or year for the same module.

- **Webinar** - A webinar is defined as a web-enabled interactive session linking students and assessors from different sites using computer networks to transmit audio, video and text data for assessment purposes.
- **Continuous assessment** - Continuous assessment is defined as an approach to assessment whereby the student is aware of the quality of his/her own learning when the learning takes place. To put it in different terms, continuous assessment recognises that the proof of learning is ongoing as opposed to at the end of a learning period. The students are therefore assessed while they proceed along the learning path.

ANNEXURE 3: INFORMED CONSENT – LECTURERS

LETTER OF CONSENT (on letterhead)

PARTICIPANT INFORMATION SHEET

Ethics clearance reference numbers: 2017_CAS_057 and 2018_CAS_038

Research permission reference number: 2018_RPSC_044_RS

1 March 2019

Title: **Developing an alternative assessment framework for undergraduate accountancy modules in open distance learning (ODL)**

Dear Prospective Participant

My name is Odette Swart and I am doing research under the supervision of Prof Bienkie Shuttleworth from the College of Accounting Sciences, Unisa. This study is towards the fulfilment of a PhD in Accounting Sciences at the University of South Africa. We invite you to participate in the study entitled: Developing an alternative assessment framework for undergraduate accountancy modules in open distance learning (ODL).

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect important information that could establish an acceptable assessment framework, in an ethical manner, in accounting sciences in an open distance learning environment acceptable for students, lecturers and professional bodies.

WHY AM I BEING INVITED TO PARTICIPATE?

One-on-one interviews will be conducted with CAS undergraduate module responsible lecturers (to include at least three lecturers per main subject area for their experience in the different subject areas, namely Financial Accounting, Management Accounting, Auditing and Taxation) and with other personnel in management). Members of professional bodies in South Africa and internationally (e.g. SAICA and CIMA) will also be interviewed through one-on-one interviews or via Skype to test the framework. Your contact details were obtained from the entity's address book. The approximate number of participants in this study will not exceed 30 in total.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study involves audio recording of semi-structured interviews relating to alternative technology enhanced assessments. The expected duration of participation in the interviews will be approximately 30 minutes. Participants' opinion will be asked on various aspects relating to technology enhanced learning assessment methods and the possible impact thereof.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participation in this study is voluntary and you are under no obligation to consent. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

Developing an alternative assessment framework for ODL undergraduate accounting sciences modules is a possible solution to the assessment challenges faced by accounting graduates and universities in an ODL environment. This framework can assist lecturers and professional bodies to determine the validity and reliability of an alternative method to traditional venue-based assessments.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

This study will not result in any potential level of inconvenience and/or discomfort to the participant. Information will not be of a sensitive nature and all responses will be strictly confidential.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

Apart from the primary researcher and supervisor, only the transcriber/external coder will have access to the data, but they will sign a confidentiality agreement to maintain

confidentiality. Your answers (anonymous) may be reviewed by people responsible for making sure that the research is properly conducted, including the transcriber, external coder, and members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Anonymous data may be used for other purposes, such as a research reports, journal articles and/or conference proceedings. Your privacy will, however be protected in any publication of the information as no individual participants will be identified.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet at my personal residence for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval, if applicable. Hard copies will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme after five years.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

You will not receive any payments or incentives for participating in this study.

HAS THE STUDY RECEIVED ETHICS APPROVAL?

This study has received written approval from the Research Ethics Review Committee of the College of Accounting Sciences, Unisa as well as the Unisa Research Permission Subcommittee (RPSC). A copy of the approval letters can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Odette Swart on 0833021107 or per email swarto@unisa.ac.za. The findings will be accessible for 5 years.

Should you require any further information or want to contact the researcher about any aspect of this study, please contact Odette Swart on 0833021107 or per email swarto@unisa.ac.za.

Should you have concerns about the way in which the research has been conducted, you may contact Prof Bienkie Shuttleworth at shuttcc@unisa.ac.za or on 012 429 4763. Contact the research ethics chairperson of the College of Accounting Sciences, Lourens Erasmus at erasmlj1@unisa.ac.za or on 012 429 4571 if have any ethical concerns.

Thank you for taking time to read this information sheet and for participating in this study.

I agree, of my own free will, to participate in this study.

.....
Participant's signature:

.....
Date:

If you choose to participate, please complete the following four questions which will assist with the demographic profile for the study (mark with an "X" where applicable):

1. In which age bracket do you fall?

25 - 34	
35 - 44	
45 - 54	
55 - 65	

2. Please indicate how many years' teaching experience do you have in tertiary education, specifically in Accounting Sciences?

