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Assessing the Competence of South African Corporate Real Estate Managers

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Declaration

I declare that this Research Report is my own, unaided work. It is submitted in partial fulfilment of the degree of Masters in the field of Construction at the University of the Witwatersrand, Johannesburg.

It has not been submitted before for any degree or examination in any other university.

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Signature of Candidate: Ziev

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List of Abbreviations

Abbreviation	Description
BCom	*Bachelor of Commerce*
BOK	*Body of Knowledge*
CE	*CRE experienced*
CEO	*Chief Executive Officer*
CFO	*Chief Financial Officer*
CPD	*Continuous Professional Development*
CRE	*Corporate Real Estate*
CREM	*Corporate Real Estate Management*
CSCM	*South African Council of Shopping Centres*
EAAB	*Estate Agency Affairs Board*
ECSA	*Engineering Council of South Africa*
FM	*Facility Management*
FT	*Formally Trained*
HPCSA	*Health Professionals Council of South Africa*
HR	*Human Resources*
IDRC	*Industrial Development Research Foundation*
JSE	*Johannesburg Stock Exchange*
KSA	*Knowledge, Skill and Ability*
LPC	*Legal Practice Council of South Africa*
MBA	*Master's in Business Administration*
NACORE	*National Association of Corporate Real Estate Executives*
NIH	*National Institutes of Health*
NCE	*Not CRE Experienced*
NFT	*Not Formally Trained*
NPC	*Not professionally Certified*
NPV	*Net Present Value*
PC	*Professionally Certified*
PG	*Postgraduate*
PM	*Property Management*
RE	*Real Estate*
RICS	*The Royal Institute of Chartered Surveyors*
SACLAP	*South African Council for the Landscape Architectural Profession*
SACPCMP	*South Africa Council for the Project and Construction Management Professions*
SACPVP	*South African Council for the Property Valuers Profession*
SACQSP	*South African Council for the Quantity Surveying Profession*
SAFMA	*South African Facilities Management Association*
SAPOA	*South African Property Owners Association*
UG	*Undergraduate*

Abstract

It is unclear how competent South African corporate real estate (CRE) managers are in general, and the extent to which their educational background, experience or certification affects their level of competence. This report aims to answer these questions through a survey of corporate real estate professionals in South Africa. The study employed a gap-scale analysis which determines the existence and magnitude of competence gaps by comparing respondent's self-assessment of their level of competence for each competence area to their own rankings of its importance in corporate real estate management.

The study reveals competence gaps among respondents. However, having formal training in real estate, relevant experience or a professional certification were found to lead to greater levels of competence. The industry would benefit from professionalization and creating experiential and educational standards for its practitioners in order to remove the variation in practice, boost the credibility of the industry, and make the local industry attractive for foreign investment.

Keywords: Corporate Real Estate (CRE); Corporate Real Estate Management (CREM); Gap-scale analysis; Competence; Professionalization

1 Introduction

Corporate Real Estate (CRE) is the term used for real property that is leased or owned by organizations to reach their business goals (Ali et al., 2008). Corporate Real Estate is a powerful determinant of a company's profitability (Gibler and Lindholm, 2012). It remains a huge component of the company's operating costs, contributing to the its asset base with strategic implications (Avivi, 2017). Real estate impacts both indirectly and directly on the organization's performance, and by approaching its management strategically, CRE decisions should be "more likely to support the core business strategy efficiently and effectively" (Gibler and Lindholm, 2012). The way in which CRE is managed will have appreciable impacts on how much value it is able to add to the firm (Maetle, 2017). Therefore, it is essential that Corporate Real Estate Management (CREM) is administered effectively and competently (Gibler and Lindholm, 2012).

Despite the significance of the role, and the mandatory regulation of other professions within the real estate field, there is no statutory body to regulate who can and cannot become a CRE manager in South Africa (SACPVP; 2016; EAAB, n.d). While it may not be linked to this state of non-regulation, there seems to be some evidence which suggests that South African CRE managers are not performing their function with competence. For instance, Selamolela, (2017) observed that CREM in South Africa is carried out without the necessary knowledge required. This may be consistent with the findings of Maetle (2017) who also observed in their study that a majority (77%) of the CRE Executives he surveyed did not have formal qualifications in CREM.

In South Africa, some professionals are required by law to be registered with their corresponding statutory body in order to practice. For example, Architects must be registered with the SACLAP; Quantity Surveyors must be registered with the SACQSP; Valuers must be registered with the SACPVP; Estate Agents/Brokers must be registered with the EAAB and so on (SACLAP, 2019; SACQSP, 2011; SACPVP, 2016; EAAB, n.d). However, other disciplines are yet to be regulated. For example, there is no requirement for Facilities Managers to register with SAFMA or for Construction Managers to register with SACPCMP etc (SAFMA, 2019; SACPCMP, 2018). There is currently no legislative requirement for someone practicing as a South African CRE Manager to be registered with any statutory body or association. As a result, the CREM profession is unregulated.

This state of non-regulation brings into question the level of competence of South African CRE Managers, and the absence of literature on the topic leaves this question unanswered. When a profession is not strictly regulated, it may suffer from variability in the quality of services offered by firms and individuals. In addition, registration with a statutory body always includes an ethical component, and so a lack of registration could increase the risk of ethical lapses in the profession (Beaton, 2010).

Another consequence of this non-regulation is that a CRE manager in South Africa could have gotten to their position via a number of different paths. For instance, they could have done a property degree, since their inception post 2000 (Cloete, 2002), a business degree, a business degree with a graduate degree in property, a property degree with a graduate degree in business, or even have no degree and just work experience. Furthermore, although the industry is unregulated, it is possible for individual CRE practitioners to attain a number of various professional certifications, such as a Member of the Royal Institute of Chartered Surveyors (MRICS) (RICS, 2018b), which may translate to a greater level of competence and create even more variation.

Consequently, it can be seen that the variability in the route to becoming a CRE manager, both educationally and experientially, could possibly lead to variability in the CRE Managers specific set and level of competences.

1.1 Problem Statement

It is unclear how competent South African CRE managers are in general, and the extent to which their educational background, experience or certification affects their level of competence. The question as to what their levels of competence are and which of these factors produces the highest levels remains unanswered.

1.2 Aim and objectives

This research aims to determine the levels of competence of South African CRE managers and see if their competence is affected by the educational path they have followed. From the aim the following research objectives are identified:

1. To create a list of the competences that a South African CRE manager is expected to have and rank them in order of importance. The list will be informed by the literature and curated for applicability to the South African context. The ranking process will occur via the questionnaire where respondents will be asked to rank the importance of each competence. The findings can be useful for curricula design.
2. To benchmark/determine the level to which South African CRE managers achieve the various competences defined in the aforementioned list. This should provide the first academically rigorous evaluation of the state of competence in the South African CRE profession. The findings may be useful in aiding corporations in sourcing and training the necessary talent to create value out of their CRE. It may also provide guidance to CRE managers as to what competence areas they should improve on in order to upgrade their service level.
3. To determine the possible existence, extent and magnitude of the effect that different a) educational backgrounds, b) years of relevant experience, and c) professional certification, affect CRE competence levels. This should provide useful information to hiring managers when they select candidates to fulfil the CREM function in their organization. It would possibly also help with real estate curriculum design should the findings unearth deficiencies in current graduates of real estate programs. Finally, it could provide guidance to individuals who wish to pursue careers in CREM on which pathway that will equip them with the best level of competence.

1.3 Research Questions

The primary research question is therefore: What are the competence levels of South African corporate real estate managers and are these levels affected by the educational qualifications, relevant experience or professional certification acquired? This leads to the following secondary questions:

- What are the important competences a South African CRE manager is expected to have?
- What is the level of competence of South African corporate real estate managers?
- How does educational path affect competence as a CRE manager?
- How does relevant experience affect competence as a CRE manager?
- How does professional certification affect competence as a CRE manager?

1.4 Limitations

The following comprises a list of the limitations prevalent in this research:

- The questionnaire designed to determine the different rankings of competences is perceptions based and therefore highly subjective.
- The research is also limited in that there has been no South African specific CRE competence research and so competences list must be adapted as best possible from the findings in other countries. Although there has been some research done in Nigeria (Oladokun and Gbadegesin 2017), a developing country, the questionnaire was based off of prior studies in Western developed countries like U.S., Australia, Hong Kong etc (Poon and Brownlow, 2014; Hoxley et al., 2011 and Poon, 2014).
- The research also is limited in that it does not attempt to determine objective financial measures of competence, i.e. the different performances of respondent's portfolios, in order to assess their competence as CRE managers. This means that the study will not be able to assess the outputs of competence.

1.5 Assumptions

This research has assumed the following:

- Prior research done in South Africa has accurately depicted the landscape
- Prior research done in the area of competences is generalizable to the South African context
- South African CRE practitioners place a higher value on the more generic and business-oriented competences regarding CREM. This is expected due to prior research highlighting the dominance of non-CRE trained professionals operating in the sphere of CRE.
- There is a likely absence of technical CRE competence by some South African CRE professionals.
- Those who have had formal education in real estate or related degrees are likelier to exhibit higher levels of real estate related competence compared to those who have not.

2 Literature Review

2.1 Introduction

Corporate Real Estate is an incredibly important determinant of a firm's profitability (Gibler and Lindholm, 2012). It remains a huge component of the company's operating costs, contributes heavily to the its asset base and has critical strategic implications (Avivi, 2017). The way in which CRE is managed will influence how much value it adds to the firm (Maetle, 2017). Therefore, it is crucial that Corporate Real Estate Management (CREM) is administered effectively with competence (Gibler and Lindholm, 2012). As a result, it is essential that the activity of CREM is handled by trained professionals.

The objective of this chapter is to review and evaluate what has been written on CREM competences and professionalization in order to identify any gaps and questions this study can address in the South African environment. The review first explores the definition of Corporate Real Estate Management and further explains it as a value-added activity. Next the review explores the definition, components and benefits of professionalism. This is then followed by a discussion of competence as well as a look at what two regulatory bodies, RICS and CoreNet, as well as the literature determine as CREM competences. Next an assessment of the different types of real estate education, followed by how different educational backgrounds affect CREM competence. The review will then move on to explore the different types of methodologies used in this area and determines how to measure competence. Finally, the review will identify the gap found within the body of knowledge that this research will try to fill.

2.2 Review of previous research

2.2.1 Corporate Real Estate Management

The word corporate real estate (CRE) was coined, in the beginning of the 1980's, and was originally written out in Zeckhauser & Silverman's (1983) paper as "the land and buildings owned by companies not primarily in the real estate business" (Omar and Heywood, 2014). The term has undergone revisions and updates over the years in order to reflect the evolution of CRE. By 1993 CRE was understood to apply to real property that is leased or owned by organizations to reach their goals (Ali et al., 2008). This indicated the evolution of the CRE function to be considered as a way to achieve corporate objectives.

Ali et al., (2008) state that the three basic factors of production are capital, land and labour and therefore utilising land, or rather real estate, as an element of the business's operation is understood as being CRE. However, Joroff et al., (1993) define CRE similarly as being a "fifth resource" over and above the 4 basic factors of Capital, People, Information and Technology. CRE, or rather "land and buildings owned by companies not primarily in the real estate business" – usually retail, office or industrial – forms a part of the businesses assets that must be managed in a way that increases wealth of shareholders (Nappi-Choulet et al., 2009).

Due to its integration with other crucial aspects of the business, Manning and Roulac (1999) note that CRE must enjoy the attention of management as a distinct area of focus, much like the finance, HR, marketing or IT departments. Manning and Roulac (1999) provide a definition of CRE as a combination of retail, office and/or industrial assets used by businesses where the choice of site location as well as the layout and design of the facility will materially impact the businesses operations and profitability in a multitude of ways beyond a simple return on investment due to the purchase of the property.

After considering a number of different definitions proposed in the literature, Ali et al., (2008) put forward a holistic definition of CRE management and CRE itself as a "functional unit in an organization, which is responsible for the real estate asset holdings and their activities, and supports the organization to achieve its business objectives."

Bon (1992) describes corporate real estate management (CREM) as involving managing land or buildings used by public or private organizations where their core business does not involve real

estate. Lalloo (2013) defines CREM as "the strategic management of real estate held by a corporation/organization, be it public or private, in pursuit of its primary business mission." Tay and Liow (2006) provide a similar definition that only omits the 'public/private' point. Manning and Roulac (1999) stipulate that a core part of the CREM definition is that it should be conducted with the explicit aim of maximising shareholders wealth.

Van der Voort (2016) offers the definition supplied by Dewulf et al., (2000) saying that CREM involves managing a business's portfolio of real estate through its alignment with the essential needs of the organization such that it creates maximum value as well as enhances performance optimally. Van der Voort, (2016) then offers a new definition that "CREM focuses on the alignment of real estate to corporate needs and objectives, incorporating the needs and wishes of shareholders and different stakeholders on strategic, tactical and operational levels."

CREM is a complex area and is comprised of many different activities. Zeckhauser and Silverman, (1983) classify CRE activities into 3 different areas, namely: **Acquisition and Divesture** – Determining the specific real estate investment requirements, property acquisition and disposal, location selection, supervising construction and ensuring appropriate design of facilities; **Finance** – Tax considerations, financial analysis and capital budgeting; **Custodianship** – Record keeping and property management. Omar and Heywood (2014) produced the following table showing various Functions and Activities that constitute CREM

Table 1: Functions and Activities of CREM Sourced from Omar and Heywood (2014)

Core competencies	Roles
Business unit focus	Supporting business units' core operations Property search for business units Provide property input for strategic plan
Property service provider	Property maintenance Workplace management Property legal administration
Act as property owner for organisations	Space allocation Reduction of property footprint Space charging

Ali et al., (2008) list some activities that constitute CREM as: The acquisition or development of properties; the subsequent management of said properties; financial analyses as well as brokerage, leasing and development packaging which are considered miscellaneous aspects. Lalloo (2013),

in a survey of South African companies, determines the following CRE activities, in order of importance: Management of existing CRE; Developing new CRE; Acquisition of additional space; Financial analysis; Brokerage/leasing; Disposition of surplus space.

Ali et al., (2008) determine that CREM activities have a broad range, from more routine activities such as the daily management of the properties, to high-level activities such as asset management and formulating the overall CREM strategic plan. Omar and Heywood (2014) determine that CREM has the following functions: "Property support to business units; central property decision-making; develop property master plans; and generating profit from property."

The activities that constitute CREM are often confused with the activities that constitute Property Management (PM) or those that constitute Facilities Management (FM). Van der Voort (2016) describes the origins of FM as involving the facilitation of business processes and the people who do those processes, whereas CREM is more accommodating of people, tends to be portfolio based and is involved in every stage of the building's life cycle. Omar and Heywood (2014) find that CREM acts as custodians encompassing areas of FM, PM in addition to strategic RE management.

Ali et al., (2008) succinctly summarise these differences in the tables below:

Table 2: Differences Between PM and CRE Sourced from Ali et al., (2008)

Summary of Differences between Property Management and CRE

Scope	Property Management	CRE
Objectives	Building maintenance	Strategic real estate activities to support the business operation
Activities	Day-to-day tasks; administrative management, marketing and physical management.	The management of all aspects of real estate; acquisition and development, disposition, property management, financial analysis, surplus property, and miscellaneous activities such as leasing and brokerage.
Users	Building occupiers/tenants	Stakeholders
Management	Property manager	Corporate real estate manager
Skills	Property specialist, business administration and engineering	Property specialists with financial and management background.
Level of management*	Tactical or operational	Strategic or tactical

Note:
*Depends on the structure of the organization.

Table 3: Differences Between FM and CRE Sourced from Ali et al., (2008)

Summary of Differences between FM and CRE

Scope	FM	CRE
Objectives	Provide quality working environment to support the business operation	Strategic real estate activities to support the business operation
Activities	Acquisition and disposition, physical upkeep, record keeping, and reporting tasks to CRE owner.	The management of all aspects of real estate; acquisition and development, disposition, property management, financial analysis, surplus property, and miscellaneous activities such as leasing and brokerage.
Users	Staff and workers in the organization	Stakeholders
Management	Facilities manager	Corporate real estate manager
Skills	Professionals with the architectural, construction engineering, industrial engineering and operation management skills.	Property specialists with financial and management background.
Level of management*	Tactical or operational	Strategic or tactical

Note:
*Depends on the structure of the organization.

It is clear that the CREM function comprises of many activities, predominantly at the strategic level however also taking responsibility for the more functional everyday components of PM and FM. This dissertation understands CRE to be the real estate that is used by an organisation in order to achieve its organisational objectives, and CREM to be the management of the CRE in a way that aligns with the organisations overall business strategy.

2.2.2 CREM as a Value-Added Activity

Re-emphasising the importance of CRE, Avivi (2017) notes that it remains a huge component of the company's operating costs, contributes heavily to the asset base and has critical strategic implications. Gibler and Lindholm, in 2012, note that for the past 20 years there has been strong advocacy towards CRE being utilised as a way to add value to companies. This is perhaps because, a focus on minimising the cost of real estate – while providing a temporary reprieve – can create negative financial repercussions over an extended term (Lindholm et al., 2006).

Within the increasingly competitive economic climate, companies must focus on establishing competitive advantages; and as Maluleke (2015) points out, this should be done through a strategic

management of CRE to improve performance and increase wealth. Shareholder value theory, states that the firms creates value by maximising its shareholders wealth (Lindholm et al., 2006). Real estate impacts both directly and indirectly on the company's performance, therefore by approaching its management strategically, there is a higher chance that CRE decisions will effectively support the primary strategy of the business (Gibler and Lindholm, 2012). Additionally, Maetle (2017) confirms that the way in which CRE is managed will have "significant bearing" on how much value it is able to add to the firm.

There are 6 common benefits to CRE that are summarised by Oladokun (2010) as follows: It creates efficiency and supports greater profit and growth in organizational value; secondly, CRE has a spot on the firm's financial statement as an indicator of the company's growth; in addition, CRE is a critical strategic component to the firms successful achievement of its general business goals; moreover, CRE can provide a cash windfall during tough times through the sale, sale-leaseback or taking out of a bond on the property; apart from the above, owning CRE provides an organization with investment income, capital growth and profits from disposal; finally, CRE has the potential to improve a firms performance on the stock market.

Lindholm et al., (2006) citing De Jonge (1996) describe how this value can be added in 7 different ways. In summary, CRE can be directed towards not only reducing costs, but also increasing worker productivity, controlling asset risk, increasing the value of the corporations held assets, allowing the organization to operate flexibly, improving corporate culture and capitalising off of the real assets as a tool for marketing the firm and increasing its reputation (Lindholm et al., 2006). Lalloo, (2013) adds that by taking a strategic approach to CREM one can improve the efficiency and productivity of workers as well as improve customer satisfaction.

Riratanaphong (2013) provides an excellent summary of the literature to show what has been determined to be the value adding attributes of CREM in a table that is reproduced below:

Table 4: Value Added CRE from the Literature Sourced from Riratanaphong (2013)

Bradley (2002)	Nourse and Roulac (1993)	De Jonge (1996)	Lindholm (2008)	Van Meel et al. (2010)	Den Heijer (2011)	Van der Zwart and Van der Voordt (2012)	Jensen et al. (2012)
1.Stakeholder perception (employee satisfaction)	Promote Human Resources objectives	not mentioned	Increasing employee satisfaction	Attract and retain staff	Supporting user activities	Increase user satisfaction	Satisfaction
					Increase user satisfaction		
					Improving quality of place		
2.Financial health	Capture the real estate value creation of business	Increase of value	Increasing the value of assets	not mentioned	Increase real restate value	Improve finance position	not mentioned
3.Organisational development	Flexibility	Increase of flexibility	Increasing flexibility	Increase flexibility	Increase flexibility	Improve flexibility	Adaptation
	Facilitate managerial process and knowledge work	Changing the culture	not mentioned	Encourage interaction	Supporting culture	Improve culture	Culture
				Support cultural change	Stimulating collaboration		
	Promote marketing message Promote sales & selling process	PR and marketing	Promoting marketing and sales	Express the brand	Supporting image	Support image	not mentioned
	Facilitate and control production, operations, service delivery	Risk control	not mentioned	not mentioned	Controlling risk	Controlling risk	Reliability
	not mentioned	not mentioned	Increasing innovation	Stimulate creativity	Stimulating innovation	Increase innovation	not mentioned
4.Productivity	not mentioned	Increasing productivity	Increasing productivity	Enhance productivity	Supporting user activities	Improve productivity	Productivity
5.Environmental responsibility	not mentioned	not mentioned	not mentioned	Reduce environmental impact	Reducing the footprint	not mentioned	Environmental
6.Cost efficiency	Occupancy cost minimisation	Cost reduction	Reducing costs	Reduce costs	Decreasing costs	Reduce costs	Cost

The CRE manager must have a view of CRE as a component that can contribute and add value to the company's general business objectives (Oladokun, 2010). Gibler and Lindholm (2012)

mention that a strategic application of CREM with respect to business goals can help generate competitive advantage. This is likely because CRE has significant impact on the shareholders wealth in both an internal and external manner (Manning and Roulac, 1999). As Bon (1994) notes the main function of CREM is to create and nurture a coherent connection between the overarching organizational strategy and the strategy of the CRE unit. Firms with effective CREM can see their efficiency increased and costs lowered, while still investing to expand market share, profits and sales during market downturns (Gibler and Lindholm, 2012). As Nourse and Roulac (1993) say, "effective real estate decisions are integral to the realization of overall business objectives" and so CRE is a vital component for the organizations financial and operational success.