Less than 5	
5 - 9	
10 - 14	
15 - 19	
20 - 24	
25 - 29	
30 and more	

3. Please indicate the discipline you currently teach?

Auditing	
Financial Accounting	
Management Accounting	
Taxation	
Computerised bookkeeping	

4. Please indicate for which level students you lecture?

NQF level 5 (first-year)	
NQF level 6 (first year)	
NQF level 6 (second-year)	
NQF level 7 (third-year)	

Thank you!

ANNEXURE 4: INFORMED CONSENT TEMPLATE – MEMBERS OF PROFESSIONAL BODIES

PERMISSION LETTER (on letterhead)

Request for permission to conduct research at the
_____ (name of professional body)

Developing an alternative assessment framework for undergraduate accountancy modules in open distance learning (ODL)

12 April 2019

_____ (contact person's name)
_____ (contact person's building no. or room no.)
_____ (contact person's Department)
_____ (contact person's telephone number and email address)

Dear _____ (contact person's title and name),

I, Odette Swart am doing research under the supervision of Prof Bienkie Shuttleworth, in the College of Accounting Sciences, towards a PhD at the University of South Africa. I invite you to participate in the study entitled: *Developing an alternative assessment framework for undergraduate accountancy modules in open distance learning (ODL)*.

The aim of this study is to create a framework to optimally assess accounting sciences' undergraduate ODL students by way of non-venue based alternative assessment methods (instead of the traditional venue-based examinations) that is acceptable to the accountancy professional bodies and which will enable the institution to make use of it. This framework can assist lecturers and professional bodies to determine the validity and reliability of an alternative method to traditional venue-based assessments.

_____ (name of professional body) has been selected because input is required from the professional bodies to test the framework and to determine if alternative assessment methods will affect the current and/or future accreditation status of the qualification.

The study will entail semi-structured interviews with ODL undergraduate lecturers and other ODL personnel as well as with members of professional bodies. Demographical information, experience in the relevant field and professional opinion on knowledge, pedagogies and design characteristics will be discussed

Unisa is the largest ODL institution in South Africa and the African continent. A few traditional residential universities have recently entered the distance education market. There is a need to train ethical accountants in South Africa and globally. It is therefore important to establish an acceptable assessment framework that can demonstrate to lecturers and professional bodies accounting students' expected ethical behaviour during the assessment process. The benefits of this study are that the results of this study could be applicable to all universities.

There are no potential risks involved in the study.

Feedback procedure will entail making the framework available to _____ (name of professional body).

Yours sincerely



Odette Swart
Head: Tuition and Learning Support
College of Accounting Sciences
Unisa

I agree, of my own free will, to participate in this study.

.....
Participant's signature:

.....
Date:

If you choose to participate, please complete the following two questions which will assist with the demographic profile for the study (mark with an “X” where applicable):

1. In which age bracket do you fall?

25 - 34	
35 - 44	
45 - 54	
55 - 65	

2. Please indicate how many years' professional experience do you have in Accounting Sciences?

Less than 5	
5 - 9	
10 - 14	
15 - 19	
20 - 24	
25 - 29	
30 and more	

ANNEXURE 5: ETHICAL CLEARANCE

Original ethical clearance:



UNISA COLLEGE OF ACCOUNTING SCIENCES ETHICS REVIEW COMMITTEE

Date 2017-11-21

Dear Ms O Swart

ERC Reference:
2017_CAS_057
Name: Ms O Swart
Student/ Staff #:1114670

**Decision: Ethics Approval from
2017-11-21 to 2022-11-20**

Researcher: Ms O Swart
swarto@unisa.ac.za

Working title of research:

Developing an alternative assessment framework for undergraduate accountancy modules in open distance learning (ODL)

Qualification: Postgraduate research

Thank you for the application for research ethics clearance by the Unisa College of Accounting Sciences Research Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period indicated above.

The application was reviewed by the College of Accounting Sciences Research Ethics Review Committee on 21 November 2017 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment, and approved.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College of Accounting Sciences Research Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.



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4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No field work activities may continue after the expiry date of this certificate.

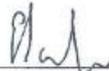
Note:

The reference number of this certificate should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Yours sincerely,



Ms L Grebe
Chair of CAS RERC
E-mail: grebel@unisa.ac.za
Tel: 012 429 4994



Prof E Sadler
Executive Dean CAS



DRERC 25.04.17 - Decision template (V2) - Approve

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Amended ethical clearance:



UNISA COLLEGE OF ACCOUNTING SCIENCES ETHICS REVIEW COMMITTEE

Date 2018-08-22

Dear Ms O Swart

**Decision: Ethics Approval from
2018-08-22 to 2022-11-20**

Original ERC Reference:
2017_CAS_057
Amended ERC reference :
2018_CAS_038
Name: Ms O Swart
Student/ Staff #:1114670#

Researcher: Ms O Swart
swarto@unisa.ac.za

Working title of research:

**Developing an alternative assessment framework for undergraduate accountancy
modules in open distance learning (ODL)**

Qualification: Postgraduate research (PhD)

Thank you for the application for research ethics clearance by the Unisa College of Accounting Sciences Research Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period indicated above.

The application was reviewed by the College of Accounting Sciences Research Ethics Review Committee on 22 August 2018 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment, and approved.

The College of Accounting Sciences Research Ethics Review Committee noted and approved the information letter for the experts/management.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College of Accounting Sciences Research Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No field work activities may continue after the expiry date of this certificate.

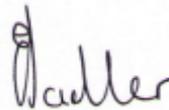
Note:

The reference number of this certificate should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Yours sincerely,



Prof L J Erasmus
Chair of CAS RERC
E-mail: erasmlj1@unisa.ac.za
Tel: 012 429 8844



Prof E Sadler
Executive Dean CAS

RPSC clearance:



**RESEARCH PERMISSION SUB-COMMITTEE (RPSC) OF THE SENATE
RESEARCH, INNOVATION, POSTGRADUATE DEGREES AND
COMMERCIALISATION COMMITTEE (SRIPCC)**

30 August 2018

**Decision: Research Permission
Approval from 1 September 2018
until 31 December 2019.**

Ref #: 2018_RPSC_044_RS
Ms. Odette Swart
Student #: N/A
Staff #: 1114670

Principal Investigator:

Ms. Odette Swart
Department of Financial Intelligence
School of Applied Accountancy
College of Accounting Sciences
Unisa
swarto@unisa.ac.za

Supervisor: Prof Bienkie Shuttleworth, shuttcc@unisa.ac.za, 012 429 4763/ 083 230 0809

**Developing an alternative assessment framework for undergraduate accountancy
modules in open distance learning (ODL)**

Your application regarding permission to conduct research involving UNISA employees, students and data in respect of the above study has been received and was considered by the Research Permission Subcommittee (RPSC) of the UNISA Senate, Research, Innovation, Postgraduate Degrees and Commercialisation Committee (SRIPCC) on 23 August 2018.

It is my pleasure to inform you that permission for the study has been granted. You may:

1. Conduct personal face-to-face interviews with 15 – 20 CAS undergraduate lecturers in the four main subject areas.
2. Send the framework to the experts for their inputs and refinement of the framework. The experts are the Academic Planner, Recognition of Prior Learning specialist, Alternative assessment specialist, IT specialist and Directorate of Information and Analysis Statistics specialists.



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3. Gain access to Unisa data and documents as outlined in the application.

You are requested to submit a report of the study to the Research Permission Subcommittee (RPSC@unisa.ac.za) within 3 months of completion of the study.

The personal information made available to the researcher(s)/gatekeeper(s) will only be used for the advancement of this research project as indicated and for the purpose as described in this permission letter. The researcher(s)/gatekeeper(s) must take all appropriate precautionary measures to protect the personal information given to him/her/them in good faith and it must not be passed on to third parties. The dissemination of research instruments through the use of electronic mail should strictly be through blind copying, so as to protect the participants' right of privacy. The researcher hereby indemnifies UNISA from any claim or action arising from or due to the researcher's breach of his/her information protection obligations.

Note:

The reference number 2018_RPSC_044_RS should be clearly indicated on all forms of communication with the intended research participants and the Research Permission Subcommittee.

We would like to wish you well in your research undertaking.