Indeed, CREM possesses "strategic capability" as it has a critical impact on the prosperity of a firm through its contributions (Omar and Heywood, 2014). Gibler and Lindholm (2012) state that CREM adds much value to a corporation, and Krumm (2001) determined that CRE can not only be a critical component of an organization's growth plan, but in fact can ensure its survival in rough times. However, it is important to emphasise that integrating and aligning CREM with the overall business strategy is "vital to achieving optimal results" (Van der Voort, 2016).

Gibler and Lindholm (2012), say that corporate executives are coming to understand that a strategic use of real estate may be an essential component in increasing shareholder value. This sentiment is shared by the findings of Nappi-Choulet et al. (2009). A study by Ntene et al., (2020) found that "a firm that strategically manages its CRE holdings in relation to the broader firm strategy could enhance shareholders' wealth." As Tay and Liow (2006) put it, the performance of a business's CRE is directly proportional to the amount of CRE planning done and therefore strategic application of CRE will become increasingly important. Nowadays, corporate leaders believe that real estate can be used effectively to provide enhanced business opportunities and support business operations (Omar and Heywood, 2014; Maetle, 2017). However, in terms of the actual application of these ideas, it seems that the subject of how CREM can add value through its strategic application to bolster the core business's process, has received little attention (Lindholm et al., 2006). Oladokun (2010) finds that in Nigeria as well as other developing nations, CRE has in fact been ineffectively and inefficiently implemented and has not increased shareholders wealth. This trend that "needs to be urgently reversed" is relevant to South Africa as a still developing country (Oladokun, 2010).

Ultimately, it is very clear that CREM when strategically and competently applied, has the potential to create much added value for the company. Despite this value-added benefit, it seems that many companies do not recognise just how important CREM can be to their bottom line.

2.2.3 What is professionalism?

The three original professions in history were medicine, divinity (clergymen that acted as educators) and law, due to the original narrow definition of professionalism as a "combination of knowledge, skills, trustworthiness and altruism" (Beaton, 2010). However, professions have since expanded to include a wide variety of disciplines, with many having evolved from medieval guilds (Noordegraaf, 2007).

A more updated definition of what constitutes a profession is given by Beaton (2010) as "a disciplined group of individuals who adhere to *ethical standards* and hold themselves out as, and are accepted by the public as possessing *special knowledge and skills* in a widely *recognised body of learning* derived from *research, education and training* at a high level, and who are prepared to apply this knowledge and exercise these skills in the interest of others" (emphasis added). Spada (2009) makes use of the dictionary definition regarding a profession as "an occupation in which a professed knowledge of some subject, field, or science is applied; a vocation or career, especially one that involves prolonged training and a formal qualification."

Professionals, broadly speaking, tend to be individuals who possess a particular competence in a specific field (Spada Limited, 2009). Increasingly, they are expected to possess a multiplicity of skills encompassing personal (Evetts, 2011; Parr et al., 2011), interpersonal and business skills (Noordegraaf, 2007) as well as the technical skill specific to their field of expertise (Parr et al., 2011). There is a particularly strong need for professionals to have substantial levels of "job-related competence" (Kalbers and Fogarty, 1995) and this specialization requires formalised training in the field (Evetts, 2011).

Noordegraaf (2007) determines two broad elements of professionalism: professionals must have the relevant *content* (i.e. knowledge, ability, skills) and secondly, operate under a measure of *control* (i.e. belong to a professional association). Beaton (2010) argues that professionalism arises when there is some measure of control over who gains access to the industry and how they are determined to be qualified.

As established above, professionalism has a critical component relating to the professional's level of skill and knowledge in various competence areas. However, since the works of the Greek Philosopher Plato, it has been understood that a professional must not only possesses these technical skills, but must also display "moral excellence" (Beaton, 2010). This is seen to be the case when examining the components of professionalism below.

The following table depicts the various features that underpin professionalism:

Table 5: Contents of professionalism Source: Noordegraaf (2007)

"Pure" Professionalism as Controlled Content

Pillar of professionalism	Drives	Features
Content	Rational, ethical	1. Knowledge 2. Skills 3. Experience 4. Ethics 5. Appearance
Control	Political, social	6. Association 7. Jurisdiction 8. Knowledge transfer 9. Codes 10. Supervision

The table delineates two different 'pillars' of professionalism, namely the content of professionalism and how that content is controlled for. This dissertation is concerned about the 'what' of professionalism, not the 'how'. Therefore, the focus is on what content makes up professionalism and hence the discussion focuses in on the first 4 content elements (i.e. knowledge, skills, experience and ethics) which also feature prominently elsewhere in literature. Professional associations must regulate the knowledge, skills, experience, and ethics of its professional members and that these are fundamental components (Noordegraaf, 2007; Evetts, 2011; Beaton, 2010).

2.2.3.1 Education component (specific knowledge and skills)

As the professional is required to hold specific skills as well as knowledge, a critical component of professionalism is education and training (Evetts, 2011). To do this, it is vital for these associations to decide on educational requirements for its members so that they receive the correct

training (Noordegraaf, 2007). These skills requirements tend to take the form of competence expectations (Noordegraaf, 2007). Beaton (2010) adds that aside from the regulation of training, there should also be some form of certification provided.

2.2.3.2 Experience Component

Kalbers and Fogarty (1995) suggest that professionalism is, in part, a result of work experience in the profession. However, they found a correlation between "experience" and "lower supervisor evaluation," suggesting that the more experience one has, the less likely they are to keep their technical skills and formal training updated (Kalbers and Fogarty, 1995). This is the rationale for the requirement of professionals to maintain their competence levels through Continuous Professional Development (CPD).

2.2.3.3 Continuous Professional Development

Continuous training and attaining new knowledge are crucial component of professionalism (Spada Limited, 2009; Beaton, 2010). This is captured by the concept of Continuous Professional Development (Evetts, 2011). Parr et al., (2011) finds that more and more professional regulatory bodies are incorporating a CPD component into their requirements in order to upskill their members and maintain a high level of professionalism.

2.2.3.4 Ethical Component

The importance of ethics was touched on in the previous section, yet it forms a core component of professionalism. Professionalism creates a "moral community" that upholds ethics (Evetts, 2011). Spada Limited (2009) puts the point forward extremely eloquently in saying that "even more than the high-quality provision of services, professional ethics is paramount to maintaining the public trust." Beaton (2010) contends that there is no conceptualisation of the term 'professionalism' without a moral component included. Ethics create the incredibly important moral backbone that holds the profession together and regulating this is a very important aspect of the professional associations (Beaton, 2010).

2.2.3.5 Professionalism components within the South African context

Within the South African real estate sector, the "South African Council for the Property Valuers Profession" (SACPVP, 2016) exists as a statutory body regulating South African property valuers.

The “Royal Institute of Chartered Surveyors” (RICS, 2019) exists as a voluntary association for all professions that fall under the surveying discipline. The “South African Facility Management Association” (SAFMA) is responsible for facility managers, while the “Estate Agency Affairs Board” manages estate agents. The “Engineering Council of South Africa” (ECSA), is given the statutory power to oversee engineers. For completeness and to provide a comparison the dissertation also looks at other established South African professions. The “Health Professionals Council of South Africa” (HPCSA, 2018b) is the official statutory body for medical doctors and allied professionals. The “Legal Practice Council of South Africa” (LPC, 2018), is the statutory body for lawyers, conveyancers, admitted attorneys and judges.

What is clear is that there is no umbrella statutory body responsible for all real estate professionals in South Africa. For the CRE sub-sector, this means anyone, regardless of educational background, skills and competence can be employed to manage corporate real estate for the different firms that need their services. By the same token, different firms that purport to offer corporate real estate services may also employ people whose education, knowledge and skills may vary and whose commitment to ethics is unregulated.

Education (Knowledge and Skills)

There are minimum requirements associated with being registered as a valuer by the SACPVP as they wish to ensure a high standard of services provided (SACPVP, 2016). RICS (2019) requires its applicants to select a specific pathway within the surveying profession and demonstrate that they have achieved competence in various skills and knowledge areas related to their chosen pathway.

Looking at the example set by other professions, the medical profession does set specific standard for professional skills, although it seems like it does not mandate specific competences for membership, relying rather on its regulation of medical degrees (HPCSA, 2018b). For law, specific competences are not mentioned either, although appropriate training and legal education to a high standard are required (LPC, 2018). ECSA (n.d.a) has specific educational requirements, namely a relevant engineering degree, and stipulates that the applicant must present competence.

Experience

Professional bodies require a certain level of experience in order to be eligible to be certified. The amount of experience required by the RICS, for example specifies a sliding scale where 4 years' experience are needed without a qualification, but only one is needed if the applicant has completed a relevant degree (RICS, 2019). The SACPVP (2016) also requires practical experience in order to register a person as an associated valuer.

Experience is not mentioned explicitly by the HPCSA (2018b) however, it does require for members to hold relevant medical degrees which do have a built-in experience component. The same is true for the law profession that requires law graduates to undergo the practical experience of articles before becoming legal practitioners (LPC, 2018). No specific experience component for engineers is mentioned by the ECSA (n.d.a).

CPD

The ECSA (n.d.a) insists that its affiliates undergo CPD. RICS (2019) has a CPD component and requires applicant to have 48 hours of training within the last year before being able to apply even. Within the medical profession, CPD is a crucial component and the HPCSA (2018a) mandates that members accumulate 30 of what they call Continuing Education Units over a 1-year period. As each of these units is only valid for 24 months it ensures that members are constantly training and upgrading their skills (HPCSA, 2018a). Lawyers need to make sure they also get continued professional development after their qualification (LCP, 2018).

Ethics

SACPVP's (2016) mandate is to safeguard the interest of the public and make sure that they safeguard the dealings with registered valuers. RICS (2019) has an ethical component that needs to be passed for certification. The medical profession sets specific ethical mandates for its members and takes action in order to ensure that their standards are met (HPCSA, 2018b). Lawyers are held to an ethical standard by the LCP (2018). The ECSA (n.d.a) has a code of conduct and conducts holds to account any member who violates said code.

2.2.3.6 What are the benefits of professionalisation?

ECSA (n.d.b) states that professionalisation ensures the confidence of the public, makes one's professional skills more marketable, and provides a recognition of ability and skills. Employers benefit in that they can be confident of the professionalism of their staff and have peace of mind as to the ethical integrity of the members (ECSA, n.d.b). SACPVP (2016) lists enhancement of status, protection of the public and improving the standards of academic qualifications as benefits of professionalising their profession.

The HPCSA (2018b) provides a public benefit by ensuring that medical practitioners meet professional standards of conduct and behave ethically. There is also a benefit provided by mandating that the members continuously update their skills and professional knowledge as it keeps the practitioner performing at a high level of competence (HPCSA, 2018a). The LCP (2018) makes sure to protect the public interest as well by ensuring high competence and ethical standards of practitioners, as well as making sure that service fees are reflective of the actual service given. It also creates more independent, accountable and efficient profession (LCP, 2018).

Spada Limited (2009) makes an example of the mismanagement in the financial sector that brought about the 2008 recession, saying that it highlighted the need for professionals to be held to high standards and require stringent qualifications. Professional associations have an interest in upholding the prestige of a profession, and so they ensure that those practicing within the confines of their regulations possess a satisfactory level of training and education (Beaton, 2010). This is a benefit for the clients of the profession as it ensures they receive a high level of service. Beaton (2010) argues that public interest requires that people without the prerequisite knowledge in a field should not be licensed to practice a profession.

Any industry is made up of a group of people who operate within and represent it. Therefore, it is the sum of these individual's levels of professionalism that determines the overall professionalism of the industry (Kalbers and Fogarty, 1995). Therefore, by imposing standards within the profession it will ultimately improve the level of competence of the average individual practitioner.

Due to the information asymmetry inherent to a professional service relationship (Beaton, 2010) it is even more important to consumers that professions are staffed by ethical professionals (Spada Limited, 2009). This is particularly relevant as Malukeke (2015) found that South African CRE

executives did not know what they were supposed to expect from their outsourced CRE services, which creates an information symmetry that leaves them vulnerable to receive sub-par services. Professionalisation that makes the industry more ethically robust would help eliminate this.

An interesting benefit of professionalisation is that it creates a clear set of standards which 'demystifies' the promotional ladder in an organization (Evetts, 2011). By having specific requirements of an educational, ethical and experiential nature, it enables the right people to be employed to the right positions. In fact, this is seen by Evetts (2011) as not only a benefit to the organisation, but to the practitioners that it employs.

Evetts (2011) talks about inter-professional competition within companies in order to take control of key roles and positions. This competition pits those with accounting and business backgrounds, for example, against one another. This means that there will be competition for control over a critical portfolio such as CRE. Therefore, in order to ensure that people that possess the correct competences rise to the top, professionalisation of the CREM function may be instrumental.

Professionalism is also seen to generate business, improve upwards social mobility and ensure a greater access to education and training (Beaton, 2010). However, Evetts (2011) presents a counterargument that professional associations can make industries harder to access and can create a "monopoly control" over the profession that seeks to guard its own interests over that of the public. Noordegraaf (2007) also speaks about the "closed, self-serving and greedy nature of professionals" and concludes that professionalism is essentially amoral and can be used positively or negatively. Hargreaves (2000) cautions that in the case of the professionalization of teaching, the accreditation and training process uplifted the status of the profession but did very little regarding improving the actual quality of the services rendered. Thus, professionalisation should not be done for professionalisation sake, but rather to create more competent, knowledgeable and ethical practitioners. Ultimately when considering the benefits, if we ask the question 'who needs professionalism,' Parr et al., (2011) provide an impassioned answer that "the Professional Bodies need it, the employers need it, the individuals need it and the universities need it; we all need it."

2.2.3.7 Visualising professional maturity

Parr et al., (2011) make use of a professional maturity model that was developed by surveying 7 established professions namely "legal, accountancy, construction, procurement, human resources,

health and management." The model was developed with the intention of being able to benchmark where an industry stands in terms of its level of maturity. It has two main categories, the first of which is Established level of maturity which is made up of the subcategories Statutory (the highest level) and Public; The second of which is Developing level of maturity which is made up of the three subcategories Governed, Qualified and Organized (Parr et al., 2011). The following is an image of the professional maturity model which shows the different stages of a professions development from merely being organized (lowest level) to having full statutory support (highest level).

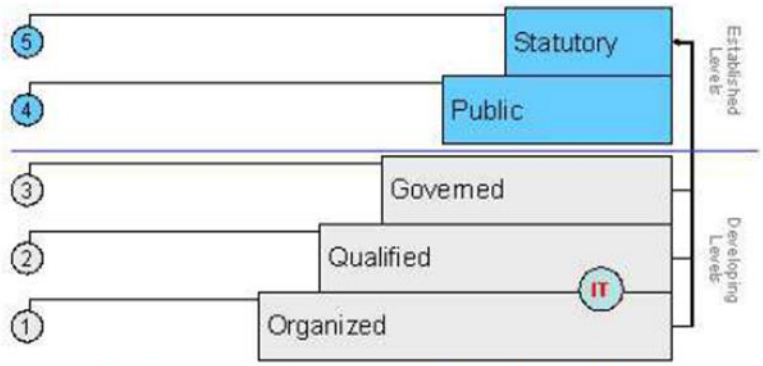


Fig. 1. Professional Maturity Model derived from the Carnegie Mellon University Capability Maturity Model®.

Figure 1: Professional Maturity Model Sourced from Parr et al., (2011)

A profession is said to be at an organized stage (1) when it is recognised as a community. In order to move from merely being organized (1) to being qualified (2), Parr et al., (2011) outline a number of steps: An agreed upon core Body of Knowledge must be defined; qualifications must be regulated; specific trainings and assessment of skills must be required for certification; CPD must be enforced. In order to progress from the qualified stage (2) to the governed stage (3), members must develop skills in accordance with an established competence framework (Parr et al., 2011).

In the South African landscape, only professional valuers and estate agents have a statutory body that governs the industry (SACPVP; 2016; EAAB, n.d). Thus, these two professions are established at the highest level (5) of the professional maturity model, statutory. There is no requirement for Facilities Managers to register with SAFMA (SAFMA, 2019) and so they are established at a public (4) level.

The South African CRE Profession could be recognised as a community and so it can be argued that it at least at the organised level (1). However, in the South African CRE sub-sector there is no agreed upon body of knowledge. There are no specified qualifications, neither are there certification requirements as there is no certification body (and hence no specific training or assessment of skills is required). There is also no requirement for Continuous Professional Development. Therefore, this dissertation has assessed the South African CRE Profession to be operating at the Organised level (1) only.

2.2.4 Competence and Competences

There is much confusion in the literature between the term's competence and competency. A recent systematic review of the literature, Salman et al., (2020), analysed 63 papers on the topic and concluded that the terms competency and competence are synonymous with one another and can be used interchangeably. While not only listing examples of the terms being used interchangeably in order to make their case, Salman et al., (2020) also list a number of studies that arrived at the same conclusion of their systematic review.

Teodorescu (2006) states a definition of competence as "the state or quality of being adequately or well qualified" or "a specific range of skill, knowledge, or ability." This dissertation will be assessing 'competence' based on this definition. Through analysing the common elements of the various definitions put forward Salman et al., (2020) separates competence into two elements, the input – made up of an individual's knowledge, skills, abilities and personal characteristics; and the output – which essentially is the execution of tasks leading to performance that is adequate or superior. This study only focuses on the input half of the competence equation.

The concept of 'competence' entered the common vocabulary of performance assessment following its innovation and use in the 1990's (Moore at al., 2002). However, Le Deist and Winterton (2005) in a seminal work on the topic, say that there is such a wide variety of opinions about the idea of competence that it is not possible to have a holistic definition that encapsulates all the myriad of ways that the term has been defined. Moore et al., (2002) describe how different research fields, different approaches within the same research fields and common dictionary usage of the terms display huge variance.

Lester (2014) summarises and tabulates the differences between various models of competence:

Table 6: The Differences Between Various Models of Competence: Source Lester (2014)

Approach	Primary source(s)	Development methodologies	Format	Examples from professions
Internal, individual, attribute-based (competency)				
Technocratic		Derived from knowledge-base or course syllabus	Tasks expressed as application of knowledge	Accountancy, partly present in surveying
Instructional design	Draws on Bloom taxonomy	Job analysis, learning needs analysis	Table of knowledge, skills and (often) attitudes associated with the job	Careers guidance
Behavioural	McBer organisation and associated authors, e.g. McClelland, Spencer and Spencer, Klemp	Behavioural event interviewing, critical incident analysis, repertory grid technique	Behaviours, approaches and dispositions associated with effective job performance	Supplementary aspects of some frameworks, e.g. personnel and development, civil engineering, project management
External, social, activity-based (competence)				
Task-based	Early MSC/training agency models	Task analysis	Descriptions of tasks and their component parts	Limited, some clinical procedures
Role-based	Mansfield-Mathews job competence model and subsequent developments	Functional analysis	Descriptions of job functions and detailed activities within them	Occupational safety and health, facilities management, most occupational standards
		Job analysis, analysis of roles across profession	Descriptions of broad functions and key activities within them	Engineering, environment, heritage conservation, landscape architecture

Lester (2014) states that competence generally deals with what someone is capable of doing, quoting a definition by the International Standards organization that it is the "ability to apply knowledge and skills to achieve intended results" (ISO, 2012 in Lester, 2014). Agut and Grau (2002) see competence as consisting of having specific knowledge in an area and being able to apply said knowledge to the job in question. This perception of competence views it across 3 dimensions: Knowledge, Skills and Abilities (KSA) or what is described as technical competence (Agut and Grau, 2002). However, there is another measure of competence which involves individual characteristics, like personality traits or motivation, which is termed generic competence (Agut and Grau, 2002).