Kind regards,



pp. Dr Retha Visagie – Deputy Chairperson: RPSC

Email: visagr@unisa.ac.za, Tel: (012) 429-2478

Prof Lessing Labuschagne – Chairperson: RPSC

Email: llabus@unisa.ac.za, Tel: (012) 429-6368



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ANNEXURE 6: THEMES, CODES AND CODE GROUPS: DATA ANALYSIS

The following screenshots were made from the data analysis done in ATLAS.ti™ 8:

1. THEMES (NETWORK GROUPS)

Search Network Groups						
	Name	▲	Size	Modified by	Created	Modified
	Accreditation		2	Swarto	2019/05/21 15:55	2019/05/21 15:55
	Assessment in accounting sciences		11	Swarto	2019/05/21 16:03	2019/05/21 16:03
	Legitimacy		2	Swarto	2019/05/21 15:57	2019/05/21 15:57
	ODL institutions		1	Swarto	2019/05/21 15:57	2019/05/21 15:57
	Technology		2	Swarto	2019/05/21 15:56	2019/05/21 15:56

2. TOTAL NUMBER OF CODES

▲  PhD data analysis Odette
▶  Documents (22)
▶  Codes (186)
▶  Memos (0)
▶  Networks (20)
▶  Document Groups (0)
▶  Code Groups (21)
▶  Memo Groups (0)
▶  Network Groups (5)
▶  Multimedia Transcripts (0)

3. CODES AND CODE GROUPS

Search Code Groups		Search Codes	
Code Groups		Name	Grounded
Accounting sciences (5)		ACC - Q2(b) Auditing	4
Accreditation by governing bodies (12)		ACC - Q2(b) Computerised bookkeeping	2
Accreditation of professional bodies (8)		ACC - Q2(b) Financial Accounting	4
Assessment skills (14)		ACC - Q2(b) Management accounting	5
Benefits of AA (3)		ACC - Q2(b) Taxation	3
Concerns re AA (9)		ALT ASSESS - Convenient for students	7
Design (8)		ALT ASSESS - Cost saving for the institution	4
Ethics (31)		ALT ASSESS - Levels of uncertainty	7
Experience (3)		ALT ASSESS - More research needed~	4
Formative vs summative assessment (3)		ALT ASSESS - No control re identity of student	6
Identity verification (10)		ALT ASSESS - Plagiarism impact	3
Innovation (2)		ALT ASSESS - Q1 NO only venue-based	4
Involvement in AA (2)		ALT ASSESS - Q1 YES involved in non-venue based	19
ODL institution (4)		ALT ASSESS - Q2(b) NO due to liability issues	1
Professional skills needed (10)		ALT ASSESS - Q2(b) Objectivity of assessment	1
Size of student population (2)		ALT ASSESS - Q7 Concerns re alternative assessments	11
Systems (10)		ALT ASSESS - Q7 Opportunities re alternative assessments	18
TEL (16)		ALT ASSESS KNOW - Q2(a) Feasible in subjectarea	4
Theory (17)		ALT ASSESS KNOW - Q2(a) NO additional AA methods	20
Tools to assess (6)		ASSESS METHOD - Q2(b) Case studies	12
Types of AA used or applicable for AA (12)		ASSESS METHOD - Q2(b) Continuous assessment	12
		ASSESS METHOD - Q2(b) e-Portfolio	5
		ASSESS METHOD - Q2(b) Most methods applicable in ac...	6
		ASSESS METHOD - Q2(b) Online timed assessment	22
		ASSESS METHOD - Q2(b) Peer review	8
		ASSESS METHOD - Q2(b) Portfolio	16
		ASSESS METHOD - Q2(b) Self-assessment	4
		ASSESS METHOD - Q2(b) Take home assessment	14
		ASSESS METHOD - Q2(b) Webinar	6
		ASSESS METHOD TOOLS - Q2(a) Blog	2
		ASSESS METHOD TOOLS - Q2(a) Discussion forum	2
		ASSESS METHOD TOOLS - Q2(a) Rubrics	3
		ASSESS METHOD TOOLS - Q2(a) Video	3
		ASSESS METHOD TOOLS - Q2(a) Weekly tool	1

Code Groups	Name	Grounded
Accounting sciences (5)	ASSESS METHOD TOOLS - Q2(a) Weekly tool	1
Accreditation by governing bodies (12)	ASSESS METHOD TOOLS -Q2(b) Fully online	4
Accreditation of professional bodies (8)	ASSESS RPL - Q2(b) Lifelong learning	1
Assessment skills (14)	ASSESS SKILLS - Accuracy	1
Benefits of AA (3)	ASSESS SKILLS - Completeness	1
Concerns re AA (9)	ASSESS SKILLS - Q2(b) Analyse	3
Design (8)	ASSESS SKILLS - Q2(b) Connected and share 4th IR	1
Ethics (31)	ASSESS SKILLS - Q2(b) Focus on learning skills	7
Experience (3)	ASSESS SKILLS - Q2(b) Meta-cognitive skills	4
Formative vs summative assessment (3)	ASSESS SKILLS - Q2(b) Practical	10
Identity verification (10)	ASSESS SKILLS - Q2(b) Real life experience	10
Innovation (2)	ASSESS SKILLS - Q2(b) Valuable learning experience	7
Involvement in AA (2)	ASSESS SKILLS - Q2(b) Work throughout year	1
ODL institution (4)	ASSESS SKILLS - Q6 Collaboration skills, working in groups	3
Professional skills needed (10)	ASSESS SKILLS - Q6 Critical thinking skills	8
Size of student population (2)	ASSESS SKILLS - Q6 Relevant skills	7
Systems (10)	ASSESS SKILLS - Q6 Technical competence	9
TEL (16)	ASSESS TYPE - Q2(b) Balance between formative and su...	4
Theory (17)	ASSESS TYPE - Q2(b) Formative	6
Tools to assess (6)	ASSESS TYPE - Q2(b) Summative	3
Types of AA used or applicable for AA (12)	DESIGN - Fully computerised	2
	DESIGN - Q8 Interpretive approach~	2
	DESIGN - Q8(a) Accessible location to do assessment~	2
	DESIGN - Q8(a) Flexible	9
	DESIGN - Q8(a) Immediate feedback and results	2
	DESIGN - Q8(a) Own design	7
	DESIGN - Q8(b) Concerns	4
	DESIGN - Q8(b) Opportunities	2
	ETHICS - Balance requirements with societal injustices~	10
	ETHICS - Fraudulent assessment areas~	23
	ETHICS - Plagiarism	14
	ETHICS - Q3 Context dependent	1
	ETHICS - Q3(c) Enforce consequences in case of academ...	11
	ETHICS - Q3(c) Exclusion of population without access t...	2

Search Code Groups		Search Codes	
Code Groups		Name	Grounded
◇◇ Accounting sciences (5)		● ◇ ETHICS - Q3(c) Exclusion of population without access t...	2
◇◇ Accreditation by governing bodies (12)		● ◇ ETHICS - Q3(c) Inform students of consequences	4
◇◇ Accreditation of professional bodies (8)		● ◇ ETHICS - Q3(c) Limited access to open book exam	1
◇◇ Assessment skills (14)		● ◇ ETHICS - Q3(c) Must inform student of making use of id...	5
◇◇ Benefits of AA (3)		● ◇ ETHICS - Q3(c) No issues ito privacy of students	4
◇◇ Concerns re AA (9)		● ◇ ETHICS - Q3(c) No view on ethical considerations	1
◇◇ Design (8)		● ◇ ETHICS - Q3(c) POPI Act	5
◇◇ Ethics (31)		● ◇ ETHICS - Q3(c) Student must give consent	9
◇◇ Experience (3)		● ◇ ETHICS - Q3(c) Systemic responses to complexity~	14
◇◇ Formative vs summative assessment (3)		● ◇ ETHICS - Q3(c)Q5 Ethics education	12
◇◇ Identity verification (10)		● ◇ ETHICS - Rely on their integrity	3
◇◇ Innovation (2)		● ◇ EXP - Q1 Experience - it is working	7
◇◇ Involvement in AA (2)		● ◇ EXP - Q1 Highly negative	2
◇◇ ODL institution (4)		● ◇ EXP - Q1 Ways to limit dishonesty	11
◇◇ Professional skills needed (10)		● ◇ GOV - Q6 Demonstration of competence	1
◇◇ Size of student population (2)		● ◇ GOV - Q6 Don't know	1
◇◇ Systems (10)		● ◇ GOV - Q6 Effective combinations for AA	6
◇◇ TEL (16)		● ◇ GOV - Q6 Employability of students	4
◇◇ Theory (17)		● ◇ GOV - Q6 Governing body accreditation concern	8
◇◇ Tools to assess (6)		● ◇ GOV - Q6 Identify risk and inform gov bodies of how it w...	3
◇◇ Types of AA used or applicable for AA (12)		● ◇ GOV - Q6 Micro-qualifications	3
		● ◇ GOV - Q6 NO/limited concern re accreditation	7
		● ◇ GOV - Q6 Possibly acceptable	1
		● ◇ GOV - Q6 Protection of integrity of qualifications	11
		● ◇ GOV - Q6 Reputational risk	3
		○ ◇ KNOW - NO knowledge	2
		● ◇ KNOW - Q3(a) Not possible to verify identity	11
		● ◇ KNOW - Q3(b) NO/limited knowledge of identity verifica...	6
		○ ◇ NUM - Q1 Large number of students	7
		○ ◇ NUM - Q1 Small number of students	13
		● ◇ PRESSURE - Q3(b) Cost and viability in ODL	13
		● ◇ PRESSURE - Q3(d) Access to internet/wifi	12
		● ◇ PRESSURE - Q3(d) Access to technology/hardware	15
		● ◇ PRESSURE - Q3(d) Adaptive system: student will do anyt...	15