While the literature is almost conclusive on Knowledge and Skill (K and S), there is disagreement regarding what the exact letter A represents. As noted above Agut and Grau (2002) describe it as 'abilities.' However, Poon et al., (2011) term it 'attributes' and Poon and Brownlow (2014) list 4

other papers that adopted this particular classification as well, namely: “Rae, 2007; McQuaid and Lindsay 2005; Ward, 2006; as well as Yorke and Knight, 2006.”

Similarly, Moore at al., (2002) describe two categories of competence whereby the first is concerned with a person’s demonstrated *ability* to competently do a job and the second is concerned with the *behaviours* that the individual must showcase in order to perform the required functions and tasks. The behaviours are the actual, practical things that one does in executing a task. Again, the one is focused more on ability, knowledge and skill whereas the other if focused on more intrinsic behavioural issues. Le Deist and Winterton (2005) call these the “functional approach” and the “behavioural approach” respectively.

Le Deist and Winterton (2005) observe that the inherent value of both approaches has led to a number of composite definitions of competence. One of these is occupational competence, which can be seen as “the ability to perform activities in the jobs within an occupation, to the standards expected in employment” which also includes a “mastery of skills and understanding” (MSC, 1986 cited in Le Deist and Winterton, 2005). Azasu et al., (2018) adopt a definition of competence as “an integrated set of skills, knowledge, and attitudes that enables one to effectively perform the activities of a given occupation or function [or profession] to the standards expected in employment” (Benhart & Shaurette, 2014 cited in Azasu et al., 2018). Therefore, competence needs arise when there is a discrepancy between the competence required to satisfactorily perform a job, and the competence level of a worker (Agut and Grau, 2002).

The term ‘competences’ is understood by Moore et al., (2002) as recognising one’s competence level and encapsulates the attributes that underpin specific behaviours. Le Deist and Winterton (2005) distinguish between *cognitive competence* which addresses the comprehension and knowledge of an individual; *functional competence* which addresses their skills, and *social competence* which addresses attitudinal and behavioural dimensions. From this perspective, social competence refers to ‘competences.’ This study adopts the idea of competences as the list of various knowledge, skills and attributes required by a CRE manager. Based on Agut and Grau’s (2002) definition of competence as consisting of “having knowledge about a topic and knowing how to apply it to the job” this study adopts the idea of competence as the respondents achieving a suitable level in a competence area.

Both Gibler et al., (2002) and Epley (2004) presented a composite list of knowledge and skill without differentiating between the two, Poon et al., (2011) presented three different lists for their KSA's respectively. This dissertation understands competence to be a particular set of KSA's which would lead one to be adequately or well qualified for a job and be able to achieve results. Therefore, if someone were to be deemed 'competent' it would mean they have displayed adequately high levels of the necessary knowledge, skills and abilities. The dissertation focuses on the inputs of competence and does not make an attempt to analyse the outputs (i.e. improved results). However, it follows logically that higher levels of inputs lead to higher levels of outputs.

2.2.5 Core and Optional competences of CREM: CoreNet Global and RICS

The RICS sets out the following Mandatory Competences:

Table 7: Mandatory Competences for all RICS practitioners Source RICS (2018b)

Mandatory Competences		
Level 1	**Level 2**	**Level 3**
Accounting principles and procedures	**Client care**	**Ethics, Rules of Conduct and professionalism**
Business planning	**Communication and negotiation**	
Conflict avoidance, management and dispute resolution procedures	**Health and safety**	
Data management		
Diversity, inclusion and teamworking		
Inclusive environments		

Business planning includes the subheading "Planning to meet corporate objectives."

The RICS sets out the following Core Competences for a someone who wishes to gain accreditation in CRE:

Table 8: Mandatory Competences for CREM RICS practitioners Source RICS (2018b)

Core Competences (CRE specific)		
Level 1	**Level 2**	**Level 3**
Valuation	**Business case**	**Business alignment or Strategic real estate consultancy**
	Landlord and tenant or Property management	

Business Alignment Level 3 is described as: "Provide evidence of reasoned advice of developing appropriate strategies to develop and align real estate portfolio and workplace strategies with those of the business." Strategic real estate Consultancy is described as: "Provide evidence of reasoned oral and written advice on the principles and application of real estate knowledge."

The RICS sets out the following Optional Competences for a someone who wishes to gain accreditation in CRE (The prescribed amount must still be completed, 'optional' merely indicates some measure of choice in which competences to pursue from the list below). From the following list, four competences must be selected at the candidate's discretion. Of these selected optional competences, three of them must be achieved as level 3 and a single one must be achieved to level 2:

- "Change management
- Inspection
- Leasing and letting
- Local taxation / assessment
- Measurement
- Performance management
- Procurement and tendering
- Programming and planning
- Purchase and sale
- Strategic real estate consultancy
- Supplier management
- Sustainability
- Valuation
- Workspace strategy" (RICS, 2018b)

In addition to this, one technical competence must be achieved to level 2. We can conclude that any of the above competences are important for a CRE manager and that "Business Alignment"

or “Strategic real estate consultancy” which are identified as a level 3 Core competence are critical. These two competences both highlight the importance of CREM’s strategic dimension.

Interestingly, some recent changes were made in this publication. When looking at (RICS, 2018a) which details the changes made in this publication (from previous ones) we see that: The pathway now titled *Corporate Real Estate* used to be known as *Commercial Property Practice*. 50% of the new technical competences added to the entire RICS pathways programme were relevant to CRE (RICS, 2018a). In fact, *Business Alignment* was one of the new competences that was added. Also, the old competence titled *Corporate Real Estate Management* was deleted and replaced with an expanded list of 4 new competences, indicating an increased understanding of the scope of CREM (RICS, 2018a). This suggests that even well established and respected regulatory bodies, like the RICS, are still updating their understanding of what comprises CREM competences.

The “National Association of Corporate Real Estate Executives” (NACORE) as well as the “Industrial Development Research Foundation” (IDRC) merged in order to create “CoreNet Global” in 2001. (Van der Voort, 2016) and is another well-established association for CRE professionals. CoreNet provides its own list of competences. They are as follows:

- “Real Estate Enterprise Objectives and Strategy: Articulate business objectives and customer strategy
- Real Estate Solutions Development: Knowledge of real estate business drivers to develop implementation plans and provide portfolio management that align real estate with business strategy
- Real Estate Site Selection and Economic Development: Integration of demographic, labor market, supply chain and logistic factors to recommend optimal location and real estate development
- Real Estate Acquisitions/Dispositions/Transactions/Brokerage: Integrating client objectives, competitive situation, corporate strategy, market knowledge, real estate fundamentals and value to structure the most advantageous real estate transaction
- Real Estate Design: Application of base-building architecture, interior design, sustainability, space planning management, alternative workplace management and workplace integration to new construction or renovation project(s)”

The competences lists provided by the two professional associations have been used to guide and refine the list of competences that will be used in this study.

2.2.6 CRE Core Competences

Due to the importance of CRE as outlined above, researchers have attempted to ascertain what are the competences or skills required by a CRE manager. The discussion will cluster these competences under 2 categories adapted from Azasu and Gibler (2016) namely a*) technical competences*, and b) *personal, interpersonal and professional competences*. Technical competence covers items such as valuations and market analysis; Personal and professional competence covers more generic business concerns such as financial analyses and negotiation; Interpersonal competence covers items such as communication and negotiation (Azasu and Gibler, 2016). Due to the overlap, the last two competence areas have been merged into one.

2.2.6.1 Technical competence

Being able to provide competent CRE service is predicated on the managers being sufficiently knowledgeable about the profession (Oladokun and Gbadegesin, 2017). As Epley (2004) puts it, the tools in a CRE managers arsenal should focus primarily on specific real estate decision making, and should not be simply repurposed tools drawn that other disciplines such as finance, law or accounting.

Epley (2004), shows how much of the prior research looked at real estate form the traditional finance paradigm, and as mentioned above, this leads to an incorrect assessment of the required competences. The survey conducted in this dissertation was created through consulting people both in the profession and in academia to bring insight into the specific skills and concepts that make up the required knowledge of a CRE manager, much like the questionnaire used in Gibler et al., (2002). Epley (2004) determines that the ability to find and understand market data, and use it to make sound CRE decisions, investment and location analyses are all crucial components of a competent CRE managers skillset.

Gibler et al., (2002), in a survey of U.S., U.K., Hong Kong and Australian CRE executives, determine that "strategic planning" is the most important skill required. The basis for this argument is that the value of CRE lies in its strategic alignment to the overall business strategy (Gibler and Lindholm, 2012; Van der Voort, 2016; Liow, 2006; Omar and Heywood, 2014). These skills are

followed closely by management of the real estate portfolio and understanding the organizations business (Gibler et al., 2002). In Gibler and Black (2004) physical property skills are given their due level of importance as they enable the basic CRE function.

2.2.6.2 Personal, interpersonal and professional competences

Epley (2004) finds that the ability to interact with the user of the CRE service through appropriate people skills was one of the highest ranked interpersonal competences. The capacity to analyse generic Net Present Values was also ranked very highly and is a professional competence. Strategic planning did not rank highly on Gibler et al's., (2002) list of important skills, due to the failure of the study to include it as a concept that respondents can rank. Poon and Brownlow (2014) conclude from reviews of previous research that strategic management skills are more critical to the CRE manager than financial and technical competences. A few years prior Carn et al., (1999) found that the CRE Executive should possess a wide variety of corporate skills such as financial, communication and general management skills. However, respondents in Carn et al., (1999) disagree that these are more critical than technical skills.

Gibler et al., (2002) find negotiation as well as deal making to be among the highest rated competences in their study. Negotiation is also ranked highly by Epley (2004) under the heading people skills. Gibler and Black (2004), make use of the same list of competences used in Gibler et al., (2002) to ascertain if there was any difference of opinion in the responses of in-house CRE managers and external CRE service providers. Interestingly, it found that the CRE professionals ranked higher the competences of strategic management and business functional area knowledge, suggesting that they better understand the need for them to upskill and develop knowledge that will enable them to create and implement strategies of CRE that are aligned with the overall company goals (Gibler and Black, 2004).

Poon and Brownlow (2014) surveyed professionals in the property field from different backgrounds in Australia. Strategic management was the 4th lowest rated knowledge area, however as a majority of the participants were valuers (Poon and Brownlow, 2014) the results cannot be directly extrapolated to determine the competences relevant to CRE managers. What this does reveal, however, is that not all professions within the real estate field are homogenous

and the skills taught at a broad level in a real estate program, may miss out on critical competences for a future CRE manager.

The least important skills identified by Gibler et al., (2002) are, managing tax, speaking a foreign language and international economics/finance. Epley, (2004) finds that skills relating to traditional detailed calculation are ranked lowest, which includes cost-of-capital as well as before and after-tax calculations. These less valued skills tend to comprise of detailed tools that come from the finance discipline and the conclusion is that more general analytical tools are required. As mentioned above, this study fails to take into account the significance of strategic planning.

2.2.6.3 Generic management skills verse technical skills

When assessing the highest and lowest rated skills, Gibler et al., (2002) conclude that management and strategic skills are more important for the CRE manager than specific financial or technical competences. The idea put forward is that in order to evolve from "order takers" to "decision makers" CRE executives need to develop general management skills and knowledge (Gibler et al., 2002). The same idea is put forward by Carn et al., (1999) who argue that these management skills would enable CRE managers to reach the required status and effectiveness that is needed to implement CRE appropriately.

However, within the context of South Africa, with 70% of our CRE executives possessing the title of CFO and 18% the title of CEO (Maetle, 2017) this analysis may not be applicable. That is to say, the Gibler et al., (2002) study was conducted in an environment where CRE managers were property focused and lacked the necessary higher-order business skills to implement the strategic aspect of CREM and communicate it to senior management. In South Africa it seems that with most CRE managers holding executive positions the ordering of skill priority may be reversed. That is to say CRE managers possess more than adequate business acumen and so the lack is with regards to property specific skills. This possibility is reinforced by the finding of Lalloo (2013) that most companies don't have an employee specifically in charge of CREM and so the management of the CRE falls under the domain of a senior manager who simply assumes it as one of the areas of their responsibility.

In Carn et al., (1999) one of the questions that garnered the least consensus amongst respondents is that CRE managers should be "generalist[s], primarily needing business skills." Even today with

the contrasting findings of Manning and Epley (2004) and of Gibler et al., (2002) we see that the jury is still out on the matter.

Manning and Epley (2006) reviews the seminal literature regarding CRE competences in order to assess how well higher education in the U.S. is teaching these skills. The paper identifies that the important competences highlighted in Epley (2004) are more operational in nature whereas Gibler and Black's (2004) are more geared towards general business proficiencies relevant for senior management. Poon and Brownlow (2014) agree with this analysis. Manning and Epley (2006) conclude that Universities in the U.S. are more proficient in teaching the specialised real estate skills in Epley's (2004) list and are not doing as well imparting the more general business skills in Gibler and Black's (2004) and Gibler et al., (2002).

There are clearly areas of both convergence and divergence in the literature about what are regarded as important and unimportant competences for the CRE manager. There are also different curricula that emphasise different approaches to higher education with regards to real estate, which have correspondingly different emphases on varying skills.

2.2.7 The supply of competence – real estate education

Various countries each emphasise a distinct type of real estate education, each one with its own understanding of what makes up the core real estate *Body of Knowledge* (BOK) (Epley, 1996). Therefore, there is a lack of consensus as to what makes up the BOK (Schulte et al., 2005; Mirembe and Viruly, 2018). The three types are namely: The classic surveying approach, as practiced in the U.K.; The investment and finance-based approach that the U.S. favours; and the interdisciplinary approach of continental Europe (Boyd et al., 2014; Schulte et al., 2005).

In the U.S. the Investment and Finance oriented nature places much of the real estate training as elective subjects as part of a Master's in Business degree (Boyd et al., 2014; Mirembe and Viruly, 2018). One is likely to be lectured by educators from the finance department in business schools and will be exposed to the various areas within the business world which tends to be very valuable as "each property is itself a business" (Schulte et al., 2012). However, this business focus may leave graduates "blissfully ignorant" of basic property and real estate concepts and applications (Schulte et al., 2012). This is attributed, by Schulte et al., (2012), to a focus on the business aspect to the exclusion of traditional surveying practices.

The U.K. teaches a version of real estate that is focused on the traditional disciplines of surveying such as real estate management, quantity and building surveying (Boyd et al., 2014) as well as building construction and economics (Mirembe and Viruly, 2018). As Schulte et al., (2012) put it, in the U.K. "students will have much more exposure to the 'real' of real estate" and will have a much better grasp of the tangible components of the property field than someone who pursued education in the U.S. However, the U.K. surveying approach disadvantages students in that they do not have nearly as much knowledge of generic business principles which are essential for the CRE professional (Schulte et al., 2012).

The continental Europe approach is the youngest of the three (Boyd et al., 2014), having been around only from the 1990's, and reflects the fundamental interdisciplinary nature of the property field (Schulte et al., 2005). It seeks to take the 'best of both worlds' by combining the relative strengths of the Business/Finance and Surveying approaches to provide a more robust and balanced education (Schulte et al., 2012). This should develop skills over and above those taught in the traditional business approach (Oladokun and Gbadegesin, 2017).

Much like in continental Europe, real estate degrees are fairly new in Africa, particularly so in South Africa (Azasu and Gibler, 2016). As noted by Chikafalimani, (2013) this interdisciplinary approach has been adopted by South African Universities. The University of the Witwatersrand teaches both business-oriented topics as well as traditional real estate topics, with a course specifically devoted to CRE (Azasu and Gibler, 2016). Mirembe and Viruly, (2018) found that generally South African real estate curricula tend to be multi-disciplinary and diverse in content although some do emphasise more of the U.S. curriculum style while others more of the U.K. The "University of Cape Town" (UCT) and "The University of the Witwatersrand" both tend more towards the U.S. business-oriented curriculum, however WITS does still teach traditional surveying courses which makes it multidisciplinary (Mirembe and Viruly, 2018).

2.2.8 The effect of educational background on effective CREM service (i.e. Business Degree vs RE degree)

As discussed above, CRE managers tend to place a higher value of strategic management abilities (Such as development, leasing, acquisition and disposal; finance; calculating performance measures; portfolio management and corporate strategy) than on narrow financial and technical

skills (Such as international economics/finance, tax-issues and bilingualism) (Poon and Brownlow, 2014).

The literature has also shown that different real estate curricula emphasise the generic business component (U.S.), the more technical component (U.K.) or some combination of both (Boyd et al., 2014). Therefore, due to the aforementioned emphasis on general business skills it may seem as though a business oriented RE degree, like is practiced in the U.S., is better in terms of a career in CRE. And if this is the case then perhaps a business degree, such as a BCom or MBA, is even better as that will emphasise the generic business skills and strategic component even more.

This idea may be reflected by Schulte et al's. (2012) critical observation that in the past the property industry was populated by practitioners who were not well versed in disciplines like finance or business. Conversely, the industry has been dominated in recent times by people with a business or finance background who only have a "passing familiarity, much less knowledge of, property and real estate" (Schulte et al., 2012). This not seen as a positive development, as it creates practitioners that do not fully understand how to use property to generate massive value for the business.

Manning and Epley (2006) find that in general even the U.S. universities tend to teach more specialised real estate skills and do not focus as much on generic business proficiencies and skills that are required by CRE managers in positions of authority within the organization. Before dismissing the importance of a real estate specific education, it is essential to discuss the 5 evolutionary stages of CREM model. A few different studies such as Gibler et al., (2002), Van der Voort (2016) and Ali et al., (2008) and Manning and Epley (2006) reviews Joroff et al's., (1993) ground-breaking model. This model identifies 5 levels of CREM, each one valued at a higher level to the previous level (Manning and Epley, 2006). The different levels, in ascending order are: The Taskmaster; the Controller; the Dealmaker; the Intrapreneur and the Business Strategist.

A quick summary of each level is as follows:

Table 9: Levels of CREM Source: Joroff et al., (1993) cited in Manning and Roulac (2001)

Levels of CREM	Function
Taskmaster	Caretakers of existing space; procure and/or engineer cost-effective facilities
Controller	Standardize space needs to minimise facility occupancy costs
Dealmaker	Creative "space needs" solutions; Problem-solving and negotiation in regard to individual properties
Intrapreneur	Provide real estate services as a competitive service provider
Business Strategist	Integrate workforce, workplace and technology trends in overall business strategy

Manning and Epley (2006) explain how this model captures how the CRE manager moves from basic operational duties, to impacting decisions at a strategic, senior management level. Quoting the original source, Joroff et al., (1993), it explains that "each skill that must be mastered cannot be abandoned in later stages; each stage builds upon the capabilities of prior stages." This means that while papers like Gibler et al., (2002) correctly identified the need for CRE managers to move up the ladder, and hence placed a large emphasis on strategic and management skills (as is required by a level 5 Business strategist), but it cannot be done at the expense of lower order levels of CREM. Simply put, the CRE manager must first poses a solid grounding in real estate related technical skills, and perform competently in the more operational aspects of CREM, and then with this solid grounding proceed to engage in strategic application of general business skills (Joroff et al., 1993). A course that does not prepare a candidate in the basic levels of CREM that allow them to successfully accomplish the level of Taskmaster and so on, will create pseudo 'business strategists.'

Manning and Epley (2006) lay out a CREM framework devised by Manning and Roulac (2001). It comprises of 4 quadrants as shown below:

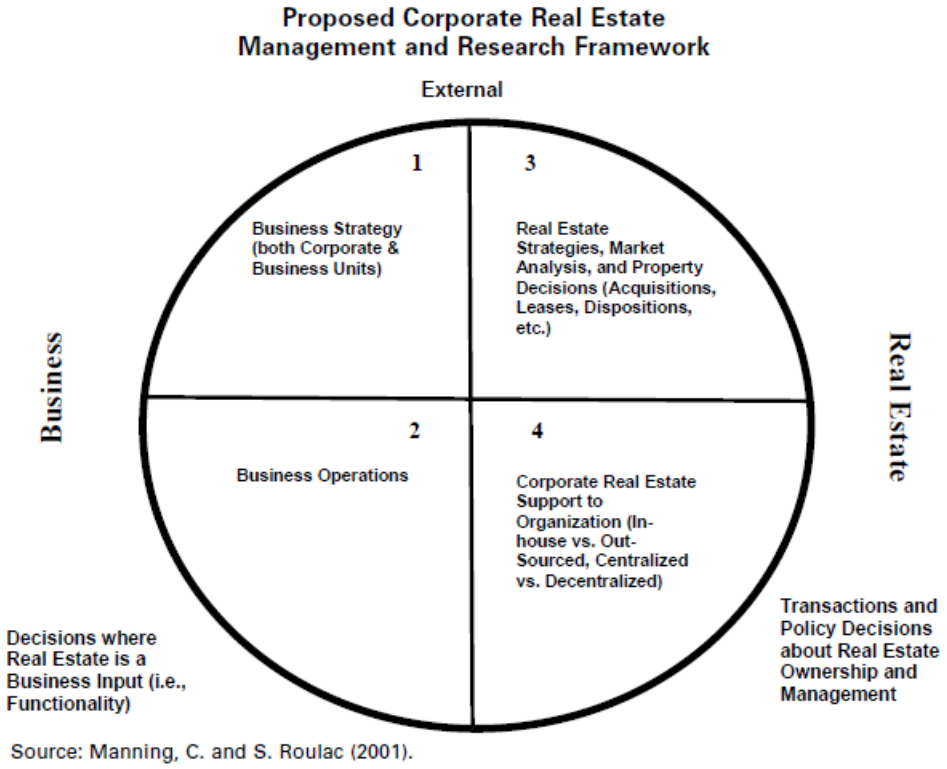


Figure 2: CREM 4 Quadrant Framework Sourced from Manning and Epley (2006)

Manning and Roulac, (2001) explain that Quadrant 1 is preoccupied with preparing and planning for changes in the long term; Quadrant 2 is focused on the company's changing space requirements as a result of organizational shifts; Quadrant 3 encapsulates general CRE portfolio management as well as the implementation of an overarching CRE strategy; Finally, quadrant 4 deals with the issue of CREM as a provider of the real estate service to the rest of the organization.

As Manning and Epley (2006) note, the Taskmaster, Controller and Dealmaker (Bottom 3) stages of the Joroff et al., (1993) model correlates with Quadrant 3 of this framework comprising of CRE strategies, property decisions and market analysis. Similarly, the Intrapreneur stage correlates with Quadrant 4 comprising of the support that CRE provides to the organization itself (Manning and Epley, 2006). Finally, the Business Strategist stage correlates with Quadrants 1 and 2 which deal with the business and corporate units' strategies and the operations of the business respectively.

It can be clearly seen through both the 5-stage model and the 4-quadrant framework that, initially, CRE requires technical, and real estate specific competences. It is only later on, once these competences are established, that the CRE manager requires the necessary generic business skills in order to transform into a business strategist.

Perhaps this is why research that is done in developed markets like the U.S. U.K. and New Zealand emphasise generic business competences and skills but in developing countries like Nigeria there is little to no mention of generic business skills when discussing real estate competences (Poon and Brownlow, 2014). That is to say, it is possible that countries with a more established and developed CRE profession that have an abundance of basic technical competences available, are now focusing on the next stage of evolution as business strategists.

In South Africa there is an interesting conundrum whereby many individuals in charge of CRE did not received formal training in real estate. A recent study by Maetle (2017) showed that 77% of the CRE executives surveyed have no qualification relating to CREM or property, acknowledging that in South Africa there's a gap between the qualifications and job requirements. However, of this 77%, they all had a qualification such as an MBA, LLB, CA or similar. Therefore, it is not that CRE Executives in South Africa lack business competence; it is that they lack the relevant CRE specific knowledge and competences. This is probably why an earlier study by Lalloo (2013) found that CRE managers ranked 'formal property qualification' as the *least important*.

In fact, qualifications are so disregarded in the South African context that Chikafalimani (2013) records that 86.4% of the 250 real estate sector employees who responded to his survey on competency requirements for real estate graduates obtained a formal university degree. The 13.6% of respondents who do not have any such higher educational training is far higher than the 2.4% recorded by Gibler et al., (2002) amongst respondents from Hong Kong, the U.S., Australia and the U.K. This lack of qualification finds resonance in the findings by Maluleke (2015) who notes a lack of experience and skill of in-house CRE staff as reported by management. Paradoxically, only a third of the companies cited being able to access new *technology, best practice* and *skills* as a reason to outsource.

Veale (1989) has shown how essential it is for CRE management to be included in the strategic levels of the firm. Maetle (2017) found most of the CRE professionals he surveyed in South Africa

are senior managers who sit in board meetings, indicating that they are in the right position to influence strategy. We can therefore argue that that CRE managers in South Africa tend to be involved at the strategic executive level (Maetle, 2017), but due to a lack of formal real estate training, they are still seeing CRE as a cost of production not a value-add activity (Lalloo, 2013). It is likely that this attitude, and the resulting lack of strategic utilisation of CRE, is a result of lack of formal real estate training. One facet of that can be found in the work of Ntene et al., (2020) who finds that only a fraction of corporations listed on the JSE, have alignment between their overall business strategy and their corporate real estate strategy, leading to consequences for their performance. The ability to align real estate decisions with organizational decisions is likely to reflect deep knowledge of the strategic value of CRE and how operational decisions on real estate use affect strategic business goals. This competence usually results from formal training.

In spite of that, the findings of Lalloo (2013) suggest that in South Africa CRE is not seen as important, probably because as noted by Selamolela (2017), senior management lacks the necessary knowledge to conduct effective CREM, since most of the responding organizations in his survey do not have a CRE manager formally trained in CREM. Not surprisingly, Maetle (2017) finds that 46% South African CRE managers do not spend *any* time on strategy and also that respondents spend *most* of their time on *General Administration.* Interestingly, Selamolela (2017) also finds that while around 62% of respondents believed that CRE can be used to gain strategic advantage, 74.19% do not have a written overall strategic plan to guide CRE decisions. This suggests a misunderstanding by the current providers of CREM about what it actually consists of. This could be a result of the low rates of formalised training in real estate related degrees (Maetle, 2017).

Maluleke (2015) finds that most respondents do not have any complaints about their outsourced CREM. However very interestingly, this response was attributed to the idea that due to a lack of CRE knowledge on behalf of the in-house CRE decision maker they do not know what to expect of the outsourced CREM service they have procured and therefore could not adequately assess the quality of the service (Maluleke, 2015). This means that incompetent external CRE providers can get away with inferior service because South African CRE executives do not know what to expect from an external CRE service provider.

It would seem that within the context of South Africa, there is a dearth of real estate specific skill and that someone who has achieved such a degree would be better positioned to provide CRE than someone with a generic business-oriented background. This would correspond to the recommendation of Schulte et al, (2012) that the more property specific "higher level orientation" of the British method of instruction must be prioritised over the less property specific focus utilised in the American education system. As point of concern, it is prudent to state that many of the studies done in South Africa (Maluleke, 2015; Maetle, 2017; Selamolela, 2017; Avivi, 2017) did not have large sample sizes and so the conclusions that have been drawn from them may not be generalisable. However, the fact that all of the studies reported similar trends indicates that there is validity to the inferences made.

2.2.9 Methodologies in previous studies

Competence assessment has been the subject of research in many different disciplines. Numminen et al., (2014) looked at the effect that ethical climate of a work environment had on nurse's competence. To ascertain competences of the participants, they were asked to respond to a questionnaire using the specific NCS self-assessment (Numminen et al., 2014). Guan et al., (2016) looked at competence of HR managers in China using a list of 20 competences ranked on a 5-point scale. Abbas and Imam, (2016) looked at the competences and associated performance of graduates employed by government departments in the Philippines. They utilised a questionnaire with 50 items which rated level of competence on a 3-point scale from "not competent" to "very competent". Pollard and Steczkowicz (2003) conducted research in Tasmania to assess how competent business managers are in IT and what factors influence their competence level. A questionnaire with 44 items and a 7-point scale was utilised.

Agut and Grau (2002) created their questionnaire through a review of literature and the researchers' personal experience, so as to ascertain which competence needs exist in the tourism industry in Spain. They conducted the process face to face so as to make sure respondents understood the items and utilised a 5-point scale from "nothing at all" to "high" rankings of competence area's (Agut and Grau, 2002). Cizel at al., (2007) then replicated this study, in order to determine if there exists "a set of universal management competencies" in the tourism sector using the same methodology and a 5-point scale.

Epley (2004) is one of the first papers to explore what skills and specific concepts are crucial for the CRE manager and also makes use of the questionnaire format. They used a Likert scale questionnaire where respondents ranked the importance of specific competences. Gibler et al., (2002) examined the survey results of CRE Managers from Australia, the U.S. the U.K. and Hong Kong, about skills, competences and the changing role of CRE. Although Gibler et al., (2002) did not administer the original survey themselves, it consisted of a 5-section questionnaire. The 4th section of the questionnaire comprised of 38 skill and knowledge areas that respondents were asked to rank from "least important (1)" to "most important (5)." Azasu et al., (2018) in determining respondents' opinions on the ranking of competences needed for Facilities Managers, made use of the NIH 5-point ordinal Proficiency scale whereby competence levels are arranged into 5 components as follows: "1 = Fundamental Awareness, 2 = Novice (limited experience), 3 = Intermediate (practical application), 4 = Advanced (applied theory), and 5 = Expert (recognized authority)". The responses were subdivided into 3 levels of skill criticality where a mean ranking of 2.5 and lower was considered a minor skill, 3.75 and higher considered a major skill, and any figure in between considered moderate (Azasu et al., 2018). It would be safe to suggest that this research can adapt the questionnaires by Gibler et al., (2002) as well as Epley (2004) using the NIH proficiency scale used by Azasu et al (2018).

Hoxley et al., (2011) employed a comprehensive review of the literature (including assessment of RICS competence pathways) to identify important competences under the classification of "knowledge, skills and attributes" in order to gauge respondents' perceptions of how well their undergraduate/ postgraduate degrees helped them in assimilating these competences. Following the collection and analysis of responses, the findings were discussed with a number of academics and hiring managers in industry, by means of interviews, in order to provide interpretations and opinion (Hoxley et al., 2011). This is different from the method employed by Boyd et al., (2014) and Carn et al., (1999) whereby the expert panel was convened before the questionnaire was distributed in order to help fine tune the questionnaire, although the original list was run past their colleagues for comment. Again, the respondents answered with a simple 5-point Likert scale as well as "free text boxes" where they could write freely (Hoxley et al., 2011). Poon and Bronlow (2014) investigated property professionals' opinions in Australia about critical Knowledge Skills and Abilities (KSAs) needed to competently do their jobs by using a questionnaire. This questionnaire list was extracted from Poon et al., (2011) and was answered utilising a 5-point

Likert scale. Gibler and Lindholm (2012) made use of information collected in a survey of CRE managers in order to develop and evaluate a model concerning the way in which strategic application of CREM creates additional value for the business. It analyses responses from a survey administered by CoreNet global, which made use of the 5-point Likert scale that gives options from "not important at all" to "very important". Conversely to Maluleke (2015), the researchers first choice of method was a semi-structured interview (5 interviewees) and the online questionnaire was used for those that were not able to make time for an interview (additional 23 respondents).

Oladokun and Gbadegesin (2017) assessed the rankings of soft skills as well as real estate core competences in Nigeria. The questionnaire used was adapted from the Hoxley et al., (2011), Poon and Brownlow (2014), and Poon (2014) questionnaire and used a 5-point Likert scale response. This give precedent to use these studies as the basis for this dissertation's questionnaire, however it seems strange that questionnaires developed for the generic real estate profession (Poon and Brownlow, 2014; Hoxley et al., 2011; Poon, 2014) were used at the expense of CREM specific questionnaires (Gibler et al., 2002; Epley, 2004).

Queirós et al., (2017) state that surveys are very commonly used as quantitative research techniques as it helps collect data about phenomena and can reflect the perceptions of a group. A benefit of using surveys is that they can represent a population quite well at a low cost, however their accuracy depends on how accurate respondents are in their answering as well as how the questions have been set up (Queirós et al., 2017). The strength of using a questionnaire is that uses qualitative data and analyses it quantitatively (Saunders et al., 2016; Rowley, 2014). It also allows for the assessment of correlations between variables (Rowley, 2014).

Likert type scales consist of a number of response options that are all linked to a specific item that is being measured, for example the attitude towards X (Willits et al., 2016). The NIH Proficiency scale according to this definition is a type of Likert scale. The most common of these Likert scales use 5 response options with a neutral option, as well as a moderate and extreme option in both other directions, however Likert scales as little as 3 and greater than 7 have been used (Willits et al., 2016). These types of scales are very useful in research and have played a part in advancing knowledge in various fields (Willits et al., 2016).

A very common question that is asked is how many years of experience participants have had, and some segment the findings in terms of experienced/not experienced. Yet even in Poon and Brownlow, (2014), although this is graphically presented, there is little actual analysis done on the differences between these two groups. Another question that is not-uncommon is that of professional certification of respondents. However, as seen in Oladokun and Gbadegesin (2017), the professional status of respondents is predominantly used only to describe the sample, and no meaningful analysis is generated by segmenting the responses according to the respondent's professional status.

2.2.9.1 Assessing the level of competence

Epley (2004) Gibler et al., (2002) Gibler and Black (2004) Manning and Epley (2006) all address the topic of CREM competences. However, as these were some of the first studies exploring the concept of CRE competences they all focused on creating a ranking for the various competences. This means that the CREM competence research is preoccupied with respondents' opinions of how important various competences are, leading to conclusions like "strategic planning" is the most important skill required (Gibler et al., 2002) or that detailed tools of analysis from the finance paradigm are not essential skills for a CRE manager (Epley, 2004) using the different scales described in the previous section.

While hugely important work in the field, establishing what competences are actually important, what these studies have failed to do it to ascertain the respondent's level of competence in each competence area. This is to say while Gibler et al., (2002) confirmed that *strategic planning* is a crucial skill, it did not determine at what level of competence the respondents believed themselves to be able to implement this skill.

Oladokun and Gbadegesin (2017) solved this conundrum by simply directing their questions to assess the respondent's perceptions of their own level of competence, not a hypothetical ranking of importance. Poon et al., (2011) essentially determined both importance/ranking of competences as well as the *actual level of competence* when they asked the respondents to assess the list of competences twice over. "The first part asked them to agree/disagree with the statement 'Graduates of real estate courses require …'" "The second part asked them to agree/disagree with the statement 'Graduates of real estate courses currently demonstrate …' (Poon et al., 2011)." Both

of these studies dealt with the more generic subject of competences for property professionals and did not focus on competences of CRE managers.

However, in other fields of research, (e.g. Cizel et al., 2007; Agut and Grau, 2002), researchers have conducted research in benchmarking the levels of competence through a method known as the Gap-scale analysis. To do this, the researcher asks two sets of questions similar to Poon et al., (2011), of:

- How highly do you rank the importance of these competences (on a scale of 1-5), and,
- How high do you rate your personal level of competence (on a scale of 1-5)

The differences between these levels of importance and the self-assessment of competence indicates if there is a gap. This allows for an explicit analysis of competence gaps, and their severity.

2.3 Conclusions

In the South African context, research into CRE is far from fully explored. As Maluleke (2015) shows that CREM, while being well researched on the international stage, has not enjoyed the same amount of attention within South Africa. In addition, as the Parr et al., (2011) Professional Maturity Model shows, it is also unclear what is the level of maturity of the corporate real estate industry in South Africa. Lalloo, (2013) conducted research into what attitudes South African senior executives hold with regards to CRE management. Some of the findings are relevant to a discussion around competence, however as it's not the primary focus of the study there is still a lot of unexplored information. The same is true for Maetle (2017), Maluleke (2015), Avivi (2017) and Selamolela, (2017). Thus, there is a need for research that explicitly discusses CREM competence in the South African context. There is a lack of any explicitly ranked list of competences a South African CRE manager is expected to have, a gap which this research intends to fill.

Most of the research in the arena of CREM competence revolves around defining and ranking a set of competences relevant to the CRE manager (Epley, 2004; Gibler et al., 2002; Gibler and Black, 2004; Manning and Epley, 2006). However, they do not then determine how competent respondents are in each area. Studies such as Oladokun and Gbadegesin (2017) and Poon et al.,

(2011) do address this lacking, however they are in the broader Real Estate literature (i.e. not CRE specific). In addition, the way that levels of competence were assessed was a very simple perceptions-based approach. Studies within the 'Management in the tourism sector' field of research (Agut and Grau, 2002; Cizel et al., 2007) have developed a more rigorous way of assessing levels of competence called a "Gap-Scale analysis." As this method has not yet been utilised within the Real Estate literature in general, and CRE literature in particular, it presents a unique contribution of this dissertation.

A number of studies asked demographic questions about the respondent's level of degree achieved (Boyd et al., 2014; Chikafalimani and Cloete, 2010; Gibler and Black, 2004; Gibler et al., 2002; Russel, 2015; Hoxley et al., 2011). However, none have determined in what field these degrees were achieved. This was pointed out by Hoxley et al., (2011) saying that the study was limited in that it did not collect information on what *type* of undergraduate degree was achieved by the postgraduate respondents, acknowledging that this would have been very valuable information in determining how the type of course influenced their competences later on. In fact, many studies aim at ensuring a homogenous background in some sense by ensuring respondents all possess a particular designation like a CCIM2 (Epley, 2004). By the very nature of the research design this has prevented research into the effect that different fields of study, or certification standards, have on CREM competences. Therefore, a gap in knowledge exists about the effect that educational path (field) has on the level of an individual's CREM competence. This is an important factor in the South African context as firms whose primary operations are not in real estate tend to hire people with business, legal or accounting training to be in charge of the company's CRE (Maetle, 2017).

Similarly, while some studies collect information on respondents' years of experience and and/or their certification status (Gibler and Black, 2004; Gibler et al., 2002; Poon and Brownlow, 2014; Oladokun and Gbadegesin, 2017), the studies did not further assess if those factors affected the participants responses. Therefore, there is a lack of clarity as to how these factors would affect a respondent's competence.

In summary, there is no comprehensive list of required CRE competences compiled within the South African real estate space. Although international lists do exist, they are predominantly from developing countries and it would be beneficial to determine such a list relevant to the South Africa

context. Secondly, there is a gap in research as to determining the actual level of competence within the real estate space. Although other researchers have successfully used the gap-scale analysis to determine competence levels within other fields, this has not yet been done in the real estate sphere. Finally, it is true that previous papers have noted respondents' educational level, experience and professional certifications (or lack thereof). However, little meaningful analysis tends to be generated and these answers are often used simply demographically to better describe the sample. These findings could be used to segment the respondents into groups in order to determine if the segmentation leads to any significant difference in competence. There remains a gap for a comprehensive study of competence that determines what competence areas are important in the South African context, what level of competence is being displayed, and what factors (education, experience and certification) lead to higher levels of competence.

3 Research Methodology

3.1 Introduction

This section describes the research design that the research project adopted. Firstly, it examines the methodologies used in past studies within this subject area that provided insight on how this research could be conducted. Then the specific research paradigm as well as the methodological choice, sampling/population strategy, the research or data collection instrument, methods of data analysis are described. In addition, strategies adopted to enhance validity and reliability, as well as ethical considerations and associated mitigation strategies are described.