Search Code Groups		Search Codes	
Code Groups		Name	Grounded
Accounting sciences (5)		● ◇ PRESSURE - Q3(d) Adaptive system: student will do anyt...	15
Accreditation by governing bodies (12)		● ◇ PRESSURE - Q3(d) Affordability of tuition	2
Accreditation of professional bodies (8)		● ◇ PRESSURE - Q3(d) Distance education = faceless	6
Assessment skills (14)		● ◇ PRESSURE - Q3(d) Will loose job	1
Benefits of AA (3)		● ◇ PRESSURE - Q3(d)Q8 Loadshedding	5
Concerns re AA (9)		● ◇ PRESSURE - Q4 Stability of Unisa systems	13
Design (8)		● ◇ PRESSURE - Q5 Equal and fair treatment	3
Ethics (31)		● ◇ PRESSURE - Q5 Limitation of variables during assessment	4
Experience (3)		● ◇ PRESSURE - Q6 Employability and method of interviewing	3
Formative vs summative assessment (3)		● ◇ PRESSURE - Q6 Spotting - risk-based learning...not mast...	2
Identity verification (10)		● ◇ PRESSURE - Q8 Lack of standards in quality accounting e...	5
Innovation (2)		● ◇ PRESSURE -Q8 Access to accounting education	1
Involvement in AA (2)		● ◇ PRESSURES - Q8 Economy and scarce skills	3
ODL institution (4)		● ◇ PROF - Q5 Concern re students competence	6
Professional skills needed (10)		● ◇ PROF - Q5 Final summative assessment must be venue-...	4
Size of student population (2)		● ◇ PROF - Q5 NO/limited concern re accreditation	4
Systems (10)		● ◇ PROF - Q5 ODL institution to put systems in place	8
TEL (16)		● ◇ PROF - Q5 Professional accreditation concern	13
Theory (17)		● ◇ PROF - Q5 Professional code of conduct	1
Tools to assess (6)		● ◇ PROF - Q5 Requirement for professional membership	3
Types of AA used or applicable for AA (12)		● ◇ PROF - Q5 Waiting for HE to take the lead	1
		● ◇ PROF SKILLS - Q3(a) Professionalism and values	1
		● ◇ PROF SKILLS - Q5 Assessing skills	3
		● ◇ PROF SKILLS - Q5 Capable graduates	11
		● ◇ PROF SKILLS - Q5 Professional competence in workplace	2
		● ◇ PROF SKILLS - Q8 Ability to apply and adaptability	1
		● ◇ PROF SKILLS - Q8 Emotional intelligence (EQ)	0
		● ◇ PROF SKILLS - Q8 Need more than technical expertise	3
		● ◇ PROF SKILLS - Q8 Strategic thinking	1
		● ◇ PROF SKILLS - Q8 Team player	1
		● ◇ SYSTEMS - Q4 Backup plans available	4
		● ◇ SYSTEMS - Q4 Expectation that systems will support	6
		● ◇ SYSTEMS - Q4 Hardware and software support technology	2
		● ◇ SYSTEMS - Q4 Limitation of Unisa systems	10