3.2 Research Paradigm

A research paradigm is a group of assumptions that underpin the way in which research is undertaken (Saunders et al., 2016). A paradigm can be thought of as a collection of foundational beliefs that "represents a worldview that defines, for its holder, the nature of the 'world,' the individual's place in it, and the range of possible relationships to that world and its parts" (Guba and Lincoln, 1994).

There are 5 major philosophies or research paradigms through which research is undertaken, namely: "Positivism; Critical Realism; Interpretivism; Postmodernism and Pragmatism" (Saunders et al., 2016). Each of these paradigms can be further explained via 4 elements namely: Its Ontology (What is the view on the essence of reality); Epistemology (What is the view on knowledge); Axiology (What is the view on the researcher's values) and the Typical Methods that are used (Saunders et al., 2016). These paradigms are unpacked in the following table:

Table 10: Comparison of five research philosophies Source: Saunders et al., (2006)

Ontology (nature of reality or being)	**Epistemology** (what constitutes acceptable knowledge)	**Axiology** (role of values)	**Typical methods**
	Positivism		
Real, external, independent One true reality (universalism) Granular (things) Ordered	Scientific method Observable and measurable facts Law-like generalisations Numbers Causal explanation and prediction as contribution	Value-free research Researcher is detached, neutral and independent of what is researched Researcher maintains objective stance	Typically deductive, highly structured, large samples, measurement, typically quantitative methods of analysis, but a range of data can be analysed
	Critical realism		
Stratified/layered (the empirical, the actual and the real) External, independent Intransient Objective structures Causal mechanisms	Epistemological relativism Knowledge historically situated and transient Facts are social constructions Historical causal explanation as contribution	Value-laden research Researcher acknowledges bias by world views, cultural experience and upbringing Researcher tries to minimise bias and errors Researcher is as objective as possible	Retroductive, in-depth historically situated analysis of pre-existing structures and emerging agency Range of methods and data types to fit subject matter
	Interpretivism		
Complex, rich Socially constructed through culture and language Multiple meanings, interpretations, realities Flux of processes, experiences, practices	Theories and concepts too simplistic Focus on narratives, stories, perceptions and interpretations New understandings and worldviews as contribution	Value-bound research Researchers are part of what is researched, subjective Researcher interpretations key to contribution Researcher reflexive	Typically inductive. Small samples, in-depth investigations, qualitative methods of analysis, but a range of data can be interpreted
	Postmodernism		
Nominal Complex, rich Socially constructed through power relations Some meanings, interpretations, realities are dominated and silenced by others Flux of processes, experiences, practices	What counts as 'truth' and 'knowledge' is decided by dominant ideologies Focus on absences, silences and oppressed/repressed meanings, interpretations and voices Exposure of power relations and challenge of dominant views as contribution	Value-constituted research Researcher and research embedded in power relations Some research narratives are repressed and silenced at the expense of others Researcher radically reflexive	Typically deconstructive – reading texts and realities against themselves In-depth investigations of anomalies, silences and absences Range of data types, typically qualitative methods of analysis
	Pragmatism		
Complex, rich, external 'Reality' is the practical consequences of ideas Flux of processes, experiences and practices	Practical meaning of knowledge in specific contexts 'True' theories and knowledge are those that enable successful action Focus on problems, practices and relevance Problem solving and informed future practice as contribution	Value-driven research Research initiated and sustained by researcher's doubts and beliefs Researcher reflexive	Following research problem and research question Range of methods: mixed, multiple, qualitative, quantitative, action research Emphasis on practical solutions and outcomes

This research was conducted through the positivist paradigm. Kivunja and Kuyini (2017) describe the positivist paradigm by means of its epistemology, ontology, methodology and axiology. Essentially positivism employs a "objectivist epistemology" that assumes that knowledge is generated through the use of reason (Kivunja and Kuyini, 2017) and makes use of the scientific method and measurement of facts (Saunders et al., 2016). The ontological assumptions made are defined as "naïve realist" which rests on the idea that a real world exists that can be understood and perceived by us directly (Kivunja and Kuyini, 2017). Saunders et al., (2016) characterise the positivist ontology as ordered and based on a universal true reality, while experimental design involves the manipulation of variables to determine their effect on one another (Kivunja and Kuyini, 2017) and tends to be deductive, quantitative and structured (Saunders et al., 2016). The "beneficence axiology" sees ethical issues revolving around the ideas of minimising harm and maximising the good of the research (Kivunja and Kuyini, 2017). Saunders et al., (2016) state that the positivist researcher must remain objective and produce "value free" work.

The positivist philosophy is more objective and typically relies on quantitative research methods (Thompson, 2015; Kivunja and Kuyini, 2017). As this research was trying to measure levels of competence and analysed questionnaire response patterns for statistical significance, it falls under the umbrella of positivism. Positivism emphasises the use of quantifiable methods that can be statistically analysed (Saunders et al., 2016). Also, part of this dissertation aims at determining if a relationship exists between the educational path and the level of competence of respondents and positivist research typically searches for correlations between variables (Thompson, 2015). Indeed, Guba and Lincoln (1994) maintain that positivism is concerned with creating cause-effect linkages between variables.

This dissertation partially adopted an inductive research approach. Inductive research starts from the particular and determines broad conclusions (Walliman, 2010). It entails the researcher first collecting data, then looking for patterns that emerge from the data and finally develop a theory from said patterns (Blackstone, 2018). This is appropriate for the research in question since the research gathered data and drew conclusions regarding the maturity of the profession, the competence of South African managers, and the effect of educational pathway taken. The following images from Blackstone (2018) and Dudovskiy (2018) depict the entire process of inductive research.



Figure 3: Inductive Research Process Blackstone (2018)

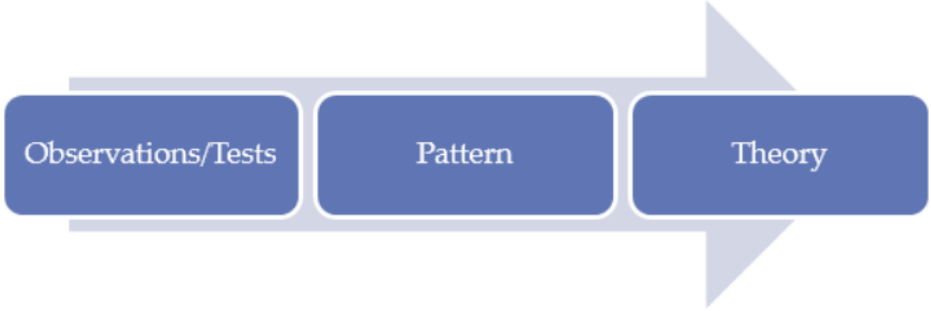


Figure 4: Inductive Research Process Dudovskiy (2018)

The purpose of this work was to assess a practical situation to close a gap in knowledge; however, it will not go so far as building a theory. The end goal for this dissertation is to look for patterns and report the findings which may inform further studies that can then develop a theory.

3.3 Design

This research used a quantitative research design. The quantitative research methodology collects and analyses data which is then presented numerically with specific trends having been identified (Goertzen, 2017). It is utilised when wanting to measure something (i.e. levels of competence), to relate variables with one another using statistics theories (i.e. does educational path affect level of competence), and to test (Creswell, 2003).

Quantitative research is often associated with positivism (Saunders et al., 2016; Thompson, 2015) which is the research philosophy of this dissertation. As Kivunja and Kuyini, (2017) note this may be due to the precise nature of quantitative research that collects, analyses and interprets the data so as to unearth and describe relationships.

The following are some characteristics of quantitative research outlined by McCusker and Gunaydin, (2015): The researcher knows what they are looking for before the start of the inquiry; The study is designed before data is collected; a tool such as a questionnaire is used. The benefits

of quantitative research are that its conclusions are generalizable and replicable; Its disadvantages are that it can be time consuming and is not designed to answer why people act in specific ways (Goertzen, 2017). Quantitative approaches often make use of the questionnaire instrument (Creswell, 2003; Saunders et al., 2016) which is the instrument type that will be utilised for the purposes of this study.

3.4 Sampling

3.4.1 Target Population

The target population is the population which the research focused on (Saunders et al., 2016). The population is people who are in charge of CRE in South African non-real estate firms and people who work in firms that offer CRE services. They may or may not identify with the title 'corporate real estate manager' however, the population encompasses the people in charge of CRE decision making within these firms or those that offer CRE services. The main element that includes a person in the target population is that they meet the aforementioned requirements (Asiamah et al., 2017) therefore individuals that may work within the real estate industry but do not participate in the CRE decision making function are excluded.

3.4.2 Accessible Population

The accessible population is made up of the target population, minus all those that are unable or not willing to engage with the data collection (Asiamah et al., 2017). The number of people who are in the accessible population for quantitative research tends to be higher than qualitative as the participation tends to be less onerous and will meet with less resistance (Asiamah et al., 2017). Therefore, as this research is qualitative in nature it should help ensure a sizable accessible population.

3.4.3 Sample

Lalloo (2013) used the JSE top 200 companies as a sample in order to act as a proxy for the rest of the market. Avivi (2017) on the other hand, cast the net wider and used a CRE consulting firms' database to reach 500 respondents. Azasu et al., (2018) made use of yet another strategy and distributed their survey through a local association, SAFMA to their members through their membership database.

Saunders et al., (2016) state that so that one may be able to apply probability sampling, one needs a complete sampling frame that lists the entire target population. While it may be theoretically possible to create a list of every person responsible for the CRE function in South Africa, this is not practical and is far beyond the scope of the study. Unfortunately, since there is no statutory body that deals with corporate real estate managers, the practitioner numbers are not recorded as the number of real estate agents would be for example (EAAB, n.d). Rowley (2014) acknowledges that due to this issue of difficulty in compiling a comprehensive sampling frame, most studies rely on non-probability sampling. This study makes use of a purposive non-random sampling (Saunders et al., 2016) for this dissertation which will also help ensure that a knowledgeable person fills out the questionnaire. The purposive sampling strategy that will be used is homogenous sampling, as this can be used to specify as specific occupation type and help unearth differences within (Saunders et al., 2016). The study also makes use of snowball sampling which is where respondents to the survey lead the researchers to additional respondents, and therefore the sample thereby "snowballs" (Saunders et al., 2016). This will help overcome issues of small sample sizes.

As a result of the low response rates in these studies (Azasu et al., 2018; Poon and Brownlow, 2014) the sample size will be increased as much as possible. Having a large population makes it difficult to extract individual characteristics of members of said population (Asiamah et al., 2017).

3.5 Data collection

3.5.1 Data collection instrument

The primary research instrument was a questionnaire. Questionnaires or surveys allow a researcher to gather qualitative data which can be analysed quantitatively, and they can be utilised to determine if a relationship exists between different variables (Saunders et al., 2016; Rowley, 2014). This is considered to be the most appropriate research instrument to conduct this type of research as is evidenced by the papers that have made use of it (Poon and Bronlow, 2014; Azasu et al., 2018; Epley, 2004; Boyd et al., 2014; Carn et al., 1999; Chikafalimani and Cloete, 2010; Oladokun and Gbadegesin, 2017; Hoxley et al., 2011). Questionnaires by their nature collect qualitative data that is analysed quantitatively. Questionnaires are useful for this type of research as they allow the generation and measurement of a scale and find correlations between variables such as 'educational path' and 'level of competence' for example (Rowley, 2014).

The questionnaire was divided into three parts. The first part asked descriptive and demographic questions about the respondent and the company in which they work. These include for example, questions regarding the respondent's highest qualification, and job title (Azasu et al., 2018); The background and years of experience (Poon and Bronlow, 2014); Any professional qualifications (Oladokun and Gbadegesin, 2017). Critical to the latter part of the study, questions were asked to ascertain in what field respondents' degrees were achieved (i.e. Business/Accounting/Real Estate). This section also collected information regarding the three aspects of professionalisation namely: relevant education; the passing of a professional certification exam and relevant experience. This section made use a combination of scaled questionnaire responses as well as free-text boxes where appropriate (Lalloo, 2013).

The second part has a comprehensive list of CREM competences. Respondents were asked to rank the importance of each competence given, on a scale from 1 to 5 (Azasu et al., 2018; Gibler et al., 2002; Hoxley et al., 2011; Lalloo, 2013; Poon and Bronlow, 2014; Selamolela, 2017; Gibler and Lindholm, 2012; Oladokun and Gbadegesin, 2017).

The third part of the questionnaire repeated the entire list given in part two, however this time the question was phrased "please indicate what degree of competence you feel you currently possess for each competence/skill area" using the NIH proficiency scale (which is also a 1-5 scale). This section allowed for a gap-analysis, as created by Agut and Grau (2002), in order to determine the competence gap for each area.

3.5.2 Data collection procedure

The competences were derived as follows:

1. Firstly, the lists given by two seminal studies that dealt directly with CREM competences Gibler et al., (2002) and Epley (2004) were assessed and the most representative ones were selected. For example, items that are less crucial to the CRE function such as 'community relations' or 'globalization international finance' were not included.
2. Secondly, the lists created by other studies for generic real estate competences (Poon and Brownlow, 2014; Manning and Epley, 2006) were assessed for any other relevant competences.

3. Thirdly, the composite list, following an internal revision, were disseminated as a mini-pilot study to inspect the legitimacy of each competence's inclusion (Poon and Brownlow, 2014; Boyd et al., 2014; Carn et al., 1999; Avivi, 2017; Lindholm et al., 2006). A pilot study is relevant in order "to test the reliability and validity of the measurement instrument to be used to collect the data and can be concluded in preparation for the main study" (Van Teijlingen and Hundley, 2001 in Maluleke, 2015). A pilot study is "pre-testing or trying out" the method/research instrument in order to determine if it is appropriate to address the research question (Van Teijlingen and Hundley, 2001).

The mini-pilot study was held with two individuals who are involved in the CRE industry. They were contacted telephonically and once they agreed to the study and to provide feedback the questionnaire was be sent to them. The purpose of the mini-pilot study was only to obtain feedback on the applicability of the questions and understandability of the survey, not to test any findings, thus two knowledgeable responses was deemed sufficient for these purposes.

3.5.3 Questionnaire Distribution

For the primary study, an online questionnaire was disseminated to pre-identified respondents. Each email was addressed personally to the recipient to bolster the rate of response (Hoxley, 2012). This is important as Rowley (2014) states that one must first build rapport with respondents. Qualtrics was used to expedite the distribution of the online questionnaire and the collection of the results as, when properly conducted, these types of online questionnaires are highly effective (Rowley, 2014). Respondents were encouraged to pass on the questionnaire link to their contemporaries who would also be suitable to answer it, which helped increase the number of responses gathered.

3.5.4 Dealing with Non-Respondents

Rowley (2014) acknowledges that getting sufficient responses is a significant issue with the questionnaire methodology and suggests a number of ways to increase this including: explaining the research, assuming confidentiality and explicitly stating the time commitment. Follow up emails were sent to increase the response rate and motivate additional responses (Epley, 2004). If less than 30 responses had been received, there was a plan to send additional round of emails out to other companies. The final data collection process took numerous rounds of emails to different

organisations in order to reach the final tally. Participants had to be reminded a number of times in some cases, but most were more than willing to assist.

3.5.5 Limitation of Data Collection Instrument

Limitations of the questionnaire instrument are that respondents may not have understood the questions properly as well as the prevalence of incomplete questionnaires, of which there were 7 (Rowley, 2014). A limitation is also due to the fact that the questionnaire is perceptions based which limits the objectivity of the responses. Finally, the questionnaire may be limited as a result of the Dunning-Kruger effect which says that incompetent people are unable to recognize their own incompetence and give themselves higher scores than they actually deserve (Pennycook et al., 2017).

3.6 Data Analysis

When data is in an unanalysed form there is little meaning that can be gleaned, and so it is important that it is analysed in order to present coherent findings (Saunders et al., 2016). Warren (2018) determines that questionnaires that use 5-point Likert scales could make use of the following nonparametric methods of analysis: Chi-Square, Kruskal-Wallis and Mann-Whitney tests and Cronbach's Alpha is also used. This is consistent with the literature that has been collected on the topic, and the Chi Square test (Gibler et al., 2002; Avivi, 2017), Mann-Whitney U test (Hoxley at al., 2011; Epley, 2004; Gibler and Lindholm, 2012), Kruskal-Wallis test (Gibler et al., 2002; Gibler and Lindholm, 2012; Epley, 2004) and Cronbach's Alpha (Poon and Brownlow, 2014; Gibler and Lindholm, 2012) have been used extensively for research of this nature.

This study utilised Cronbach's alpha so as to determine the internal consistency of the responses as well as the Mann-Whitney U test in order to see if there are differences in competence between various groupings of respondents (Grouped according to education, experience and professionalisation). The Mann-Whitney U test was selected, in part, because the final sample size was small and this makes a nonparametric test appropriate. It also is the appropriate test for determining differences between two groups, which is what the research aimed at doing. Finally, at a basic level, simple statistical indicators such as standard deviation, maximum/minimum values as well as mean were also computed, as was done in Maetle (2017).

3.6.1 Limitation of Analysis Instrument

Sijtsma (2009) says that despite its wide prevalence there are limitations to Cronbach's alpha namely that it can underestimate reliability and that it may not actually be related to the tests internal structure, which affects internal consistency. However, it is acknowledged that utilising Cronbach's Alpha is preferred for publication in journal articles and it can be reliable when reported alongside a lower bound estimate (Sijtsma, 2009). In terms of the Mann-Whitney U test Chan and Walmsley (1997) report that it "tests only for differences that are collectively significant" and that it requires numerous observations in each group in order to work.

3.6.2 Reliability and Validity

Two primary indicators of research calibre and rigour are reliability and validity (Heale and Twycross, 2015). Validity measures how pertinent the research method was, how accurate the analysis is and how generalizable the findings are (Saunders et al., 2016). Validity can also be used to describe how precisely the findings represent the data (Noble and Smith, 2015). Reliability is a measure of how consistent and replicable the study is, i.e. can the process be replicated or is it a replication of a prior study (Saunders et al., 2016). Reliability can also be used to describe how consistent the analytical processes used throughout the research are (Noble and Smith, 2015).

According to the definition of validity given above (Saunders et al., 2016), it is essential to determine that the methods used will be the appropriate ones for the aims. This proposal has attempted to do so by thoroughly researching what methods researchers have used in this topic area, as has been documented above. It is also explained by Saunders et al., (2016) that validity hinges on a clarification of the cause and effect of variables on one another. The dissertation made use of valid statistical methods of analysis, and conservative significance level of 5% in order to ensure valid clarification of any cause and effect. Saunders et al., (2016) also note that a threat to validity can come about if there is a change in the instrumentation type used as it can affect how comparable the results are. For example, if halfway through a study semi-structured interviews are switched for an online questionnaire to save time. In order to avoid this issue, this dissertation made sure to stick with the same questionnaire and same methods of administering it throughout.

The external validity of the study is concerned with how applicable the findings are to other groups (Walliman, 2011), for example other South African CRE managers who were not sampled. In

order to help ensure this the study attempted to accurately sample the population so that it is representative (Saunders et al., 2016). Looking at the respondent's demographic information, presented later in the dissertation, it can be seen that there is a roughly even split between those who work in CRE firm's vs those who operate the CREM function in-house. This means that both groupings were represented in the sample.

The study also considered issues that may affect the reliability of its results. Participant bias can cause the respondents to give incorrect responses which would affect the dissertations reliability (Saunders et al., 2016). This is prevalent in the perceptions-based section of this research as the participants may seek to protect their own ego by claiming a higher level of competence then they really possess. This was overcome as much as possible by conducting the research in an anonymous online forum, where the respondent's identities are safeguarded and they are not being interviewed by a real-life human whom they may wish to impress. Moreover, the wording of the questions were put as to be non-confrontational in order to increase the likelihood of a genuinely honest response. Cronbach's alpha has been used in much of the literature on the topic. Heale and Twycross (2015) have noted that it is a very commonly used test for internal consistency, and thus it will also be adopted in this research to help increase reliability. It is also important to determine the 'equivalence' or consistency of responses between the various study participants (Heale and Twycross, 2015). The study reported high Cronbach's alpha values. It is also true that typically having a larger pool of data will increase reliability (Walliman, 2011), so having 36 usable responses, while certainly could be improved upon, does increase the reliability of the results. The reliability of the data was also assessed by comparing the findings to prior studies and determining if there are any widely differing implications that are unexplained by the literature as this may suggest an error.

3.7 Ethical Considerations Regarding the Research Design

Ethics, in terms of research, involves adhering to certain standards that govern how research is conducted (Saunders et al., 2016). Research can only have value if it has been conducted honestly, hence the primary importance of research ethics (Walliman, 2011). This dissertation involved engaging human participants during the pilot study and questionnaire. This human interaction creates certain ethical issues that were considered and mitigated as highlighted below (Walliman, 2011).

3.7.1 Harm

The following is the guiding principle of research ethics that was followed: “The protection of participant’s dignity, safety, rights and wellbeing take precedence over all other interests” (Harris et al., 2017). The critical issue here is to do no harm, be it mental, emotional or other (Saunders et al., 2016). The research participants must be treated with respect (Saunders et al., 2016). The issue of doing no harm essentially governs many other ethical considerations as, for example, breaching the trust of confidentiality would cause harm (Saunders et al., 2016).

It is also crucial that the content of this dissertation does not violate the ethical violation of plagiarism (Walliman, 2011). As such all ideas or works that were created by other sources have been appropriately and accurately cited and referenced and wording was not copied verbatim without the use of quotation marks. This dissertation made use of the Harvard method of referencing and citation. The data analysis was also done in such a way that is free from the researcher’s bias, although Walliman (2011) maintains that this may be impossible, this research aimed to stick to this ideal. As such the analysis was not engineered to produce a specific pre-determined result and any alternative findings that go against the original postulation have been presented (Saunders et al., 2016). It is also noted that small sample sizes can skew the findings and cause the presentation of such to be unethical without appropriate caveats and a detailed description of confidence intervals etc. used (Harris et al., 2017). As the survey got 36 suitable responses this concern has been minimised. This research raised no ethical issues in terms of interviewing underage participants or vulnerable groups or animals.

3.7.2 Informed Consent

Participants in the online questionnaire and pilot study must give informed consent before the research commences (Harris et al., 2017). The consent was obtained in written form, which is preferable (Harris et al., 2017), by having participants read through a declaration online and give their consent to the study before being allowed to access the questionnaire. The declaration also provided a description of the research, which is a crucial step in questionnaire research (Walliman, 2011). The consent form also clearly said that participants can withdraw from the research whenever they wish and their participation is wholly voluntary (Saunders et al., 2016).

3.7.3 Deceit

Deception could take the form of not informing the participant to the researches actual purpose (Saunders et al., 2016). This may have been tempting as the nature of this studies inquiry may lead to a finding that the very people who have responded are lacking in competence, and thus the desire to try hide the research's purpose. To avoid this the informed consent sheet explicitly outlined the fact that this research was attempting to understand competence levels. It also highlighted the benefit that the respondent may receive in being able to pinpoint their own personal areas of deficiency and above average performance.

3.7.4 Right to privacy

The right to privacy of an individual entitles them to not disclose particular information (Grimes, 2017). SeattleU (n.d.) adds that privacy encompasses a person's control over the nature of how they share personal information. Respondents privacy must be safeguarded and it is an important factor that underlies many other ethical considerations, the most obvious being confidentiality and anonymity (Saunders et al., 2016).

The information that was amassed from the questionnaires is likely to contain sensitive information (Saunders et al., 2016), therefore to protect it and maintain privacy, it has been stored and transmitted in a safe, password protected manner (Walliman, 2011). It is crucial that the respondent's personal information is encrypted (SeattleU, n.d.).

3.7.5 Anonymity and Confidentiality of the Participants

Saunders et al., (2016) maintain that since the point of research is to address the research question, it should not be focusing on the people who are providing the answers, rather the answers themselves. This informs the ideas of confidentiality and anonymity in research. Besides for its obvious ethical benefits, it has also been found that ensuring anonymity and confidentiality can increase the reliability of the collected data (Saunders et al., 2016)

Confidential information has been disclosed for a specific use and must only be used for that specific purpose (Grimes, 2017). Confidentiality occurs when participants inform the researcher of something that they wish to remain private and the researcher is obligated not to reveal this information (Harris et al., 2017). Confidentiality was safeguarded through obtaining informed

consent that specifies that the responses for the survey will not be shared beyond the researchers (SeattleU, n.d.). There is a much lower risk of breaching confidentiality when an online medium is utilised, such as the questionnaire used in this study (SeattleU, n.d.).

Anonymity is achieved when the identity of the respondent is not known and there is insufficient information about them given so as to be able to determine who they are (Grimes, 2017). The data that is provided by the respondents must not be attributable to them as this could cause harm (Saunders et al., 2016)To attain true anonymity, the research did not collect direct identifiers such as names or telephone numbers or any indirect identifiers such as age, race or gender (SeattleU, n.d.). The danger of data not being anonymous is that if confidentiality is breached then their identities will be released, but this would not be a danger if even the researchers themselves cannot discern the identity of the participants (SeattleU, n.d.).

Privacy and confidentiality have been maintained throughout the dissertation by not mentioning the names of the participants in the survey, or the companies that they represent. In addition, no information has been given that is unique enough to a specific person or company that could allow a reader to deduce who the dissertation is talking about.

4 Results

4.1 Introduction

This section presents and analyses the results of the survey. A mini pilot study was conducted whereby the survey was disseminated to two industry participants to complete, review and provide feedback. This was done primarily to add an additional layer of rigour and determine if the content of the questionnaire was understandable and logical, not to perform any statistical analysis on the results, hence the low number of respondents. Following this process, the survey was determined to have no content issues and one suggestion was made regarding the survey structure to allow for easier navigation. Once this modification was done, it was disseminated publicly.

The survey was targeted at people who either work in the corporate real estate role for the businesses they work for, or work in a firm that supplies CRE services to other companies. The data was collected through a snowball sampling method, by identifying participants who could complete the questionnaire and who, in turn suggested other respondents. A few reminders were sent after a couple of days in multiple instances. In total, 45 responses were received. Of this, 2 respondents were not from South Africa and so their responses had to be eliminated. Another 7 did not complete the questionnaire fully. In total there were 36 usable survey responses which represents an 80% success rate.

4.2 Respondent Characteristics

4.2.1 Qualifications

The first portion of the survey was designed to get an understanding of the respondents' profiles. The respondents were asked to list what qualifications they received and in what fields. This was unlike other studies in that it allowed participants to have multiple responses in order to provide an accurate map of their educational pathway (not merely what is their highest level of qualification). For example, the following respondent has an Architecture/Planning undergraduate degree, with a postgraduate qualification in Business/Finance/Economics/Accounting (Figure 1). This respondent has had no formal training in Real Estate.

Q1. What level of education have you received and in what fields?

	Business/Finance/ Economics/Accounting	Real Estate/Property	Quantity Surveying/ Construction	Engineering	Humanities	Law	Architecture or Planning
Ph.D.	☐	☐	☐	☐	☐	☐	☐
Masters	☐	☐	☐	☐	☐	☐	☐
Honours/PG Diploma	☑	☐	☐	☐	☐	☐	☐
Bachelors	☐	☐	☐	☐	☐	☐	☑
National Diploma	☐	☐	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐	☐	☐

Figure 5: Example Response Showing Educational Path

The following tables shows the results of the respondent's answers.

Table 11: Qualifications

	Highest Qualification	% of total (n=36)
Honours/PG Diploma	16	44%
Masters	9	25%
National Diploma	5	14%
Bachelors	4	11%
Other	2	6%
PHD	0	0%

Every participant had at least 1 qualification. Many participants seem well educated with 69% possessing an Honours/Postgraduate Diploma or higher.

Table 12: Number of respondents with at least 1 qualification in the field

	Number	Percentage
Real Estate/Prop	22	61%
Business/Finance/Economics/Accounting	11	31%
Architecture or Planning	5	14%
Quantity Surveying/ Construction	4	11%
Humanities	3	8%
Engineering	2	6%
Law	1	3%

The respondent group had relatively many participants who had at least some training in real estate/property. However, it is interesting to note that well over a third of respondents (39%) did not have any formalized real estate/property training. This may reflect the lack of professionalisation in the industry and a perception that one doesn't need to be formally trained in real estate in order to be in charge of CRE. The second largest field was Business/Finance/Economics/Accounting. Both of these findings are supported by the earlier findings of Maetle (2017) whereby 77% of the CRE executives surveyed had no formal property training, and that of those 77% majority had a degree in Business/Finance/Economics/Accounting.

4.2.2 Professional Certification

Respondents were asked to indicate if they have received any professional certifications, and if so, which one.

Table 13: Professional Designation

	Number	N= 36
None	19	52.78%
Certified Property Manager (CPM)	6	16.67%
Member of the Royal Institute of Chartered Surveyors (MRICS)	5	13.89%
Master of CRE (MCR) + Senior Leader in CRE (SLCR)	2	5.56%
Other	2	5.56%
Professional Quantity Surveyor (PRQS)	1	2.78%
Master of CRE (MCR) only	1	2.78%
Fellow of the Royal Institute of Chartered Surveyors (FRICS)	0	0.00%
Chartered Accountant (CA)	0	0.00%
Chartered Financial Analyst (CFA)	0	0.00%
Qualified Professional of Corporate real Estate (QPCR)	0	0.00%

Over half of the respondents had no professional designation. This finding is unsurprising, and may reflect a lack of importance assigned to professionalisation in the CRE space. Of the professional designations, the most commonly reported one is that of a CPM. This course has recently been introduced to the country in partnership with Wits university and so the vast majority of CPM's in the country have some association to Wits. Therefore, it is unsurprising that the snowball-sampling done by this dissertation team, a student and lecturer at Wits, would have gathered such a high portion of CPM's. This therefore, would not be a fair reflection on the rest of the population. Only 2 respondents reported having 2 different certifications, namely both the

MCR and SLCR designations, both of which are designations offered by CoreNet Global. The Senior Leader of Corporate Real Estate (SLCR) designation is restricted to those who hold CRE leadership positions and therefore these participants inclusion in the sample means that CRE leadership was definitely captured. Of the sample there were no respondents who received multiple designations across different institutions. A rich cross-pollination of different certifications from different institutions would reflect a dynamic and multi-skilled industry.

4.2.3 Work Type and Experience

The following tables and word cloud describe the work type, job title and work experience of the respondents.

Table 14: Sector the respondent operates in

	Number of responses	Percentage
I oversee the corporate real estate of the firm I work for	13	36%
I work at a firm that supplies Corporate Real Estate services to other organizations	23	64%

The majority of respondents work for firms that provide real estate services, with only 36% being operating an in-house CREM function. This may impact the results of this study, quite possibly showing the sample to be more competent than the population as a whole. The reason being, a person who is employed by a firm that provides CRE services is more definitively in the world of CRE and may be more likely to possess CRE related skills. However, within companies that manage their CRE in house, it is not uncommon for the task to be subsumed into another portfolio. This means that often CRE could be handled by a department such as HR, who are not trained for the role. Or responsibility is assumed by the CFO, who has many other demands to attend to, and typically comes from a Business/Accounting or Law background, and likely has no formal real estate training. These phenomena suggest that it is likely that a lower lack of competence is found in this sample in relation to the rest of the South African population due to the samples higher proportion of CRE service providers.

Table 15: Job title of respondents

	Number of respondents with word in title	
Manager	12	33%
Director	10	28%
Head	4	11%
Total	26	72%

33% of the respondents had the word Manager in their title and 39% had either the word Director or Head in their title. This indicated that the sample is sufficiently composed of high level CRE decision makers. This enhances the validity of the results as almost ¾'s of the respondents are undoubtedly in a position to make meaningful CRE decisions and direct the CRE strategy and implementation. These are the people whose competence is more significant than low level workers operating in the CRE space.

The word cloud below shows the prevalence of different job description. The sheer variety of job titles used is an indication of the lack of professionalization in the industry, as a well-regulated industry would have very clear job titles with an acknowledged set of expectations/responsibilities attached.



Figure 6 Job Title of Respondents (Word Cloud)

The following table shows how many years of experience the respondents had both in general and in real estate in particular.

Table 16: Years of experience

	General		Real Estate	
<5 Years	5	14%	11	31%
5 -> 14.9 Years	9	25%	15	42%
15+ Years	22	61%	10	28%

Majority of respondents (61%) had over 15 years of business experience in general. But when looking at real estate experience only 28% of respondents had over 15 years' experience. This suggests that many people working in CREM tend to have more work experience in general business. It also suggests that many people operating the CREM function may be doing so as a result of their seniority within the organization and not necessarily because of years of working in Real Estate.

4.3 Competence Related Questions

4.3.1 Attitudes towards CRE

The respondents were given a list of statements and asked to rank what level of agreement they had on a 4- point scale. The statements were sourced from Gibler et al., (2002). The purpose of asking this was to determine respondents' attitudes towards CRE. This was a 4-point Likert scale question and so responses less than 2 indicate disagreement, whereas responses greater than 2 indicate agreement. All of the questions gathered some level of agreement, with even the least agreed upon item getting an average of 2.47. Enhancing workforce productivity and seeing real estate as an important capital asset were the two highest ranked responses.

Table 17: Perceptions of CRE

Position	Statement	Average Response
1	Real estate executives generally have a responsibility for enhancing workforce productivity	3.28
2	Real estate is an important capital asset the return on which organizations seek to maximize	3.22
3	Real estate executives are regularly briefed about corporate goals and strategies	3.00
4	Real estate is recognized as a key corporate asset in organizations	2.89
5	Real estate is only part of the working environment organizations require	2.86
6	Real estate executives generally take the lead in integrating all aspects of workplace delivery	2.81
7	Real estate information is regularly reported to corporate executives	2.75
8	Primary aim of real estate in organizations is to provide appropriate working environments for the least overall cost	2.58
8	CREMs have sufficient information to clearly evaluate the performance of real estate	2.58
9	Corporate executives recognize that every organization that occupies space is in real estate business	2.50
10	Real estate financial returns are the same or higher than overall returns	2.47

The responses have been categorised in three tranches: 3 and up, between 2.75 and 3; and 2.75 down. Interesting that cost minimization has a low rank. It is curious that respondents rank at number 2 “real estate is important capital asset” but then “Real estate financial returns” is ranked the lowest. It would be interesting to understand how respondents calculate the financial return on real estate. It can be noted that if point 3 about reporting happens, then that facilitates alignment as they can only make appropriate decisions if they know overall strategy. This is a good indication and the same conclusion can be drawn looking at point number 4. It may be that ‘Real estate executives are regularly briefed about corporate goals and strategies’ (number 3) because ‘Real estate is recognized as a key corporate asset in organizations’ (number 4). The items included in the top 2 tranches confirm the strategic role of corporate real estate. This report on attitudes shows

that respondents generally value CRE as a strategic asset. This bodes well, as in order for CREM to be applied effectively it must be seen in a strategic light.

4.3.2 Familiarity with common CRE strategies

This next question asked respondents to indicate which of the following Real Estate strategies (if any) they were familiar with. The list was made up of the 8 real estate strategies outlined in Nourse and Roulac (1993) and taught in many Corporate Real Estate courses. Two plausible wrong answers were added, namely "Compliance with the transformational objectives of the country" and "To maximize the value of service level agreement." This question served the dual purpose of determining how familiar respondents were with these textbook strategies, as taught in formalized real estate programs. It also provides an insight into which are the most popular strategies used.

Table 18: Familiarity with CRE strategies

	Total	%
Occupancy cost minimization	33	92%
Flexibility	26	72%
Capture the real estate value creation of business	24	67%
Compliance with the transformational objectives of the country	22	61%
To maximize the value of service level agreement	21	58%
Promote human resources objectives	18	50%
Facilitate managerial process and knowledge work	18	50%
Facilitate and control production, operations and service delivery	17	47%
Promote marketing message of the firm	15	42%
Promote sales and selling process	10	28%
None	0	0%

4.3.2.1 Formalized/textbook knowledge

The correct answer would have been to select all the answers except for the two wrong ones. No respondent scored 'full marks'. One of them got all the right answers but slipped up on the "transformational objectives" question. Another respondent correctly answered all the questions except for "flexibility" and "Facilitate and control production, operations and service delivery"

The responses to the trick questions highlighted in red are very interesting. Only 7 respondents, 19.4%, didn't select these options mistakenly. And so, the 4th and 5th most responded answers were

actually the two incorrect ones. This question was designed to see if respondents could differentiate between standard conventional components of CRE strategy, vs, plausible yet incorrect alternatives. The fact that so many answered incorrectly indicates that they are not familiar with the components.

The answers to the trick questions tells us that not all respondents are knowledgeable about CRE strategy as its traditionally understood. “To maximize the value of service level agreement” is an operational task, not strategic, and therefore mis-understands the strategic application of CREM. Furthermore, with regards to “compliance with the transformational objectives of the country” it’s unclear how one would be able to use CRE to affect changes in demographics and so this answer, again, is at odds with a traditional understanding of CREM.

4.3.2.2 Popularity of strategies

As expected, occupancy cost minimization was the most recognized answer. With flexibility and the value creation of real estate not far behind. The least recognized strategies were to use CRE to promote the firms marketing message, and to promote the sales and selling process.

4.3.3 Importance of Competences

The following table shows the responses for the question asking respondents to list the importance of each competence area. The responses have been rank ordered so that the most important competences are at the top and the least are at the bottom. A number of the responses had values that were the same, and so in those instances they were given a tied ranking in order to more accurately reflect each item’s position in the hierarchy. All items highlighted in grey reflect real estate specific competences and all items in white reflect generic business competences.

Table 19: Ranked Competences in Order of Importance

Rank	Competence	Mean
1	Apply people skills	4.53
2	Understand corporate objectives and strategy	4.47
3	Develop strategies for managing risk	4.36
3	Strategic property management specifically aligned to help achieve corporate objectives	4.36
4	Access and interpret market data	4.33
4	Knowledge of real estate business drivers	4.33
5	Identify clients and their goals	4.31
6	Analyze needs of users of space	4.28
6	Contract management and law	4.28
7	Describe types of leases and their economic impact	4.17
7	General business administration	4.17
8	Use market data to set rents	4.11
8	Conduct a site/location analysis	4.11
9	Identify prop types and characteristics	4.06
10	Use net present value analysis	3.97
10	Interpret vacancy and absorption rates	3.97
11	Property management	3.94
11	Identify phases of real estate cycle	3.94
11	Value management	3.94
11	Workplace design	3.94
12	Calculate investment value/performance measures	3.86
12	Corporate finance	3.86
13	Personnel management	3.83
14	Use market feasibility, appraisal and highest & best use	3.81
15	Scenario planning	3.75
16	Management accounting	3.72
16	Facilities management	3.72
17	Corporate infrastructure resource management	3.67
18	Describe a real estate marketing plan	3.61
19	Design management	3.36
20	Marketing	3.33
21	Construction management	3.19

These answers are revealing. It is important to note that the two items that are the most crucial for a CRE Manager, namely "Understand corporate objectives and strategy" and "Strategic property management specifically aligned to help achieve corporate objectives," were ranked in 2nd and 3rd place respectively. This indicates that respondents appreciate the CRE function and what the role fundamentally entails.

The highest ranked competence was “apply people skills.” People skills reflect the strategic nature of the role. As one rises in ranks of the firm, people/organizational skills become more important than technical knowledge. This analysis is echoed in the observation that at the bottom are a lot of the technical competences. Items 8 - 21 are mostly operational considerations. This finding further indicates that the sample comprised mostly of senior CRE executives.

Both competences relating to Marketing were placed low. Facilities Management was placed at 16 and construction management last, at 21. Also, property management is just under the halfway mark, at 11. From this analysis it seems clear that respondents understand the strategic nature of CREM and rank strategic competences as more important than merely technical or operational ones.

4.4 Gap Analysis

The Gap Analysis is at the heart of this inquiry. Respondents were asked two questions in relation to the same list of competences. The first asked them to rank the importance of each competence, on a level of 1-5. The second asked them to rank how high their personal level of competence is in each area, also on a level of 1-5. A gap analysis is then made by subtracting the Importance level from the Actual level in order to determine if there are any gaps in competence where people are displaying less that the required competence for the competency area. These two questions were not asked sequentially in order to decrease the chance that the respondents would be able to ascertain the implication of the two questions and tailor their responses accordingly. This helped overcome some of the biases inherent in perceptions-based questions.