Search Code Groups		Search Codes	
Code Groups		Name	Grounded
Accounting sciences (5)		SYSTEMS - Q4 Limitation of Unisa systems	10
Accreditation by governing bodies (12)		SYSTEMS - Q4 Moving to the Cloud	2
Accreditation of professional bodies (8)		SYSTEMS - Q4 myUnisa not available/offline - server pro...	8
Assessment skills (14)		SYSTEMS - Q4 Not sure if system can cope	7
Benefits of AA (3)		SYSTEMS - Trust in integrity of system	6
Concerns re AA (9)		TEL - Q2,3,8 Technology enhanced	15
Design (8)		TEL - Q3(a) Can verify identity with TEL in place	10
Ethics (31)		TEL - Q3(b) Access and exit code - proctoring	3
Experience (3)		TEL - Q3(b) Biometrics	3
Formative vs summative assessment (3)		TEL - Q3(b) Camera or webcam	17
Identity verification (10)		TEL - Q3(b) Continuous monitoring of identity/activities	8
Innovation (2)		TEL - Q3(b) Facial recognition	11
Involvement in AA (2)		TEL - Q3(b) Initial verification of identity	6
ODL institution (4)		TEL - Q3(b) Innovation	11
Professional skills needed (10)		TEL - Q3(b) Keystroke recognition	2
Size of student population (2)		TEL - Q3(b) Lock down browser	2
Systems (10)		TEL - Q3(b) Proctoring	8
TEL (16)		TEL - Q3(b) Retinal scanning	4
Theory (17)		TEL - Q3(b) Verification of identity at time of assessment	6
Tools to assess (6)		TEL - Q3(b) Virtual invigilator	8
Types of AA used or applicable for AA (12)		TEL - Q3(b) Voice recognition	1

Search Code Groups		Search Codes	
Code Groups		Name	Grounded
Accounting sciences (5)		TEL - Q3(b) Voice recognition	1
Accreditation by governing bodies (12)		TEL - Q3(b)8(a) Fingerprint recognition	9
Accreditation of professional bodies (8)		TEL - Q8(a) Artificial intelligence/4th IR	8
Assessment skills (14)		TEL - Q8(a) Gamification	1
Benefits of AA (3)		TEL - Q8(a) Regular virtual meetings/classes	2
Concerns re AA (9)		TEL - Q8(a) Similarity testing programme	3
Design (8)		TH_Coercive_address student-related issues~	25
Ethics (31)		TH_Mimetic_respond to complex cases~	25
Experience (3)		TH_Mimetic_technology provides alternatives~	45
Formative vs summative assessment (3)		TH_Neo Inst_acknowledges uncertainty~	37
Identity verification (10)		TH_Neo Inst_human-centric responses~	19
Innovation (2)		TH_Neo Inst_responsive intervention/s~	38
Involvement in AA (2)		TH_Neo Inst_self-reflection of lecturers~	25
ODL institution (4)		TH_Neo-Inst_draws from broader society~	10
Professional skills needed (10)		TH_Neo-Inst_improves legitimacy~	22
Size of student population (2)		TH_Neo-Inst_symbolic power~	4
Systems (10)		TH_Normative_standards from profession/academic~	51
TEL (16)		TH_Stakeholder_Audit Firms~	3
Theory (17)		TH_Stakeholder_close knowledge of students~	18
Tools to assess (6)		TH_Stakeholder_diverse groups for effectiveness~	5
Types of AA used or applicable for AA (12)		TH_Stakeholder_peer group~	10
		TH_Stakeholder_technology as stakeholder~	65
		TH_Stakeholder-appeals to broader stakeholders~	8
		VALID - Q3(a)(d) Identity verification	35
		VALID - Q3(b) Authenticity	1
		VALID - Q3(d) 3rd party involvement	19
		VALID - Q3(d) Academic misconduct	2
		VALID - Q3(d) Cheating	2
		VALID - Q3(d) Check prior records for inconsistencies	3
		VALID - Q3(d) Code of conduct / honesty declaration	10
		VALID - Q3(d) Copy from text books or other students	11
		VALID - Q3(d) Overload to reduce dishonesty	5
		VALID - Q3(d) Plagiarism	10
		VALID - Q3(d) Unethical behaviour	3

ANNEXURE 7: THEMES, CODES AND CODE GROUPS: DOCUMENT ANALYSIS

The following screenshots were made from the document analysis done in ATLAS.ti™ 8:

1. THEMES (NETWORK GROUPS)

Search Network Groups						
	Name ▲	Size	Modified by	Created	Modified	
	Assessment	4	Swarto	2019/07/15 11:09	2019/07/15 11:09	
	Legitimacy	1	Swarto	2019/07/15 11:09	2019/07/15 11:09	
	Technology	2	Swarto	2019/07/15 11:09	2019/07/15 11:09	

2. TOTAL NUMBER OF CODES

- ▶ PhD triangulation Odette
 - ▶ Documents (4)
 - ▶ Codes (43)
 - ▶ Memos (0)
 - ▶ Networks (7)
 - Document Groups (0)
 - ▶ Code Groups (9)
 - ▶ Memo Groups (0)
 - ▶ Network Groups (3)
 - Multimedia Transcripts (0)