A Cronbach’s Alpha test was run in order to determine the internal consistency of the questions asked. The question on actual competence got a score of 0.959 and the question on Importance of competence got a Cronbach’s Alpha score of 0.957. This indicates that there is a very high level of internal consistency within the questions.

A Mann-Whitney U test was also run on the questions to determine if there was a statistically significant difference between the two columns at the 5% significance level.

A Mann-Whitney test indicated there was a statistically significant difference (U=361, p-value=0.00053) between the two groups. The median mark for actual/present competence was 4.00

and that for importance of competence was 5.00. The test indicated that importance of competence was greater than actual/present competence.

4.4.1 Overall results

The overall results of the gap analysis are displayed in the table below.

Table 20: Gap Analysis

		ACTUAL COMPETENCE (Q11)		IMPORTANCE OF COMPETENCE (Q8)		
Rank		Mean	S/D	Mean	S/D	Gap
1	Management accounting	2.81	1.01	3.72	0.70	-0.92
2	Workplace design	3.08	1.13	3.94	0.98	-0.86
3	Contract management and law	3.47	1.00	4.28	0.97	-0.81
4	Develop strategies for managing risk	3.64	1.02	4.36	0.90	-0.72
5	Corporate finance	3.17	1.13	3.86	0.83	-0.69
6	Strategic property management specifically aligned to help achieve corporate objectives	3.69	1.01	4.36	1.02	-0.67
7	Value management	3.33	0.99	3.94	0.86	-0.61
8	Access and interpret market data	3.78	0.76	4.33	1.01	-0.56
8	Apply people skills	3.97	0.81	4.53	0.65	-0.56
9	Property management	3.44	1.11	3.94	1.01	-0.50
9	Understand corporate objectives and strategy	3.97	0.84	4.47	1.00	-0.50
9	Corporate infrastructure resource management	3.17	1.00	3.67	1.01	-0.50
9	Design management	2.86	1.07	3.36	0.96	-0.50
9	Marketing	2.83	0.97	3.33	0.76	-0.50
9	Knowledge of real estate business drivers	3.83	0.91	4.33	1.01	-0.50
10	Facilities management	3.25	1.05	3.72	1.11	-0.47
11	Use net present value analysis	3.53	1.08	3.97	0.84	-0.44
12	Identify clients and their goals	3.92	0.87	4.31	0.92	-0.39
13	Construction management	2.83	1.11	3.19	0.89	-0.36
13	Calculate investment value/performance measures	3.50	1.08	3.86	0.80	-0.36
13	Personnel management	3.47	1.00	3.83	0.85	-0.36
14	Use market data to set rents	3.78	1.07	4.11	1.12	-0.33
15	Identify phases of real estate cycle	3.64	0.99	3.94	0.95	-0.31
15	Interpret vacancy and absorption rates	3.67	1.12	3.97	1.16	-0.31
16	General business administration	3.89	0.98	4.17	0.77	-0.28
16	Describe a real estate marketing plan	3.33	0.86	3.61	0.93	-0.28
17	Analyze needs of users of space	4.03	0.84	4.28	1.03	-0.25
17	Scenario planning	3.50	1.08	3.75	1.11	-0.25
18	Use market feasibility, appraisal and highest & best use	3.61	0.80	3.81	0.95	-0.19
19	Identify prop types and characteristics	3.89	1.06	4.06	1.07	-0.17
20	Describe types of leases and their economic impact	4.06	1.04	4.17	1.06	-0.11
21	Conduct a site/location analysis	4.08	0.81	4.11	1.09	-0.03

For each competence the mean response and standard deviation are displayed for both the Actual Competence and Importance of Competence. The results have been ordered so that the competences that displayed the largest negative gaps in competence are at the top, while those with the smallest gaps are at the bottom. The line that divides the table between line items 9 and 10 denotes the split between those competences which display a gap of -.50 or greater and are therefore classified as a Negative Gap; and those competences which are smaller than -.49 which are classified as an Adjustment Margin (Any number greater than 0 would be considered a Positive Gap, but there were no such examples in this dataset.) These classifications were adapted from Agut and Grau (2002). All of the results indicated a negative a value of some sort and so there are no positive values (where the required level of competence exceeds the importance) to consider.

The competences were made up of an even split of 'real estate related competences' (Highlighted in Grey) and 'generic business competences' (Highlighted in White). It seems that there were more generic competences listed as having high gaps than real estate related competences. Respondents seems to be more competent in handling basic real estate related activities/functions. Whereas generic competences such as people skills and value management ranked lower. This seems to contradict one of the implications in the literature that CRE professionals may need more formalized CRE training and supports the notion found in other studies that there is a need for generic competency development.

However, when narrowing in on the competences most critical to the correct application of CREM a different picture can be seen. Corporate Real Estate is essentially the application of a strategic property plan which aligns with and supports the businesses overall objectives. So, one would expect practitioners to be especially competent with regards to the competences "Strategic property management specifically aligned to help achieve corporate objectives" and "Understand corporate objectives and strategy." Yet, shockingly, these are listed as the 6th and 9th biggest competency gaps respectively.

4.4.2 Most important competences

The biggest gaps were recorded in "Management accounting", "Workplace design" and "Contract management and law" respectively. The smallest gaps were recorded in "Identify prop types and

characteristics", "Describe types of leases and their economic impact" and "Conduct a site/location analysis."

One could conclude from the above, that there is dire need for instruction in management accountancy as it reflects the largest gap. But upon inspection the authors noticed that it has a comparatively low importance level of 3.72. It may be that the respondents responded to the instrument saying essentially 'yes, everything is important' and so as a result these responses are inflated. When asked to rank their own level of competence, more consideration was given to the question and the responses were lower. This may have magnified the effect of the gap (as, if respondents oversubscribed importance to an item, it would appear to have a larger gap.) But the gap could be as a result of the inflated importance, not a lack of competence.

In order to see what happens once this is corrected for, the authors removed all responses that scored lower than a 4 in importance, to retain only the truly crucial competences. Then ranked these in terms of their relative gaps. The findings are in the following table:

Table 21: Gaps of Only Most Important Competences

		ACTUAL/PRESENT COMPETENCE (Q11)		IMPORTANCE OF COMPETENCE (Q8)		
		Mean	S/D	Mean	S/D	Gap
1	Contract management and law	3.47	1.00	4.28	0.97	-0.81
2	Develop strategies for managing risk	3.64	1.02	4.36	0.90	-0.72
3	Strategic property management specifically aligned to help achieve corporate objectives	3.69	1.01	4.36	1.02	-0.67
4	Apply people skills	3.97	0.81	4.53	0.65	-0.56
4	Access and interpret market data	3.78	0.76	4.33	1.01	-0.56
5	Understand corporate objectives and strategy	3.97	0.84	4.47	1.00	-0.50
5	Knowledge of real estate business drivers	3.83	0.91	4.33	1.01	-0.50
6	Identify clients and their goals	3.92	0.87	4.31	0.92	-0.39
7	Use market data to set rents	3.78	1.07	4.11	1.12	-0.33
8	General business administration	3.89	0.98	4.17	0.77	-0.28
9	Analyze needs of users of space	4.03	0.84	4.28	1.03	-0.25
10	Identify prop types and characteristics	3.89	1.06	4.06	1.07	-0.17
11	Describe types of leases and their economic impact	4.06	1.04	4.17	1.06	-0.11
12	Conduct a site/location analysis	4.08	0.81	4.11	1.09	-0.03

This table is instructive as it hones in on the most important competences. The largest gaps exist in “Contract Management and Law”. Interestingly this corresponds to a written comment made by a participant that “incompetent CREM practitioners get locked in to terrible contract terms, with dire consequences for the company”. It would stand to reason that formal institutions seeking to train competent CREM professionals should make sure their courses cover the top 5 ranked competences listed above.

4.4.3 Effect of Education

One of the primary goals of this dissertation was to determine if there is any difference in competence based on what educational pathway was taken. To this effect, the first question asked respondents to precisely chart out their educational career. They indicated what degrees they attained and in what subjects. This data was used in order to segment the participants into two groups, formally trained and not formally trained.

The first group included anyone who had at least a Masters, Honors, PG Diploma, Bachelors or National Diploma in Real Estate/Property. This group totalled 19 people or 52.7% of the sample and was labelled Formally Trained (FT). The second group was made up of people who did not have a qualification in real estate/property in any of the above segments. This group totalled 17 people, or 47.3% of the sample and was labelled NOT Formally Trained (NFT). It is interesting to note at this point that 75% of the not formally trained group had degrees in Business/Finance/ Economics/Accounting which makes sense. Also, there were 25% of this group who reported only having degrees in the Humanities which is interesting.

A Mann-Whitney U test was run and determined that at a 5% significance level there is sufficient evidence to suggest that there are indeed differences between these two groups in terms of competence gaps. A gap scale analysis was run on both groups separately and the results are incredibly revealing and can be seen in the following two pages.

First the similarities: ‘Management accounting’, ‘Workplace design’ ‘Contract Management and Law’ as well as ‘Develop strategies for managing risk’ featured highly in both groups. An interesting incidental observation was made while doing the calculations. When comparing the responses of the two groups ranking the importance of the competences, the NOT formally trained group assigned higher levels of importance to all but 4 categories when compared to the formally

trained respondents' assessment. (The 4 categories where the formally trained group recorded greater importance were: 'Use Market Data to set rents'; 'Identify clients and their goals'; 'Personnel management'; 'Contract Management and Law'). This may be a reflection of a lack of knowledge of the components of CREM leading them to say 'everything is important', whereas formally trained respondents had a more nuanced approach.

The key takeaways from this analysis are that:

- The FT group had significantly fewer competence gaps over -0.5 (only 10) as opposed to the NFT group (19) indicating that formal training in real estate leads to greater CREM competency.
- The top 10 greatest gaps in the FT group only included 2 components that were classified as real estate specific. In the NFT group 5 of the top 10 greatest competence gaps were real estate specific. It makes sense that the NFT group would be more generically competent and less real estate specifically competent as many of them did business related degrees.
- 'Strategic property management specifically aligned to help achieve corporate objectives' is essentially a definition of CREM and therefore is arguably the most important competence metric. The FT group had a gap of -0.47 (which is in the adjustment margin and therefore not classified as 'incompetent'). The NFT group on the other hand reported a gap of -0.88, almost double the gap of their formally trained peers. This result points very strongly towards the benefit of formal training on the competent application of CREM.

These findings have major implications for skills development. A skills provider must segment the two groups (those who have received formalized real estate training in the past and those who have not) and provide different, even if overlapping, types of training. The most important gaps for the untrained groups are operational items and for the most part, fundamental considerations. If you remove "Develop strategies" and "Strategic property management" everything else is fundamentals. This is revealing in light of the studies by Manning and Epley (2006) and Manning and Roulac (2001) which both stated that the fundamental role of CRE (i.e. the taskmaster) must be adequately performed before one can successfully move on to be a business strategist. This means that, according to these models, the untrained group which is lacking in these fundamentals, would not be capable of providing CREM service in a strategic capacity.

Table 22: Gap Analysis (FT vs NFT)

Formally Trained				**NOT Formally Trained**			
	Q11 Actual	Q8 Imp.	Gap		Q11 Actual	Q8 Imp.	Gap
Workplace design	2.84	3.79	-0.95	Management accounting	3.06	4.00	-0.94
Management accounting	2.58	3.47	-0.89	Contract management and law	3.29	4.24	-0.94
Contract management and law	3.63	4.32	-0.68	Access and interpret market data	3.59	4.53	-0.94
Corporate finance	3.00	3.63	-0.63	Develop strategies for managing risk	3.65	4.53	-0.88
Develop strategies for managing risk	3.63	4.21	-0.58	Strategic property management specifically aligned to help achieve corporate objectives	3.65	4.53	-0.88
Design management	2.68	3.21	-0.53	Knowledge of real estate business drivers	3.76	4.53	-0.76
Understand corporate objectives and strategy	3.84	4.37	-0.53	Property management	3.29	4.06	-0.76
Corporate infrastructure resource management	3.05	3.58	-0.53	Facilities management	3.24	4.00	-0.76
Value management	3.21	3.74	-0.53	Workplace design	3.35	4.12	-0.76
Marketing	2.74	3.26	-0.53	Corporate finance	3.35	4.12	-0.76
Strategic property management specifically aligned to help achieve corporate objectives	3.74	4.21	-0.47	Value management	3.47	4.18	-0.71
Use market data to set rents	3.84	4.26	-0.42	Apply people skills	3.94	4.65	-0.71
Apply people skills	4.00	4.42	-0.42	Describe types of leases and their economic impact	3.82	4.41	-0.59
Identify clients and their goals	3.95	4.32	-0.37	Use net present value analysis	3.41	4.00	-0.59
Personnel management	3.47	3.84	-0.37	Scenario planning	3.41	3.94	-0.53
Use net present value analysis	3.63	3.95	-0.32	Calculate investment value/ performance measures	3.47	4.00	-0.53
Knowledge of real estate business drivers	3.89	4.16	-0.26	Identify phases of real estate cycle	3.53	4.06	-0.53
Construction management	2.74	3.00	-0.26	Interpret vacancy and absorption rates	3.53	4.06	-0.53
Property management	3.58	3.84	-0.26	General business administration	3.82	4.35	-0.53
Access and interpret market data	3.95	4.16	-0.21	Describe a real estate marketing plan	3.35	3.82	-0.47
Analyze needs of users of space	3.89	4.11	-0.21	Understand corporate objectives and strategy	4.12	4.59	-0.47
Calculate investment value /performance measures	3.53	3.74	-0.21	Corporate infrastructure resource management	3.29	3.76	-0.47
Facilities management	3.26	3.47	-0.21	Design management	3.06	3.53	-0.47
Interpret vacancy and absorption rates	3.79	3.89	-0.11	Construction management	2.94	3.41	-0.47
Describe a real estate marketing plan	3.32	3.42	-0.11	Conduct a site/location analysis	3.88	4.35	-0.47
Identify phases of real estate cycle	3.74	3.84	-0.11	Marketing	2.94	3.41	-0.47
Use market feasibility, appraisal and highest & best use	3.58	3.63	-0.05	Identify clients and their goals	3.88	4.29	-0.41
Identify prop types and characteristics	3.95	4.00	-0.05	Use market feasibility, appraisal and highest & best use	3.65	4.00	-0.35
General business administration	3.95	4.00	-0.05	Personnel management	3.47	3.82	-0.35
Scenario planning	3.58	3.58	0.00	Analyze needs of users of space	4.18	4.47	-0.29
Describe types of leases and their economic impact	4.26	3.95	0.32	Identify prop types and characteristics	3.82	4.12	-0.29
Conduct a site/location analysis	4.26	3.89	0.37	Use market data to set rents	3.71	3.94	-0.24

4.4.4 Effect of Relevant Experience

Experience is a very important component of a professional's profile. Many job requirements come with a specific experience requirement, and it is also a component of professional certification. The respondents were asked to report how many years of experience they have in general and within real estate in particular. They were divided into two groups. Respondents who answered that they have more than 5 years' experience in real estate were put into the CRE Experienced (CE) group, whereas respondents who reported less than 5 years in real estate were grouped into NOT CRE Experienced (NCE) group.

It must be noted that the results of this categorization put only 7 respondents into the NCE group. So, since there is an uneven split, this may limit the applicability of the results drawn. Furthermore, grouping the responses into 3 tranches (Less than 5 years, 5-15 and 15+) limited the ability to group respondents accurately as someone with 6 years' experience is classified together with someone with more than double that. Future research should allow respondents to write the exact years and then do the groupings later in order to be able to more accurately segment.

Nevertheless, a Mann-Whitney U test was run and determined that at a 5% significance level there is sufficient evidence to suggest that there are indeed differences between these two groups.

The key takeaways are:

- The CE group only reported 7 competence gaps greater than -.5 whereas the NCE group reported 19 of these gaps indicating that relevant work experience in CRE improves CRE competence.
- The magnitude of these gaps is also revealing. The largest gap in the CE group is -.88 whereas the largest in the NCE group is -1.36. This is the largest recorded gap amongst all the permutations (Education and Professional Certification).
- Only 2 of the 7 top gaps in the CE group were classified as real estate related competences.
- 'Strategic property management specifically aligned to help achieve corporate objectives' is essentially a definition of CREM and therefore is arguably the most important competence metric. The CE group reported a gap of -.56 whereas the NCE group reported a gap of -.91. Although there is a significant difference between the two (which indicates

that experience does lead to greater competence), the CE group is still classified as incompetent in this area.

This is either the result of less than optimal grouping as discussed above, or indicates that one can have relevant experience in the field and still be incompetent. If the latter is the case then by implication it could be suggested to weigh the merits of relevant education and professional certification higher than work experience.

Table 23: Gap Analysis (CE vs NCE)

CRE Experienced				NOT CRE Experienced			
	Q11 Actual	Q8 Importance	Gap		Q11 Actual	Q8 Importance	Gap
Management accounting	2.88	3.76	-0.88	Workplace design	2.91	4.27	-1.36
Corporate finance	3.08	3.88	-0.8	Develop strategies for managing risk	3.36	4.55	-1.18
Contract management and law	3.44	4.12	-0.68	Contract management and law	3.55	4.64	-1.09
Workplace design	3.16	3.8	-0.64	Access and interpret market data	3.73	4.73	-1.00
Strategic property management specifically aligned to help achieve corporate objectives	3.8	4.36	-0.56	Management accounting	2.64	3.64	-1.00
Develop strategies for managing risk	3.76	4.28	-0.52	Personnel management	3.27	4.27	-1.00
Value management	3.4	3.92	-0.52	Strategic property management specifically aligned to help achieve corporate objectives	3.45	4.36	-0.91
Apply people skills	3.96	4.44	-0.48	Property management	3.09	3.91	-0.82
Design management	2.92	3.4	-0.48	Value management	3.18	4.00	-0.82
Understand corporate objectives and strategy	4	4.44	-0.44	Corporate infrastructure resource management	3.18	3.91	-0.73
Use net present value analysis	3.48	3.92	-0.44	Marketing	2.55	3.27	-0.73
Knowledge of real estate business drivers	3.92	4.32	-0.4	Apply people skills	4.00	4.73	-0.73
Corporate infrastructure resource management	3.16	3.56	-0.4	Knowledge of real estate business drivers	3.64	4.36	-0.73
Marketing	2.96	3.36	-0.4	Identify clients and their goals	3.73	4.45	-0.73
Access and interpret market data	3.8	4.16	-0.36	Facilities management	2.91	3.64	-0.73
Property management	3.6	3.96	-0.36	Understand corporate objectives and strategy	3.91	4.55	-0.64
Calculate investment value/performance measures	3.44	3.8	-0.36	Construction management	2.73	3.27	-0.55
Facilities management	3.4	3.76	-0.36	Design management	2.73	3.27	-0.55
Identify phases of real estate cycle	3.68	4.04	-0.36	Analyze needs of users of space	3.82	4.36	-0.55
Interpret vacancy and absorption rates	3.68	4	-0.32	Use net present value analysis	3.64	4.09	-0.45
Construction management	2.88	3.16	-0.28	Corporate finance	3.36	3.82	-0.45
Use market data to set rents	3.68	3.96	-0.28	Identify prop types and characteristics	3.73	4.18	-0.45
Describe a real estate marketing plan	3.44	3.68	-0.24	Use market data to set rents	4.00	4.45	-0.45
Identify clients and their goals	4	4.24	-0.24	General business administration	3.82	4.27	-0.45
General business administration	3.92	4.12	-0.2	Describe a real estate marketing plan	3.09	3.45	-0.36
Scenario planning	3.56	3.76	-0.2	Calculate investment value/performance measures	3.64	4.00	-0.36
Describe types of leases and their economic impact	4	4.16	-0.16	Conduct a site/location analysis	4.00	4.36	-0.36
Use market feasibility, appraisal and highest & best use	3.6	3.76	-0.16	Scenario planning	3.36	3.73	-0.36
Analyze needs of users of space	4.12	4.24	-0.12	Use market feasibility, appraisal and highest & best use	3.64	3.91	-0.27
Personnel management	3.56	3.64	-0.08	Interpret vacancy and absorption rates	3.64	3.91	-0.27
Identify prop types and characteristics	3.96	4	-0.04	Identify phases of real estate cycle	3.55	3.73	-0.18
Conduct a site/location analysis	4.12	4	0.12	Describe types of leases and their economic impact	4.18	4.18	0.00

4.4.5 Effects of professional certification

The questionnaire asked respondents to report on which, if any, professional certifications they possess. All the respondents who reported at least 1 certification from the list were grouped into a group called “Professionally Certified” or PC. The remaining respondents were put into a group called “NOT Professionally Certified” or NPC.A Mann-Whitney U test was run and determined that at a 5% significance level there is sufficient evidence to suggest that there are indeed differences between these two groups.

‘Workplace design’, ‘Management accounting’, ‘Contract management and law’ and ‘Develop strategies for managing risk’ were among the highest ranked gaps in both groups. ‘Conduct a site and location Analysis’ was the second lowest gap for the NPC and actually reflected a positive gap (i.e. over-qualified) in the PC group.

The differences across the two groups are very revealing. Overall this is the greatest discrepancy of all the other variables tested (Education and Experience) and suggests that professional certification is the greatest indicator of professional competence. This may be because the Professional Certification process itself typically includes some sort of education, experience and technical training prerequisites. This means that “Professional Certification” is more of a composite variable which already takes into account other explanatory factors of competence. It also may suggest that in the process of pursuing a professional certification, individuals can overcome their disadvantage due to having taken an unrelated degree or having a lack of experience.

The key takeaways are:

- The PC group had far fewer negative competence gaps greater than -.05 (only 5) as opposed to the NPC group (21) indicating that possessing a professional certification is correlated with a higher level of competence.
- The magnitude of the gaps is also notable. While the largest gap in the PC group was -0.73 the largest in the NPC group was significantly greater at -1.10. In fact, the top 7 biggest gaps in the NPC group are still larger than the biggest one in the PC group.
- Only 1 of the negative gaps in the PC group was real estate related, the remaining 4 were classified as generic business.

- ‘Strategic property management specifically aligned to help achieve corporate objectives’ is essentially a definition of CREM and therefore is arguably the most important competence metric. The NPC group listed this as their second least competent area with an enormous negative gap of -1.05. The PC group on the other hand report a gap of -.13 which is in the adjustment margin and not considered incompetent.
- Interestingly both reported gaps in “understand corporate objectives and strategy” another very important competence, with the PC group at -.53 and the NPC group at -48 respectively.

Table 24: Gap Analysis (PC vs NPC)

Professionally Certified				NOT Professionally Certified			
	Q11 Actual	Q8 Importance	Gap		Q11 Actual	Q8 Importance	Gap
Workplace design	3.13	3.87	-0.73	Management accounting	2.71	3.81	-1.10
Management accounting	2.93	3.60	-0.67	Strategic property management specifically aligned to help achieve corporate objectives	3.33	4.38	-1.05
Contract management and law	3.67	4.27	-0.60	Workplace design	3.05	4.00	-0.95
Understand corporate objectives and strategy	4.00	4.53	-0.53	Contract management and law	3.33	4.29	-0.95
Apply people skills	4.07	4.60	-0.53	Develop strategies for managing risk	3.33	4.24	-0.90
Develop strategies for managing risk	4.07	4.53	-0.47	Corporate finance	3.10	4.00	-0.90
Marketing	2.87	3.33	-0.47	Value management	3.29	4.05	-0.76
Corporate infrastructure resource management	3.33	3.80	-0.47	Knowledge of real estate business drivers	3.76	4.43	-0.67
Access and interpret market data	3.93	4.33	-0.40	Access and interpret market data	3.67	4.33	-0.67
Property management	3.67	4.07	-0.40	Construction management	2.57	3.24	-0.67
Design management	3.13	3.53	-0.40	Use net present value analysis	3.43	4.10	-0.67
Value management	3.40	3.80	-0.40	Facilities management	3.05	3.67	-0.62
Corporate finance	3.27	3.67	-0.40	Property management	3.29	3.86	-0.57
Knowledge of real estate business drivers	3.93	4.20	-0.27	Design management	2.67	3.24	-0.57
Use market feasibility, appraisal and highest & best use	3.60	3.87	-0.27	Apply people skills	3.90	4.48	-0.57
Identify clients and their goals	4.33	4.60	-0.27	Personnel management	3.24	3.81	-0.57
Facilities management	3.53	3.80	-0.27	Interpret vacancy and absorption rates	3.48	4.05	-0.57
Describe a real estate marketing plan	3.53	3.73	-0.20	Calculate investment value/performance measures	3.43	3.95	-0.52
Use market data to set rents	4.00	4.20	-0.20	Corporate infrastructure resource management	3.05	3.57	-0.52
Identify phases of real estate cycle	3.53	3.73	-0.20	Marketing	2.81	3.33	-0.52
Use net present value analysis	3.67	3.80	-0.13	General business administration	3.81	4.33	-0.52
Calculate investment value/performance measures	3.60	3.73	-0.13	Understand corporate objectives and strategy	3.95	4.43	-0.48
Strategic property management specifically aligned to help achieve corporate objectives	4.20	4.33	-0.13	Identify clients and their goals	3.62	4.10	-0.48
Personnel management	3.80	3.87	-0.07	Analyze needs of users of space	3.95	4.38	-0.43
Analyze needs of users of space	4.13	4.13	0.00	Use market data to set rents	3.62	4.05	-0.43
Scenario planning	3.87	3.87	0.00	Scenario planning	3.24	3.67	-0.43
Identify prop types and characteristics	4.07	4.07	0.00	Identify phases of real estate cycle	3.71	4.10	-0.38
Interpret vacancy and absorption rates	3.93	3.87	0.07	Describe a real estate marketing plan	3.19	3.52	-0.33
Construction management	3.20	3.13	0.07	Describe types of leases and their economic impact	4.00	4.29	-0.29
General business administration	4.00	3.93	0.07	Identify prop types and characteristics	3.76	4.05	-0.29
Describe types of leases and their economic impact	4.13	4.00	0.13	Conduct a site/location analysis	3.95	4.14	-0.19
Conduct a site/location analysis	4.27	4.07	0.20	Use market feasibility, appraisal and highest & best use	3.62	3.76	-0.14

5 Discussion and conclusion

5.1 Research contribution

"A contribution is made when a manuscript clearly adds, embellishes, or creates something beyond what is already known" (Ladik and Stewart, 2008). The literature should be seen as a continuing conversation, and therefore a contribution will have been made if the research in question will change this conversation (Ladik and Stewart, 2019). There are various types of contributions that can be made from the least to the most innovative, as showcased by the image below:

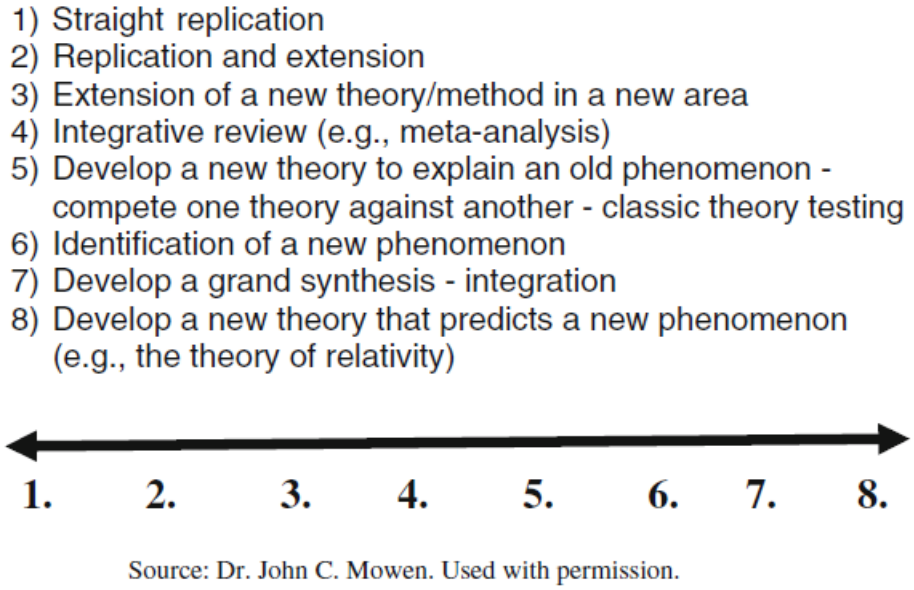


Figure 7: A Contribution Continuum Source: Ladik and Stewart (2008)

Azasu and Simons (2018) determined the types of contribution that the most impactful articles display in real estate research, as is displayed by the following image:

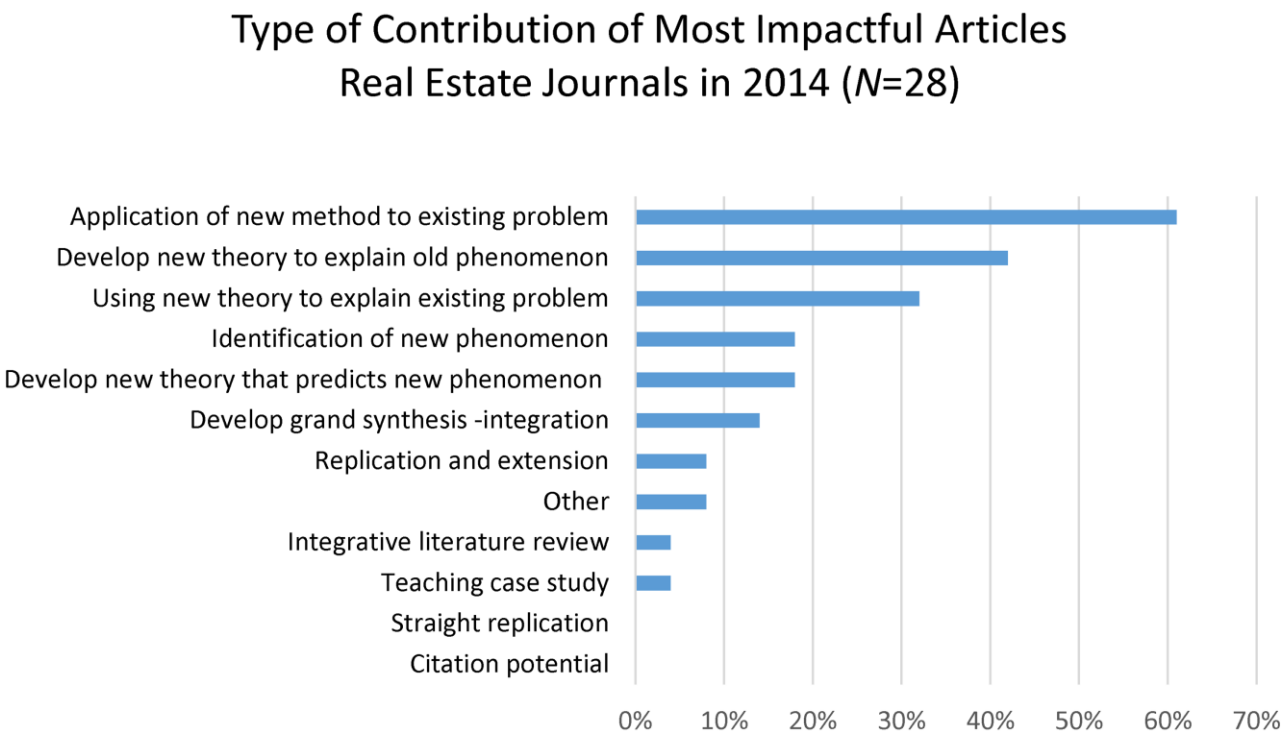


Figure 8: Type of contribution of most impactful articles Source: Azasu and Simons (2018)

According to the continuum provided by Ladik and Stewart (2008), this research would be placed at level 2 which is the extension of a contemporary method into a novel area. The reason for this positioning is that this study makes use of the gap-scale analysis used in Tourism literature within the field of real estate. This could correlate with 'applying a new method to an existing problem' in the list given by Azasu and Simons (2018).

This research should contribute the following to three main stakeholders.

This research should provide valuable insight for those companies that consume CREM services by outsourcing the role or by allocating the responsibility for the CRE portfolio in-house. By determining the areas of competence that CRE professionals require, these companies can make more informed decisions when hiring staff or contracting external CRE services. The findings should help the Human Resources departments determine their hiring criteria, and to prioritise training for existing staff in order to ensure competence.

The findings should also help individuals determine what educational path is likely to allow them to gain the highest level of competence when pursuing a career in CREM. Individuals can pinpoint

areas where they may need to upskill in order to improve their competence level. Companies that provide CREM services can use these findings to inform their hiring practices in order to ensure that those representing their brand display the highest levels of competence. The findings could also help these companies determine areas where their staff require upskilling.

For educational institutions that provide courses, degrees or diplomas that train CRE professionals, these findings can help shape curricula. By highlighting the areas of competence that are most important or deficient in the industry, these institutions can tailor their training appropriately to produce the best available candidates to industry. The findings may also help contribute to academia and motivate further research in this topic area.

5.2 Major Findings

The key research question of this dissertation was: what are the competence levels of South African corporate real estate managers and are these levels affected by the educational qualifications, relevant experience or professional certification acquired?

The dissertation found that in general it appears there is a lack of competence in the South Africa CRE industry. Virtually all of the responses indicated either significant negative gaps in competence of more than -.5, whereas the rest fell into a tranche known as the adjustment margin with relatively minor gaps between 0 and -0.49. This means that in virtually every competence area, respondents reported a higher level of importance of specific competence, relative to their own self-assessment on the same items.

When the author segmented the respondents into various groups in order to test if there were any intergroup differences based on educational path, relevant work experience or professionalization, the study found a number of interesting things.

Education: There is a statistically significant negative gap in competence related to formalized real estate related education. Those who had formalized training reported fewer competence gaps, particularly with regards to real estate specific competences. There appears to be a clear benefit to formalized training. The formally trained group appear to understand and are competent in the fundamentals. But their weaknesses in preparation, i.e. skills and competences they didn’t get, show up as gaps. This should inform educational programs.

Experience: There is a statistically significant improvement in competence related to increased years of experience in the real estate field. However, even the group with relevant experience had a significant competence gap in "strategic property management". This is either the result of less than optimal grouping of respondents (and a flaw in the survey design) or this may be an indication that one can have relevant experience in the field and still be incompetent. People may have work experience but because of a lack of formal training, that work would be non-contextualized. This may lead to bad decisions and an incompetent application of CREM.

Professional certification: There is a statistically significant improvement in competence related to possession of a professional certification. Overall this is the greatest discrepancy of all the other variables tested (Education and Experience) and suggests that professional certification is the greatest indicator of professional competence. This may be because the professional certification typically includes educational and experiential pre-requisites which make it a more comprehensive indicator of competence.

The meaning and importance of these findings is paramount. The findings of this study indicate that South African corporate real estate profession is experiencing a lack of competence. This is very significant as, while other papers have pointed in this direction, this is the first one to objectively analyse the issue.

5.3 Comparison with earlier CRE studies

When analysing the findings of this dissertation in relation to the extant literature, it seems to fit well. The reliability of the data was assessed by comparing the findings to prior studies and determining if there are any widely differing implications that are unexplained by the literature as this may suggest an error. Many similarities were found which suggest that this dissertation was conducted correctly. For instance, Lalloo (2013) and Maetle (2017) also determined that most people's titles include the words head, manager or director and that there's a wide variety of job titles used. Maetle (2017) also found that the majority of non-real estate trained people did have business related degrees and that most participants have worked in real estate for more than 5 years, both of which were found in this dissertation as well. However, a difference must be noted that 77% of respondents to that paper had no property related qualifications whereas here only 39% did not. This may be as a result of the increased validity and prominence of real estate degrees

and courses in the intervening years. It also may be as a result of the sampling method used. Namely, that considering the researchers were personally emailing and sourcing respondents, there was a higher chance that those people contacted would have had some sort of connection to the university and have an academic background.

In terms of the significant findings regarding competence, or lack thereof, in the South African CRE space, Maetle (2017) reported that 32% of respondents said that property plays no part in the corporate strategy and Selamolela (2017) found that 74% of respondents said there is no CRE strategic plan. This may help explain why this study reported such low instances of competence in '*Strategic property management specifically aligned to help achieve corporate objectives*.'

The results obtained for Table (9) which ranked the importance of different competences, were compared to the results obtained in prior studies. This dissertations competence list was a composite of various papers, namely Gibler et al., (2002) and Epley (2004). Each competence was ranked and analyzed comparing the results obtained in the aforementioned studies, and the results obtained in this dissertation. There is a good fit and the competences are clustered so that this dissertation corroborates what was found previously. For example, marketing and design management are ranked low across the board, while 'workplace design' and 'access and interpret market data' are ranked highly, among many other similarities. Two notable differences are that 'People skills', 'develop strategies for managing risk' and 'contract management and law' rank very highly in this study, but rather low in the prior studies. Also 'facilities management' and 'construction management' rank higher in the previous studies than in this one. These finding combined suggest that perhaps the respondents to Gibler et al., (2002) and Epley (2004) played a more operational role and less of a strategic, leadership role. As these studies are almost two decades old, this could be the result of the evolution of the CREM function and is an interesting observation.

This study has a number of weaknesses and limitations. Firstly, it must be noted that the self-reporting style of this questionnaire, and the tendency of respondents to answer "everything is important" when ranking importance of competences, may have skewed the results somewhat. This may have artificially over inflated the importance of competences which increased the perceived gaps. However, there is also the possible influence of the Dunning-Kruger effect which states that the lower one's actual competence is, the higher they are likely to report their

competence. This phenomenon would then lead to even lower levels of competence and greater gaps than reported. Yet, in spite of these possible influences there were still very clear trends that emerged which indicates that the results and the findings are reliable. The study is further limited in that it only managed to get 36 responses, yet the population of CRE practitioners is far larger.

Furthermore, the method of survey dissemination, namely snowball sampling is likely to have skewed the sample towards respondents likely to be competent. Many of the industry contacts that the researchers reached out to in the data collection process had some connection to the university. The method of snowball sampling then kept the survey almost restricted to this circle of respondents, particularly as it only reached 45 people. As such, it is unlikely that it reached those CRE managers of non real estate companies who are completely removed from these circles. This is indicated by the 64% of respondents in this study who work for firms that provide CRE services, which would suggest a higher level of competence as they are working in an environment that is wholly devoted to CREM. If anything, this means that the general landscape is probably even more incompetent than what was pictured here. For instance, Maetle (2017), a paper focused exclusively on CRE within non-real estate related companies, reported that 32% of respondents said that property plays no part in the corporate strategy.

Finally, it is important to go back to the Dunning-Kruger effect which argues that incompetent people are often unable to recognize their own incompetence, and rate their competence more highly relative to what the level actually should be (Pennycook et al., 2017). It may well be that, the gaps determined here are actually greater in practice, as people who have reported incompetence in certain areas likely inflated the reported value above their actual levels.

5.4 Policy Implications and Recommendations

This dissertation recommends the formalization of the CREM profession with specific educational, experiential and certification components. This change can be driven top-down, with governmental regulations that would establish the CREM profession at the level 5 statutory level. Or it can be driven from the organizational level as more and more employers recognize the value of having their employees formally trained and certified.

5.5 Conclusion

As observed earlier in this report, real estate education in South Africa is a relatively recent phenomenon. In addition, only valuation and estate agency/brokerage were professionalized with statutory bodies that specified education and experience requirements. As it stands neither property/asset management nor corporate real management have education and experience requirements specified by any recognized national entity. As a result, entry into the corporate real estate role, like many others, remains unregulated, with likely variations in the competence and the performance of employees within the field.

This study has confirmed that corporate real estate employees with formal real estate training have a better grasp of not only the real estate fundamentals but also the mainstream ideas about corporate real estate strategy, relative to their counterparts with no formal real estate qualifications. The same is true for those with years of real estate specific experience as well as those who have obtained professional certifications in real estate. This has serious implications for the standardization of professional services as well as ethical requirements around professional practice within the field. It increases the urgency around creating a statutory body to regulate access to the industry through clearly specified educational requirements, credible examination standards and processes and holding certified professionals to specific ethical standards of practice. This would remove the variation in practice, boost the credibility of the industry, and make the local industry attractive for foreign investment.

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