3. CODES AND CODE GROUPS

Search Code Groups		Search Codes	
Code Groups		Name ▲	Grounded
ALT ASSESS METHODS (4)		<input type="radio"/> ALT ASSESS - Prefer AA	9
ALTERNATIVE OR TRADITIONAL (2)		<input type="radio"/> ALT ASSESS - Prefer venue based	8
ASSESS SKILLS (9)		<input type="radio"/> ASSESS METHOD - Continous assessment	10
BENEFITS OF AA (12)		<input type="radio"/> ASSESS METHOD - e-Portfolio/Portfolio	4
CONCERNS RE AA (4)		<input type="radio"/> ASSESS METHOD - Online timed assessment	4
ETHICS (1)		<input type="radio"/> ASSESS METHOD - Take home assessment	5
SYSTEMS (4)		<input type="radio"/> ASSESS SKILLS - Apply knowledge/thorough understandin	10
TECHNOLOGY ENHANCED (4)		<input type="radio"/> ASSESS SKILLS - Balance practical & theory	1
UG/PG module (3)		<input type="radio"/> ASSESS SKILLS - Better reflection of knowledge	9
		<input type="radio"/> ASSESS SKILLS - Collaboration with other students	5
		<input type="radio"/> ASSESS SKILLS - Computer skills improved	7
		<input type="radio"/> ASSESS SKILLS - Focus on learning skills	6

Search Code Groups		Search Codes	
Code Groups	Name	Grounded	
◇◇ ALT ASSESS METHODS (4)	○ ◇◇ ASSESS SKILLS - Focus on learning skills		6
◇◇ ALTERNATIVE OR TRADITIONAL (2)	○ ◇◇ ASSESS SKILLS - Real life experience		4
◇◇ ASSESS SKILLS (9)	○ ◇◇ ASSESS SKILLS - Technical competence		1
◇◇ BENEFITS OF AA (12)	○ ◇◇ ASSESS SKILLS - Timeous feedback		3
◇◇ CONCERNS RE AA (4)	○ ◇◇ Benefits of AA - Better prepared for assessment		4
◇◇ ETHICS (1)	○ ◇◇ Benefits of AA - DE less faceless		2
◇◇ SYSTEMS (4)	○ ◇◇ Benefits of AA - Fast and paperless		4
◇◇ TECHNOLOGY ENHANCED (4)	○ ◇◇ Benefits of AA - Immediate marks		2
◇◇ UG/PG module (3)	○ ◇◇ Benefits of AA - Keeping cost down		3
	○ ◇◇ Benefits of AA - Less pressure		3
	○ ◇◇ Benefits of AA - Less stressfull environment		12
	○ ◇◇ Benefits of AA - More flexible - own home		11
	○ ◇◇ Benefits of AA - More time to do assessment		6
	○ ◇◇ Benefits of AA - Stay more focussed, boosts morale, incr...		3
	○ ◇◇ Benefits of AA - Student with disabilities		1
	○ ◇◇ Benefits of AA - Work at own pace		2
	○ ◇◇ Concerns over AA - Confusing		1
	○ ◇◇ Concerns over AA - More strict marking		1
	○ ◇◇ Concerns with AA - Bad internet connection		1
	○ ◇◇ Concerns with AA - Loadshedding		2
	○ ◇◇ Ethics - Risk of plagiarism		8
	○ ◇◇ PG module - CLAW		2
	○ ◇◇ SYSTEM - Improve myUnisa connection		1
	○ ◇◇ SYSTEM - Internet problems		1
	○ ◇◇ SYSTEM - Positive about myUnisa		5
	○ ◇◇ SYSTEM - Slow speed of electronic resources		1
	○ ◇◇ TEL - 4th IR		9
	○ ◇◇ TEL - Backup plan		1
	○ ◇◇ TEL - Increase employability		7
	○ ◇◇ TEL - Technology enhanced		20
	○ ◇◇ UG module - CEMS		1
	○ ◇◇ UG module - CHS		1

Comment:

ANNEXURE 8: ALL CODES AND QUOTATIONS: DATA ANALYSIS



Report All codes
and quotations - da

ANNEXURE 9: ALL CODES AND QUOTATIONS: DOCUMENT ANALYSIS



Report All codes
and quotations - tri: