UNIVERSITY OF KWAZULU-NATAL

AN ASSESSMENT OF QUANTITY SURVEYORS' ETHICAL PERCEPTIONS IN TERMS OF STAKEHOLDER VERSUS SELF-INTERESTS PRIORITISATION.

STANLEY MANYANYI

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Graduate School of Business & Leadership

College of Law & Management Studies

Supervisor

Dr Njabulo Khumalo

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DECLARATION

I Stanley Manyanyi ..... declare that:

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ABSTRACT

An ethical company creates competitive advantage over its peers which in turn translate into bottom-line profits. Part of ensuring that quantity surveyors working in any sector are balancing their approach on ethical issues is ensuring that they harmonise prioritisation of interests of various stakeholders involved in or affected by the services they offer. The stakeholders' interests which are critical for quantity surveyors include public interests and client interests. Previous studies done in Asia noted a trend in which quantity surveyors' ethical perceptions on prioritisation of various stakeholder interests were differing by experience. More senior quantity surveyors prioritised public interests more, whilst junior quantity surveyors revealed they would prioritise employer and self-interests first before public interests; which raised concerns by the public including dangers of likely more potential conflicts of interests. The main aim of this research was to assess the ethical perceptions of quantity surveyors at a local South African quantity surveying service providing firm, in terms of their prioritisation of self-interests versus interests of other stakeholders. A total of 51 out of 53 quantity surveyors at the chosen firm participated. Firm was chosen based on its ease-of-reach to the researcher. A questionnaire was administered in person and data analyses were conducted which included Independent t-tests, Factor Analyses and One-Way ANOVAs. Results revealed the order of prioritisation of stakeholder interests by quantity surveyors at the firm as follows: (1) clients, (2) employer/company, (3) public, (4) superiors, (5) themselves, (6) family and (7) colleagues. Whilst public interests were ranked third and client interests ranked first, there were notable differences in level of prioritisation between professionally-affiliated members as compared to non-members; as well as differences in prioritisation noted by employees' 'level of experience', 'level of education' and 'position.' It is recommended based on results from the study that ethics knowledge should be indoctrinated to junior and less experienced surveyors through encouraging career advancements. Quantity surveying companies should always keep ethics at the centre within their organisational culture, and should at all times prioritise key stakeholder interests (public and clients) before self-interests. The study can benefit quantity surveyors and firms employing quantity surveyors.

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CHAPTER ONE

OVERVIEW OF RESEARCH STUDY

1.0 Introduction

In this chapter, the researcher introduces the research study including providing a motivation statement of the study. The study sought to assess ethical perceptions of quantity surveyors at a local company based in Mpumalanga, in terms of their prioritisation of public interests (plus other stakeholder interests) versus surveyors' self-interests, which is key in order to find if their conduct or priorities are in line with ethical expectations of the society or the public which they serve. The chapter also brings to attention the focus of the study, the problem statement, objectives of the study, research questions, significance and contribution of the study, scope of the study, methodology, as well as the limitations of the study. The chapter wraps up by defining key terms, as well as providing a structure of the research study.

1.1 Motivation for the Study

Professional Ethics can simply be defined as a set of moral principles that determine how professionals conduct themselves or act on a daily basis whilst practicing in their careers (The Ethics Centre, 2019). In this study, the researcher looked at the ethical perceptions of quantity surveyors through a study carried out at a local quantity surveying firm, the study of which was undertaken in Mpumalanga. The study was kindled by a previous study that was done in Hong Kong by Ho Man-Fong (2010) and Fan, Ho and Ng (2010), which revealed that there were varying ethical perceptions in terms of how quantity surveyors viewed their role as far as prioritisation of various stakeholder interests was concerned. The stakeholder interests involved in this study involve public interests, clients' interests, employers interests and self-interests of the quantity surveyors.

The differences noted in previous-mentioned studies revealed that the senior and more qualified quantity surveyors perceived that they were more accountable to the general public in their ethical conduct whilst undertaking their day-to-day duties (Ho Man-Fong and Ng Chi-Wai, 2010). In contrast, the more junior quantity surveyors and those who were less senior within their organisations felt they were liable first to their employers, clients, self-interests and then public in that

respective order (Ho Man-Fong Christabel, 2010; Fan, 2010), which raised a number of questions on the general trust and integrity of the profession in the long run by the people who they serve.

Further studies by Trompenaars (2003) also enlighten that ethical values can be shaped by a range of cultural factors, which include national culture amongst other factors, hence compelling the research assess if Fan (2010) and Ho Man-Fong (2010) findings with regards to varying perceptions between quantity surveyors are generalizable within the South African context.

The research is of benefit to various parties. Firstly, the research seeks to challenge the local quantity surveyors to introspect their conduct which is under scrutiny from the society. On the other hand, the research also seeks to make quantity surveying firms aware of the threat posed to their business if the public is going to lose trust on the surveyors. Thirdly, the research seeks to identify ways in which the moral compass of quantity surveyors can be refocussed in order to restore public trust and reverse bad press publicity. The researcher believes quantity surveyors, employers, clients, construction stakeholders and the public will benefit both directly and indirectly from results of this study.

1.2 Focus of the Study

The main area of focus of the study was to assess ethical perceptions of quantity surveyors at a local quantity surveying company based in Mpumalanga, in terms of how they prioritise public interests versus interests of other stakeholders, which is key in order to ensure their conduct is in line with expectations of the society or the public which they serve.

1.3 Problem Statement

Having highlighted trends from previous studies by Fan et al. (2010) and Ho Man-Fong and Ng Chi-Wai (2010) that revealed differences among quantity surveyors in terms of prioritisation of stakeholder interests, the researcher was left with some questions of whether the previous findings are similar for the South African local context, hence the question, “What are the quantity surveyor ethical perceptions at a local consulting firm in terms of order of prioritisation of stakeholder interests?”. What strategies could be implemented at the firm to bridge any existing ethical

gaps in terms of acceptable prioritisation of stakeholder interests? What can be done beginning from an organisational level, in terms of restoring public trust in the surveying profession as far as ethics are concerned?

1.4 Aim of Study

The main aim of the study is to assess the ethical perceptions of quantity surveyors at a local consulting firm in terms of their prioritisation of self-interests versus interests of other stakeholders, who in this study include the public, clients and employers; including finding ways in which any existing ethical gaps could be addressed starting from an organisational level, in a way to restore public trust in the profession.

1.5 Objectives

The researcher ensured that the following objectives were met through conducting this research:

• To ascertain quantity surveyors' ethical perceptions at a local firm in terms of order of prioritisation of stakeholder interests versus self-interests.

• To establish strategies that could be implemented at a local firm in order to bridge ethical gaps, if any are established to exist.

• To find ways in which public trust could be restored to the quantity surveying profession on ethical matters beginning from an organisational level.

1.6 Research Questions

- What are the quantity surveyor ethical perceptions at a local consulting firm in terms of order of prioritisation of stakeholder interests?
- What strategies could be implemented to bridge any existing ethical gaps in terms of acceptable prioritisation of stakeholder interests?
- What can be done, beginning from an organisational level, in terms of restoring public trust in the surveying profession as far as ethics are concerned?

1.7 Significance and Contribution of the Study.

This research helped to address the following concerning ethics and the quantity surveying profession in South Africa:

- augmented existing knowledge to previous quantity surveying ethics research, which include but not limited to;
    - Othman (2012) who conceptualised a tool for use by professional bodies to help advance ethics,
    - Sohail (2008), who gave a generic report of forms of unethical behaviour in construction industry,
    - Bowen et al. (2007) helped to reveal forms of unethical breaches by professionals, contractors and clients,
    - and Oosthuizen & Berry (2013) who developed best practice standards for quantity surveyor firms,
- addressed an existing gap in the current literature from a South African perspective in terms of establishing trends through which quantity surveyors at different stages within their careers vary in terms of how they prioritise stakeholder interests including their self-interests when dealing with ethical matters.
- further gives insights on strategies that may need to be implemented mainly at an organisational level to address the professional ethics gaps between the surveyors at different levels of professional development.

1.8 Scope of the Study

The research was conducted in Mpumalanga at a small-to-medium sized quantity surveying consulting company employing a total of 53 quantity surveyors at the time of securing permission from gatekeepers to conduct the study. However 51 quantity surveyors managed to respond to the questionnaires. The firm was chosen purposively based on ease-of-reach to the researcher, and the sample size was the whole quantity surveying department of the company (total-population sampling).

1.9 Methodology

This research was done using the quantitative method of research. The research instrument used for the research was a questionnaire. The questionnaire was in two parts and was hand distributed to the Quantity Surveyors at the chosen firm.

Basis of selection of the quantity surveying firm was ease-of-reach to the researcher due to time and budgetary constraints. Questions were closed-ended.

The first part of the questionnaire looked at personal or biometric information of the specific participants. The second part of the questionnaires looked at the specific respondents' ethical reflections and perceptions as well as their training as far as ethics are concerned.

The questionnaires could be completed in 15 minutes and were pre-tested for validity and reliability before dissemination. The researcher requested filling-in whilst waiting through a number of organised slots across a two-week-period. This helped to ensure that responses were certain for participants who were available at the allotted slots. Follow-ups were done to afford previously unavailable respondents the chance to also participate, and thus helped to improve the response rates.

After gathering data, the researcher made use of analytical methods to find similarities and differences between literature review and gathered data. Tests which include the Analysis Of Variance (ANOVA), Factor Analysis and Independent T-Tests were used to test hypotheses and interpret the results.

1.10 Limitations of the Study

Limitations of the research included that of funds and time to conduct the research on a much larger scale across different quantity surveying fields or sectors to ensure triangulation of results. As a result, the study may need to be carried out on a much larger scale encompassing the whole population of South African quantity surveyors. Despite such setbacks, the study does provide some insights on how ethical gaps can be bridged in order to restore trust in the profession by the public.

Another limitation was that of the researcher being a quantity surveyor by profession and was also previously an employee at the company used for purposes of this research. The researcher addressed such limitations by being as independent as possible throughout the research process including only remaining within limits of information provided by the respondents and not his own opinions.

1.11 Definition of Terms.

Ethics: is concerned with the morality of what is regarded as good or bad to individuals or the society (The Ethics Centre, 2019).

Professional Ethics: refers to the study of the morality or the behaviour of professionals in their day to day practice (RICS, 2017), or a set of moral principles that determine how professionals conduct themselves or act on a daily basis whilst practicing in their careers (The Ethics Centre, 2019).

Quantity Surveyor: refers to a professional employed to manage construction project funds throughout all the stages from the time the client provides a brief, to the time the final project is handed over for use by the end-users or sometimes the public.

Public: for purposes of this study, public refers to the society. In other contexts, public may refer to government departments / organisations who stand for interests of the society. Public may also refer to the legislation and statutes which stipulate rights of the local people on various matters which may include but not limited to management of public funds, transparency and accountability amongst other important public matters.

Stakeholders: for purposes of this study refer to parties with vested interests in a construction project who may include but not limited to the public, the clients, employers and quantity surveyors (as part of professional team) amongst others.

Interests: refer to inherent desires or expectations of various parties which they expect to be addressed or fulfilled, and in this case at (or from) a construction project.

1.12 Structure of the Study

The structure of the study shall be as explained below.

Chapter 1 is the synopsis of the study, and it introduces the research, which is centred on analysing differences in perceptions of local junior and senior quantity surveyors, based on an almost similar study conducted previously in Asia.

Chapter 2 looks back at related previous studies providing a foundation upon which this study is being carried out. The chapter reviews professional ethics literature, ethics in quantity surveying, roles of culture in shaping ethics, codes of ethics as well as effects of firm size in shaping company ethical culture.

Chapter 3 examines the chosen approach of carrying out the study, including providing the pros and cons of the chosen study methods.

Chapter 4 is concerned with how the collected data was collated and summarised and interpreted.

Chapter 5 discusses the research results.

Chapter 6 wraps up the study including reemphasising the results of the study. The chapter also recommends as well as shed light on future areas of study, as well as giving concluding remarks.

1.13 Summary

Chapter one introduced the research study including providing a motivation statement of why quantity surveyors' ethical perceptions are key in order to ensure their conduct is in line with expectations of the society. The chapter also emphasised the focus of the study which was to test ethical perceptions of local quantity surveyors at a local organisation in terms of prioritisation of stakeholder interests versus self-interests. Also provided in the chapter is the problem statement, objectives of the study, research questions, as well as the limitations of the study.

The next chapter will be reviewing previous literature on professional ethics with much focus on quantity surveying, which forms foundational basis of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The previous chapter introduced the research study including providing a motivation statement of why quantity surveyors' ethical perceptions are key in order to ensure their conduct is in line with expectations of the society. The chapter also emphasised the focus of the study which was to test ethical perceptions of quantity surveyors at differing levels of development in terms of their prioritisation of various stakeholder interests on a project. Also provided is the problem statement, objectives of the study, research questions, as well as the limitations of the study. In this chapter, the researcher looks back at related previous studies or literature providing the basis upon which this study is being carried out. The literature was gathered from journal articles, reports, online articles and books amongst other similar sources. The chapter reviews various topics, which include but are not limited to; professional ethics literature, ethics in quantity surveying, roles of culture in shaping ethics, codes of ethics as well as effects of firm size in shaping company ethical culture.

2.1 What is Professional Ethics?

Professional ethics refers to the moral application of appropriate or expected behaviour by professionals whilst conducting their daily duties (Edwards and Pottinger, 2010, Ho Man-Fong and Ng Chi-Wai, 2010). Attached to professional ethics is the moral responsibility of the professional in question towards various parties who may be affected directly or indirectly by the professional's moral duty (RICS, 2017, Fan et al., 2010). Whilst providing services, professionals are also expected by the public to demonstrate some level of competence (Ho Man-Fong and Ng Chi-Wai, 2010) which is of superior or higher standard than what an ordinary member of society could offer if they would undertake a similar task or duty (RICS, 2017).

2.2 Professional Ethics : A South African Perspective

There is very scanty research on the topic of professional ethics from a South African point of view. The few studies that were done from a South African perspective which could be of relevance to this research include Bowen et al. (2007), Sohail (2008), Othman (2012), and Oosthuizen and Berry (2013), and they are briefly summarised in the following paragraphs:

2.2.1 Study 1: "Professional Ethics in the South African Industry", Bowen et al. (2007)

In their study titled "Professional Ethics in the South African Industry", Bowen et al. (2007) discuss on the forms of unethical behaviour taking place in South Africa (Bowen et al., 2007); which include corruption, conflicts of interest, breaches of confidentiality and bribery, amongst other forms. They also investigate how fellow professionals ought to interact toward the public, the clients and other peers (Bowen et al., 2007). Their main area of focus was that of finding out the level of breaches of professional accountability and commitment to clients and the general public (Bowen et al., 2007).

Their findings reveal that overall, South African professionals who included various disciplines (architects, engineers, quantity surveyors and contractors) had good intent to provide professional service to their clients and the society at large. They also found out that the surveyed professionals, who were professionals from a diverse background, mentioned it was important to surfice the aspirations of the client, whilst at the same time, meeting expectations of the society or public.

However, the study targeted mainly professionals who had been practicing over a long time period with 94% of the professionals that were surveyed having more than 10 years construction-related experience (Bowen et al., 2007). In addition, of the 28 quantity surveyors that participated amongst other professionals, no details pertaining to age or experience-specific analyses were done specifically for the quantity surveyors.

2.2.2 Study 2 : "An Innovative Protocol for Improving the Ethical Behaviour of the Quantity Surveying Profession in South Africa", (Othman, 2012)

In his study, Othman (2012) devised a tool which he proposed could be used by a professional body or council (which is the South African Council of the Quantity Surveying Profession) to advance the quantity surveyors' ethical conduct.

Othman (2012) also came up with recommendations of various ways to ensure better ethical behaviours in the profession, which include structured Continual Professional Development sessions (Othman, 2012), as well as relooking at ways to improve the codes of ethics. Besides the mentioned recommendations, Othman (2012) also developed a tool that he asserts will help professional bodies to implement measures to encourage ethical behaviour (Othman, 2012).

The unit of study used for the survey for purposes of the study was quantity surveying firms and a total of 64 firms participated in the survey (Othman, 2012), where an analysis of their perceptions and application of code of ethics was done (Othman, 2012).

2.2.3 Other Local Surveyor-Related Ethics Studies.

Oosthuizen and Berry (2013) looked at ethics from a broader sense of addressing society or client needs through displaying the highest standards of service. Their study focussed on how quantity surveying firms can provide highest standards commensurate with public and client expectations. In coming up with the ethically sound practice methods, Oosthuizen and Berry (2013) taped into or reviewed existing good practice literature without conducting any surveys with individual surveyors. Overall, their study tackles ethical behaviour from a point of addressing public and client expectations from a technical perspective.

Sohail (2008) also conducted a global report in which he incorporated general statements of evidence of fraud, enticement, inducements and misappropriation of funds in Southern Africa through information provided by the Transparency International (Sohail, 2008). The aim of the study was to disclose forms of unethical conduct happening around construction projects as well as finding methods to ensure such misconduct is combatted through accountability, cultural considerations and interventions (Sohail, 2008).

Whilst there could be other South African ethics-related papers in the construction industry, and particularly pertaining to quantity surveyors, the above are the ones that contain the main themes which are related to the current study.

2.3 Role of the Quantity Surveyor in ethical matters

Quantity Surveyors are expected by the public to deliver to the highest standards in their respective fields both technically, as well as from a moral compass (Edwards & Pottinger, 2010). This expectation of high level of service quality from professionals is centred on professionals' duty of care which they owe to people they serve. Duty of care refers to that responsibility of professionals which warrants that their service offerings are higher than what an ordinary person could do if they were to carry out same duties on their own (RICS, 2017). Should these public expectations fail to be met by professionals especially from a moral point of view, reports of negligence or complaints are bound to emerge as a way to point out where attention need to be put in order to address society's concerns.

On the other hand, besides satisfying the general public's ethical concerns, professionals are also obliged to ensure other stakeholders who come from various fields are satisfied (Oosthuizen & Berry, 2013). This satisfaction comes in various forms, and can be delivered through client care and through stakeholder management. Under normal circumstances, the professionals' duty to the clients should seamlessly intertwine with the interests of the public and other stakeholders. Such convergence of interests, when it happens, creates trust between the various groups (professionals, clients, society and other stakeholders) which makes business even more worthwhile and rewarding to all

parties. On the other hand, existence of conflicting interests between the same parties dissolves trust and transparency (Othman, 2012), and the result could be outcries and questions of integrity, which adversely affect business and how the parties interact.

In the construction industry, professionals including quantity surveyors, are usually at the centre in trying to ensure meeting of minds as far as addressing interests of various stakeholders is concerned. In other words, from an ethical point of view, what is good for the client should be also good for the public if relationships are to be seamless between the parties. Like all other professionals in the construction industry, quantity surveyors play a pivotal role in the cost management of client funds, and their role also entails that of ensuring they manage various conflicts of interests and adhere to various statutes which govern the spending of public finances (like the Public Finance Management Act 1 of 1999).

2.4 Role of the Public in Ethical Matters

As Ho Man-Fong and Ng Chi-Wai (2010) prefer to point it out, professions may be regarded as brought about or called upon due to public demand of a service offering which creates a gap in the market (Cunningham, 2011, Edwards and Pottinger, 2010). As a result, should the public expectations fail to be met by professionals on matters like poor service, reckless servicing attitude, carelessness or unjustified renunciation of wrong doing, or any other ethics-related matters, the public may voice their concerns (Fan et al., 2010, RICS, 2017), using various communication platforms at their disposal.

As a result, addressing interests of the public should be regarded as one of the fundamental aspects or ultimate reference point that all professionals should make every effort to fulfil (RICS, 2017, Oosthuizen and Berry, 2013). Hence, a market oriented approach whereby quantity surveying professionals begin by first understanding the expectations of the public (Fan et al., 2010, Copeland, 2015) may be key towards delivering excellent services by the surveying profession (RICS, 2017).

2.5 The role of Culture in shaping Ethics

Edwards et al. (2009) brings forth the roots of professional ethics which he says stem from the culture, norms and values (Edwards et al., 2009) encountered on a day-to-day basis, be it at home, within the local societies or in the marketplace (Edwards et al., 2009, Trompenaars, 2003). He further defines culture as the shared indoctrination of the mind which separates the affiliates of one cluster or class of society from the next (Hofstede, 2003, Edwards and Pottinger, 2010). At the centre of culture are standards or morals under which manners are shaped (Edwards and Pottinger, 2010, Trompenaars, 2003). People's mental indoctrination and morals are shaped from early infancy (Hofstede, 2003), and they are strengthened through schooling time, and even to the marketplace (Edwards and Pottinger, 2010).

Trompenaars (2003) further differentiates core values from norms, where he explains that core values are aspirational (Trompenaars, 2003) and essentially difficult to exhibit on a everyday basis (Trompenaars, 2003, Hofstede, 2003). He further explains norms as that instinctive sense of right or wrong (Trompenaars, 2003, Pottinger and Edwards, 2011). As a result, people who are employed in a profession come founded with a set of their peculiar values, which are an accumulation of past experiences and interactions acquired from personal, educational, societal and even national values (Edwards and Pottinger, 2010, Edwards et al., 2009, Trompenaars, 2003).

Having discovered various spheres which shape ethics from a cultural perspective, Page (2005) clarifies how the individual professional's part in approaching or resolving an ethical matter has to be balanced by the employer's, as well as the professional body's role (Pottinger and Edwards, 2011) in ensuring professionals are well-rounded on ethical matters.

2.6 Ethics and Business

Literature reveals that there are benefits attributable to ethical behaviour (Pottinger and Edwards, 2011, Edwards and Pottinger, 2010). The benefits come in various forms which include that of creating competitive advantage (Edwards et al., 2009), emanating from clarity in company values and philosophies (Edwards et al., 2009),

honesty and transparency (Pottinger and Edwards, 2011), trustworthiness and impartiality (Oosthuizen and Berry, 2013), as well as creating a climate of trust (RICS, 2017). Plimmer (2009) further equates ethical behaviour to financial benefits (Edwards and Pottinger, 2010) since in the long run ethical companies are more fruitful and effective than the less moral ones.

Further support of benefits attributable to ethical conduct is put across by Galbreath (2006) who exemplifies an ethical environment to a knowledge-based powerhouse producing invaluable products and goodwill (Edwards and Pottinger, 2010). An ethical atmosphere can be capitalised on by an enterprise in their day to day transactions and makes huge business sense commercially (Galbreath, 2006).

Transparency and trustworthiness reduce transaction costs (Pottinger and Edwards, 2011). Strategies that are rooted on an ethical founding place pre-eminence on improvement, competence and cost reductions (Galbreath, 2006, Edwards and Pottinger, 2010) and generating value to the consumer with much emphasis on public benefit as opposed to taking undue advantage on the market for selfish advancements (Edwards and Pottinger, 2010).

Companies with a sound ethical footing do not unnecessarily entrap themselves in questionable scenarios which are detrimental and costly to their reputation (Greenway, 2002). Benefits of an ethical environment extend further into loyalty, employee retention and bottom line savings (Kidder, 2017, Edwards and Pottinger, 2010) as well as garnering commitment from staff (Kidder, 2017). Greenway (2002) highlights that ties between an enterprise's clients, suppliers, public and the firm's culture embody a priceless asset within its portfolio (Greenway, 2002, Galbreath, 2006).

2.7 Organisational Culture Effect on Ethics

A company or organisation's culture is very important in preserving and handling the ethical behaviour of its employees, and as a result its reputation (Edwards and Pottinger, 2010). Past research reveal that individual ethical interpretations and values of each employee are essential and determine their engagements or

responses, to the employer's organisation culture, as well as to ethical requirements by other external professional bodies.

Employees' response to complicated ethical situations in their daily duties are to a greater extend influenced by their distinct values (Edwards and Pottinger, 2010, Cunningham, 2011). Other environmental stimuli concurrently play a part in determining the ethical behaviour and these include vocational, occupational, legal and social factors (Edwards and Pottinger, 2010).

It is therefore critical that individual values, employer values as well as the values of professional bodies all interact in congruence and harmony (The Ethics Centre, 2019, Edwards and Pottinger, 2010). When the harmonious interaction happens, only then can the employer be assured that the choices and judgements being made on ethical matters are of the highest expected quality (Edwards and Pottinger, 2010, RICS, 2017). Concurrently, any professional affiliation groups will be assured that the profession is being represented in the most reputable manor (RICS, 2017).

In a similar way, when both the employer and the affiliate member groups' expectations are in line with personal values, the individual professional will feel at ease with his/her profession and the firm he/she is working for (Greenway, 2002, RICS, 2017). However such an ideal culture as explained above does not materialise suddenly and dramatically, but rather need to be closely thought of regularly and be monitored.

2.7.1 Leading by example

Accordingly, it is of utmost significance for the employer's management team to put in place measures that ensure a culture that promotes and encourage their people as they come up with judgements on ethical matters on a regular basis (Pottinger and Edwards, 2011). This should be the case irrespective of how big or small the organisation in question is (Edwards et al., 2009). A company or firm may have various internal communication systems that point to its people on the standard they should meet inside and towards third parties they interact with (Oosthuizen and Berry, 2013). Nonetheless, the ideal course of action to take when confronted with an ethical dilemma as well as the ultimate expected behaviour can only be best conveyed from the top management (Oosthuizen and

Berry, 2013, Pottinger and Edwards, 2011). Management that instil within a firm or organisation an ethical culture, provide means of preserving the welfare of colleagues and co-workers (RICS, 2017, Edwards et al., 2009).

The top management are regarded by teams that they lead as ground breakers who set the course for everyone else to follow, hence the culture that they cultivate as far as ethics is concerned in the firm impacts the whole organisation (Goessl, 2016, Copeland, 2015). The impact may be both positive or negative and some of the actions that the management do unaware may act as a nuclei or reference points for future actions by subordinates or followers (Copeland, 2015), hence the tendency at times for development of what Pottinger and Edwards (2011) refer to as counter-norms which fights or oppose the norms or values that are being strived for in the firm (Edwards and Pottinger, 2010).

2.7.2 Ethics and Walking the Talk

In order for management to set the right course founded on the right footing, they have to walk the talk as far as ethical matters are concerned. Walking the talk can only be achieved through living authentically and as well as in a trustworthy manner (Copeland, 2015). RICS (2017) emphasises the need for authenticity through encouraging their members to ‘meet the spirit of your professional standards and not just the letter of the standards’ (RICS, 2017:5). In other words, leadership should not window dress ethical standards for clients and public to see, without them living what they profess.

Should they pass on the first hurdle in being a living testimony of ethical behaviour to their followers, the easier it shall be for them to influence the followers to follow suit (Copeland, 2015). Cunningham (2011) asserts that if such authenticity and trustworthiness is showcased by leadership, the organisation will also in turn retain and invite trustworthy employees in the long run (Pottinger and Edwards, 2011) who would be ‘charmed’ by the image and ideals of the firm.

2.7.3 Ethics and Laws of Attraction

The same laws of attraction will operate to woo clients and other public stakeholders who believe business should be done in the most transparent and honest ways (Manuel, 2017), whilst at the same time shedding those clients with controversial business ethics (Kidder, 2017).

2.8 Professional Ethics and Frames of Reference.

Since acts of professionals may affect a myriad of interest groups, there may exist different interpretations of what may be regarded as right or wrong, or good or bad (Cunningham, 2011). As a result, professionals are usually governed by a set of guideline rules which set out the minimum expected ethical behaviour or conduct to apply in critical situations (RICS, 2017) as measured by written values or norms as frames of reference (Fan et al., 2010, Oosthuizen and Berry, 2013), or codes of conduct to help regulate and balance scales (RICS, 2017, Edwards and Pottinger, 2010). Accordingly, ethics does not have to be imparted during professional education only during early years of training (Edwards and Pottinger, 2010), but needs to be continuously imparted throughout a professional's lifelong journey (Edwards and Pottinger, 2010, RICS, 2017)

2.8.1 Ethics and Codes

Codes of conduct are a common way that companies and governing bodies of professions use to communicate ethical expectations from employees and professional members. Literature reveals that there are various benefits that can be attributed to companies or bodies or associations having ethical codes of conduct (Cunningham, 2011). On the other hand, literature also reveal that the same codes, if not properly implemented, may have negative effects on how the public view the professions (Edwards and Pottinger, 2010) as discussed below.

2.8.2 Benefits of Ethical Codes of Conduct

Edwards and Pottinger (2010) assert that a code of ethics sets written boundaries of the minimum expected behaviour by a profession to the public, as well as boundaries of the professionals to their employers or clients. Teo (2010) believes that codes of conduct promote public trust (Teo, 2010, Pottinger and Edwards, 2011) in the profession, hence the need by firms to ensure they enforce codes produced by their respective governing bodies or associations (Cunningham, 2011, Copeland, 2015). In addition literature reveal that there is a consensus that codes communicate to professionals that ethics are at the centre and forms the

basis of their profession (RICS, 2017, The Ethics Centre, 2019). Codes are also helpful in providing guidance to those in ethical dilemmas (Manuel, 2017) as well as define what a profession stands for to those it intends to serve (Strong, 2016).

Codes are also known to bring a common agreement which is critical if a profession is to flow in one common direction and offering similar services in uniformity at the highest standards (Cunningham, 2011). They inspire conduct that works for the good progression of the profession and thus ensure the goodwill of the association or body is not tainted (Strong, 2016).

2.8.3 Challenges with Codes of Ethics

Within existing literature are also views against codes of ethics. Some of the arguments against codes of ethics include that of their inability to inspire good behaviour in the absence of supporting top management (Copeland, 2015). The effectiveness of codes of ethics lies much in how they are applied rather than their conceptualisation or existence (Strong, 2016). In addition, it is impractical to exhaust scenarios which may be faced by professionals on ethical matters hence making responsibility challenging if the codes are intended to detect decision (Edwards and Pottinger, 2010).

The codes are also criticised at times where they side with interests of the professionals and not those of the public seeking the service (Pottinger and Edwards, 2011). Others like Greenway (2002) and RICS (2017) do agree that the way a professional acts to judge correctly when faced with an ethical matter is more weighty than the writing on the code itself. The codes need to be actioned upon correctly at the point when an ethical matter arises, and should such action fail to happen, the code will remain as a written paper of no purpose to the people it was intended to serve.

Literature also reveal dissatisfactions by other writers who assert that codes of ethics are drafted by the same professionals who would be bound by the same codes, hence tendency to address only non-critical matters leaving behind the public's main concerns unattended (Edwards and Pottinger, 2010).

Having highlighted some of the setbacks that may be associated with codes of ethics as communicated by various authors, Strong (2016) believes the bodies

and associations should not forsake the codes of ethics, but rather should hear the disapprovals and address the sceptics' concerns and thus make codes more relevant and effective (Strong, 2016, Edwards and Pottinger, 2010).

2.9 Ethics in companies of varying sizes; the big and the small.

Previous literature point out that whilst there could be dissimilarities on how ethics are implemented between small and large quantity surveying establishments, such differences are attributable solely to different characteristics and needs (Edwards and Pottinger, 2010) and does not imply varying values or morals (Cunningham, 2011). Previous literature also reveal that the ethical culture of an enterprise or firm is dictated by management choices or approach (Edwards and Pottinger, 2010, Trompenaars, 2003), and is not dictated by how big or small a company is. Also pointed in previous literature is the relationship between surveyors' morals and ethical values, as well as their age and experience (Ho Man-Fong and Ng Chi-Wai, 2010, Edwards and Pottinger, 2010, Fan et al., 2010)

Literature also reveals that the size of the surveying firm does not affect the effectiveness of measures put in place to administer and monitor ethical matters which arise in companies (Pottinger and Edwards, 2011, RICS, 2017). On the other hand, what is evident in terms of variances is how smaller firms differ from the much larger surveying companies in terms method of disseminating and resolving ethical matters (Edwards and Pottinger, 2010). Such dissimilarities in methodology are centred on differences in setup and preferences, and gives no suggestions in any way of acts of failure to administer ethical values (RICS, 2017).

Much bigger firms by nature prefer to administer more worded and structured codes of ethics (RICS, 2017), whilst companies employing fewer surveyors make use of much simpler codes which they can easily effectively communicate considering their flat organograms (Pottinger and Edwards, 2011). This is equally supported by Greenway (2002) who asserts that at the end of the day, it is the actions of the company, and not the structuring of the codes that count when looking at effectiveness of a company's ethical culture (Cunningham, 2011, RICS, 2017).

A small surveying firm with good management cultivating good culture within the firm, is equally good as a much bigger surveying firm founded on similar principles, and vice-versa (Trompenaars, 2003, Galbreath, 2006, Copeland, 2015).

2.10 Summary.

In this chapter, related previous studies providing background insights which formed basis for this study were laid out. The chapter reviewed professional ethics literature, ethics in quantity surveying, roles of culture in shaping ethics, codes of ethics as well as effects of firm size in shaping company ethical culture.

In the following chapter, the approaches or methods that were used to ensure that the research aims and objectives are met whilst conducting the research study are described.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In the preceding chapter, the researcher looked at previous literature that was centred on professional ethics. Much focus was paid to how ethics affect the construction industry as a whole, but with much emphasis on the quantity surveying profession. In this chapter, the researcher shall enlighten on the approach that was employed to ensure that the research aims and objectives are met whilst undertaking the research study. The chapter looks at:

- Aims and objectives of the research study
- Data collection method,
- Sampling strategy and techniques,
- Population of the study,
- Research instruments and design,
- Validity and reliability of the study,
- Data analysis methods.

3.2 Objectives and Aims of the Study

The study was undertaken with the following objectives or aims:

- To ascertain quantity surveyors' ethical perceptions at a local consulting firm in terms of order of prioritisation of stakeholder interests versus self-interests.
- To establish strategies that could be implemented in order to bridge ethical gaps, if any are established to exist.
- To find ways in which public trust could be restored to the quantity surveying profession on ethical matters beginning from an organisational level.

3.3 Research Approach, Designs and Methods

According to Creswell (2014), there are three approaches to research which are qualitative, quantitative and mixed methods. A selection of these approaches in research depends on the objectives of the study, which then influences the research design to be used and the methods used to collect the data.

3.3.1 Research Approaches

3.3.1.1 Quantitative Research

Quantitative research refers to a method whereby statistical or analytical methods are employed to analyse relationships existent in the collected data (Betz, 2011). Accordingly if quantitative methods are to be used for interpretation of data, commensurate measures should be put in place to ensure that the data is collected in a manner that will enable statistical analyses to be done for interpretation purposes.

Quantitative researches are very useful in establishing how widespread a phenomenon is over the population under study. In other words, quantitative research informs on the prevalence of the issue under investigation through the use of reliable statistical or analytical tools.

3.3.1.2 Qualitative Research

Qualitative research is inclined more towards bringing out participants' deeper thoughts on a subject. Data collected through qualitative method is not necessarily quantified to come up with statistical generalisations and so forth, but rather it usually brings to attention first hand or novel thoughts of the participants on an issue under study (Betz, 2011). As a result, some uncommon ideas that could be possibly interpreted as insignificant under a quantitative analysis can potentially be an eye-opening discovery under a qualitative research if some deeper aspects of the matter are interrogated.

In essence, qualitative research collects some profound nuggets on a subject matter that may be critical to the researcher without necessarily quantifying or

focussing on how common the phenomena or phenomenon may be over a population. The participants will not be bound or restricted on their responses on the subject matter but are free to express their full knowledge, opinions, feelings, fears, likes or dislikes and so forth, over a given topic or area under study.

3.3.1.3 Mixed Methods

At times, both quantitative and qualitative methods are concurrently employed to bring about a hybrid method known as mixed methods. If well implemented, mixed methods bring about the best of both quantitative and qualitative methods in one.

3.3.1.4 Chosen Method

In the current study, the researcher used quantitative methods. The quantitative method was used to enable the researcher to assess, using descriptive statistics and analytical inferences, the ethical perceptions of quantity surveyors at the firm.

3.3.2 Research Design

Research design is a framework that is used for data collection and analysis to research questions so as to satisfy the research objectives, providing sufficient justification for selecting appropriate data sources, data collection methods and analysis techniques (Saunders et al., 2016). In this research, descriptive research design was utilised. Descriptive research design enable the researcher to come up with conclusions on the status quo pertaining to the subject matter but not on causality relationships (Leedy and Ormrod, 2015). It is further indicated that descriptive researches are for correlation research, observational studies, survey research and developmental design. A survey cross sectional study was used. The survey cross sectional design is when data are gathered using a self-completion questionnaire or structured interview on more than one scenario and at one reference point in time, the purpose being to collect data that is quantifiable in relation to two or more variables which are subsequently studied to unravel trends and patterns of interactions (Bryman and Bell, 2015).

The survey approach was adopted because the researcher could collect information about quantity surveyors on their characteristics, perceptions on professional Ethics and Codes, previous experiences, as well as attitudes by

asking them questions and tabulating the answers. The researcher was able to determine patterns and trends of the perceptions of quantity surveyors on professional ethics matters.

3.4 Research Paradigms

Generally, a paradigm is framework that is organised for theory and research that encompasses basic assumptions, key concepts, models of quality research, and methods for seeking answers (Neuman, 2014). There are different research paradigms one of which is positivism. Neuman (2014) also alludes that positivism has been a dominant paradigm in social science. Positivism refers to the logical standpoint of the natural scientist necessitating engagement of a noticeable social truth to replicate generalisable rules that mainly focus on highly structures methodology to enable reproduction (Saunders et al., 2016). The positivism stance allowed the researcher to generate hypotheses on the perceptions of quantity surveyors that can be tested.

3.5 Study Setting

The firm that provided the study recruits is a quantity surveying company headquartered in Gauteng but with offices and projects around Mpumalanga, Limpopo and Gauteng. The company's main area of focus is construction cost consulting. The professionals responsible for undertaking the construction cost consulting are quantity surveyors, who were study recruits for this study. At the time of study, the firm employed a total of 53 quantity surveyors.

3.6 Population and Sample

The population is defined as the aggregate of the units that are under investigation in a research study. Due to the study adopting total population sampling method, automatically the sample of the study was by default the population, and vice versa. The population included all 53 quantity surveyors employed in the chosen firm. Out of the 53 quantity surveyors, 51 answered, hence a response rate of 96.2%. Non-surveyor and administration staff members were excluded from the study.

Merits of the adopted method include that of inclusion of all units of the population into the study, and thus enabling analysis of the whole and not a part. In addition analytical generalisations can be done (Laerd, 2017) if conclusions may need to be drawn on a much larger scale, say applicability of results at national level. Another merit was that the entire population of the firm used for this study was not geographically spaced, hence ease-of-reach to all members saving time and resources.

3.7 Sampling Strategy

Sampling refers to the method engaged to identify and approach subjects of the population under study, who are better known as study recruits or participants. Depending upon the purpose that the gathered data is going to be used for, as well as the targeted units of the population to be used for the study, various techniques can be used to arrive at the most representative sample for the population under study. Hence, various sampling methods like random sampling, systematic sampling, stratified sampling, amongst other sampling methods (Agrawal, 2015), may be appropriately chosen to address study requirements depending upon the aims and objectives of the research in question.

3.7.1 Rationale for Study Sampling Strategy

In order to obtain accurate results using the most appropriate method, an appropriate sampling strategy has to be adopted. This includes carefully considering methods that will ensure that the research aims and objectives are met. Before choosing the sampling method for this study, the researcher accordingly considered some key factors that needed to be considered whilst choosing the most convenient sampling technique for use. Other factors of consideration that determined sampling method adopted for this study include:

- the targeted group of study recruits are a homogeneous group of professionals,
- previous studies by Edwards and Pottinger (2010) and RICS (2017) revealed that ethical values and morals are not affected by the size of the

quantity surveying company, and neither does size affect the effectiveness of measures to administer or monitor ethical matters,

- researcher's budgetary constraints to conduct study on a larger scale,
- researcher's time constraints to undertake study on a larger scale.

Accordingly, for purposes of this study, the researcher was looking for a quantity surveying firm employing between 30 to 100 quantity surveyors. The study was an assessment of perceptions of quantity surveyors at the chosen firm of study. Hence, a smaller group of people could be used to undertake the preliminary study whilst breaking ground for further research on the subject on a much larger scale.

3.7.2 Sampling Technique Selection

Having considered the nature of the study that needed to be undertaken as well as the research aims and objectives, the researcher decided to take a census of quantity surveyors. At the time of initiation of the research the firm employed 53 quantity surveyors. According to Gay et al. (2012), if the population is less than 100, a research should sample all observations. Total population sampling refers to a technique whereby the sample consists of all the units of the population under study (Agrawal et al., 2015, Laerd, 2017). The method is ideal to use where the population size is relatively small (Laerd, 2017) and also where the characteristics under investigation can be readily noticed within units used for the study (Laerd, 2017). In this instance, the size of the company where study was to be undertaken was relatively small, that is, 53 surveyors, and the differentiating characteristics of age, experience, rank within the firm, could be easily ascertained, hence adoption of the technique.

3.8 Research Instruments

The research instruments used for purposes of this study were questionnaires. Questionnaires are a data collection instrument that is structured and designed in a systematic manner so as to allow measurement of respondents' attitudes, rating of opinions or ideas, allow checking of closest resembling data, allow projective techniques, as well as personal expression (Agrawal et al., 2015). Quantitative researches are known to rely on questionnaires whilst collecting research data from the respondents.

3.8.1 Question Types and Design

It is a common practice to use either open-ended or closed-ended questions in questionnaires. Open-ended questions are questions where the respondents are given the liberty to express their answers without being limited to a set of choice answers (Betz, 2011, Jonker and Pennink, 2010). These types of questions allow limitless expression of thoughts of the respondents on a given subject matter.

On the other hand, closed-ended questions are those where the respondents are pre-guided on the likely answers to questions using tools such as checklists, or rating / attitude scales (Jonker and Pennink, 2010). Accordingly, closed-ended questions may come with checklists where respondents have to 'check' or 'tick' the answer closest to their knowledge of the subject. The same is done for questions where respondents are required to scale their attitude or rate their opinion on a subject matter (Betz, 2011, Wrench et al., 2016).

This study made use of a questionnaire that included mainly closed-ended questions. The question types chosen were commensurate with the aims and objectives of the study, which by default was a quantitative research. Accordingly, most of the questions had ratings and scales. As explained by Subedi (2016), it is a challenge to measure attitudes or perspectives in numerical form, unless if the subjectivity of the attitudes can be converted into objective reality, hence the adoption of Likert scales. Likert Scales, as developed by Likert (1932), are a tool employed to gather data through a questionnaire, making use of summative methods to quantify attitudes. In this paper, the researcher used Likert Scale questions, which Subedi (2016) alluded generates interval scale data, hence measurement of reliability using Cronbach's Alpha (Boone and Boone, 2012). The Likert Scales had four points to eliminate neutral responses and thus enabling respondents to choose on a balance of probabilities between agreeableness or non-agreeableness, but not both. This enabled questions that were direct to address the aims and objectives of the study to be easily responded to by the respondents and thus answering the study's research questions.

The questionnaires comprised of two sections with the first section comprising mainly biographical data, and the second section having unique questions where respondents would 'check' or 'scale' their perceptions on an ethical subject matter.

The instrument had to be pre-tested for reliability and validity, and adjusted where changes were inevitable. The final draft could be completed in 15 minutes.

3.9 Data Collection and Interpretation Methods

Research data can either be primary or secondary data. Primary data can be defined as data that is collected first-hand or raw from the field of study by the researcher (Jonker and Pennink, 2010). Unlike primary data, secondary data refers to previously gathered data that is simply reorganised and reinterpreted to suit the purpose of the study (Jonker and Pennink, 2010). In the current research, raw data was collected by the researcher using a carefully planned research strategy as explained in the coming paragraphs. The researcher was looking for first-hand raw information on the subject matter pertaining to quantity surveyor ethics at the chosen firm in Mpumalanga.

In terms of data gathering techniques, four common techniques are usually employed which include direct observations, existing records, surveys and experimentation. Surveys can be done using one-on-one interviews, over-the-phone information exchange or questionnaires answered in person by the respondent. The self-completion questionnaire can be done using online surveys, postal questionnaires, emails and hand to hand delivery. The research instrument was pretested.

Once the research instrument was fully tested and ready for dissemination, communication was done with the company gatekeepers to agree on times to enable filling in by the respondents. The researcher went in organised slots spread over a two week period and disseminated the questionnaires which were filled on spot while waiting. The whole participation and returning of filled questionnaires was completed within two weeks.

3.10 Data Analysis

Quantitative data analysis refers to the revealing and showcasing of trends within the gathered data, as well as working around with observations or results using figures, the aim being to assess the inherent patterns and possible explanations of why the discovered trends exist within the findings (Babbie, 2017). The data was

first entered in Microsoft Excel and then exported to SPSS version 25 for analysis. A missing value analysis was done as stipulated by Hair et al. (2019) to determine whether there were cases and variables with greater than 10% missing information. In this case no variables or cases had more than 10% missing values. The data was also checked for outliers and no outliers were found. The internal consistency reliability of the instrument was assessed using Cronbach alpha as mentioned in the previous section.

The analysis was presented using descriptive and inferential statistics. Brase and Brase (2015) state that descriptive statistics encompasses methods of organising, picturing and summarising information from samples or populations and inferential statistics encompasses methods of utilising information that has been obtained from a sample to draw conclusions about the population.

3.10.1 Descriptive Statistics

Descriptive statistics were tabulated and shown through frequencies, proportions, minimum values, maximum values, medians, means and standard deviations. Continuous variables were discussed using the minimum, maximum, median, mean and standard deviation and categorical variables were presented making use of frequencies and proportions. Composite variables were formed by averaging items that had high correlations among them as stipulated in the factor analysis results. Boone and Boone (2012) and Subedi (2016), said that a Likert scale can be analysed at the interval measurement scale by calculating a composite score (sum or mean) such that one can use parametric statistics such as the mean and standard deviation to describe the data (Gravetter and Wallnau, 2013). The factor analysis results were used to form composite variables for the construct on perception of the ‘Professional Ethics Codes’ or ‘ethics reading material’.

3.10.2 Exploratory Factor Analysis

Exploratory factor analysis was used to combine like items that had strong interconnections. Whilst the technique puts together strongly correlated elements that are subject to variation into factors, the factor analysis’ primary purpose is to

express the causal construction within the variables in the analysis (Tabachnick and Fidell, 2014, Hair et al., 2019). In order to assess the applicability of the facor analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, as well as the Bartlett test of sphericity were applied. The KMO quantifies the degree of inter-correlations among the variables and it ranges from 0 to 1 where it reaches 1 in the case where each variable is perfectly predicted without error by the other variables. Tabachnick and Fidell (2014) propose that values of .6 and above are appropriate for a good factor analysis while Hair et al. (2019) specify that for factor analysis to be deemed suitable, the resultant KMO should be 0.5 and above. The study used the guidelines proposed by Hair et al. (2019).

The primary purpose of Bartlett's test of sphericity as a statistical tool is to examine the prevalence of associations within the variables Hair et al. (2019). It weighs the existence of adequate correlations between variables which highlight if feasible to go ahead with factor analysis. The null hypothesis proposes insufficient connections among variables and thus a significant Bartlett test of sphericity highlight prevalence of satisfactory correlations (Hair et al., 2019) among the variables to proceed.

In order to control the amount of factors, the latent root (eigen-value) criterion was applied. As one of the critical rules signalling the appropriate amount of factors to be kept, the latent root criterion preserves every factor whose eigen-value (latent root) equals or exceeds one (Hair et al., 2019). Where factor loadings were equal to or exceeded ±.50, they were deemed essentially significant as proposed by Hair et al. (2019).

The share of mutual variance inherent in a variable is known as the communality and that is the part of variance expressed within a factor in a factor analysis (Field, 2009). According to Pallant (2013), an item should have a communality of at least 0.3 and the factor solution is considered robust if the amount of variance explained by the solution is at least 50%. During analysis of data, the principal component analysis technique was applied for the exploratory factor analysis with a varimax rotation. The resultant was four factors from the factor analysis, which were named '*perceptions on professional ethics image and behaviour', 'perceptions on professional ethics knowledge', 'perceptions on professional ethics needs'* and *'perceptions on the professional ethics codes'*.

3.10.3 Inferential Statistics

Comparative analyses were done using the independent sample t-test and the univariate analysis of variance (ANOVA). The tests were done to establish if group means were the same (homogeneity). The aim was to find out whether perceptions of quantity surveyors differ by social demographic characteristics. The tests were performed at 5% level of significance. The researcher made use of p-value to establish whether the test was significant or not. The p-value of a test is the probability of observing a test statistic at least as extreme as the one computed given that the null hypothesis is true (Keller, 2018). The p-value was compared to the level of significance, alpha and if the p-value was less than .05 then the test was significant, suggesting difference in means. If the p-value was more than .05 then the group means were the same.

3.10.3.1 Independent Sample t-test

The independent sample t-test is a parametric test for testing whether two sample means are equal and two samples are said to be independent when participants in another group do not influence the selection of the participants in another group (Heiman, 2015). It is used when one wants to assess the dissimilarity amongst two means based on two independent, distinct samples. Whilst the first assumption is that of independence of outcomes, the second and third assumptions of the independent t-tests are the requirement for normality from the population in which the data is collected from, as well as the requirement for the variance to be the same across groups (Brase and Brase, 2015). In this study the quantity surveyors were independent from each other. The normality was achieved by applying the central limit theorem which states that “as the sample size (the number of values in each sample) gets large enough, the sampling distribution of the mean is approximately normally distributed. This is true regardless of the shape of the distribution of the individual values in the population,” (Levine et al., 2016). Levene’s test of homogeneity of variance was used to determine whether the groups had equal variance. In the case where the test was significant (unequal variances), then statistics under ‘equal variances assumed’ (Levine et al., 2016) were presented and in the case where the variances across groups were equal

then statistics under equal variances assumed were discussed (Levine et al., 2016).

The significance of the test was described using the effect size (Heiman, 2015). The effect is the influence the independent variable has on the dependent variable, whilst effect size highlight the amount of weight that changing the conditions of the independent variable had on dependent scores (Heiman, 2015). The effect size was given by:

$$\eta^2 = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

where: t^2= t-value squared; $N_2 = \text{Sample size for second group}$ and N_1 = Sample size for first group.

An explanation of the effect size was furnished making use of recommendations offered by Cohen (1998) that stipulate that an effect size is regarded as of lesser effect if a value of .01 and below is obtained; moderate effect if a value between .01 to .06 is obtained, and a great effect if a value of .14 and above is obtained.

The independent t-tests were done to find the impact of membership of any quantity surveying professional association/council body, and the perception of whether ethical standards within surveying occupation have been weakening through a period stretching over the last ten years on ranking of 'party interests' and 'perception of the Professional Ethics Codes' or 'ethics reading material'.

3.10.3.2 ANOVA

According to Hair et al. (2019), univariate analysis of variance (ANOVA) is a statistical method which is applied to find if samples which are taken from more than one group are derived from populations that comprise equal means. The ANOVA test is derived by comparing two estimates of variance; one estimate is variation as a result of dissimilarities among the groups and the other is difference that is due to inconsistencies inside groups (Levine et al., 2016). The F-test refers to the sample test statistic F for ANOVA tests and it is the ration of difference amongst groups and the variance inside groups. According to Tabachnick and Fidell (2014) if these two estimates of variance do not differ, then the group means

are derived out of matching sampling distribution of means and the minor dissimilarities among the two are as a result of random error and this indicates homogeneity among groups.

The ANOVA has the same assumptions as the independent t-tests. In instances which the assumptions of homogeneity of variances were not met, the Welch Robust Tests were used to test for equality of means. The latter is a substitute test to the commonly known analysis of variance (ANOVA) and it offers some serious benefits.

In instances were the variances were equal, the effect size for ANOVA was denoted by eta squared, η^2. As explained previously by Jackson (2014), eta squared replicates the share of aggregate dissimilarities within scores that are connected to differences in the midst of sample means, or the quantity of inconsistency within the dependent variable that may be deemed to be linked to the operation of the independent variable and is given by:

$$\eta^2 = \frac{SS_{Between}}{SS_{Total}}$$

Jackson (2014) clarifies that $SS_{Between}$ represents the sum of squares between groups and returns the dissimilarities amongst the means from the numerous stages of the independent variable. On the other hand, SS_{Total} represents the sum of squares for the aggregate which returns the aggregate dissimilarities amongst all scores in the investigation

In instances in which variances were not equal, the effect size was denoted by omega-squared (ω^2) which is given as

$$\omega^2 = \frac{df_{bet}(F-1)}{df_{bet}(F-1)+N_T}$$

where df_{bet} is the degrees of freedom for the factor which is the number of levels of factor minus one, F is the Welch F test statistic and N_T is the total number of subjects (Keppel and Wickens, 2004).

According to Levine, Szabat and Levine et al. (2016), analysis of variance involves two stages. The first test is determining equality of means and the second step is determining the group means that are different using post hoc analysis. Post hoc tests were conducted to establish for the significant tests which group means were different. The post hoc test is applied to evaluate if any differences between all imaginable couples of groups to establish the ones that differ significantly one from the other (Jackson, 2014). The post hoc tests that were applied were, the Tuckey Kramer HSD, in instances where the variances were equal, and the Games-Howell test, in those instances in which the variances were unequal.

The F-tests were done to determine the impact of highest level of formal education, years practising as a surveying professional and position in the organisation on ranking of parties and perception of the Professional Ethics Codes or ethics reading material.

3.11 Reliability and Validity

Before an instrument intended for research purposes is disseminated, it needs to be reliable and valid. Reliability looks at how consistent are the measures of the construct (Jonker and Pennink, 2010). Alternatively, validity looks at how suitable an instrument is to measure what it is planned to measure within the study (Betz, 2011).

Reliability can be checked using various methods which include the test-retest reliability, internal consistency and interrater reliability (Agrawal et al., 2015). Test-retest reliability checks at how consistent the results are between initial and concurrent test for a construct that is expected to score the same regardless of time (Betz, 2011). Internal consistency looks at the consistency of respondents' scores across a multi-item measure (Jonker and Pennink, 2010). On the other hand, interrater reliability looks at the degree to which various observers similarly rate on a same construct's measure (Jonker and Pennink, 2010). The information pertaining to reliability of the dimensions was generated. The instrument was tested for reliability with guidance from the supervisor and through a pilot test on a separate group of five professional quantity surveyors knowledgeable in ethics, who were not employees at the targeted company.

During the analysis stage, Cronbach alpha was used to assess the internal consistency of the instrument. The degree of the reliability was measured using the guidelines proposed by Manerikar and Manerikar (2015). Manerikar and Manerikar (2015) provided the following rules of thumb where reliability is; ≥ .9 – excellent (high-stakes testing), ≥ .7 – good (low-stakes testing, ≥ .6 – acceptable, ≥ .5 poor and < .5 unacceptable. According to Hair et al. (2019) the general agreed limit is normally .7 although in exploratory research it might reduce to .6. The reliability of the data was calculated to assess the internal consistency of the perception of quantity surveyors on Professional Ethics Code.

Validity can be checked in various forms which include face validity, content validity, criterion validity and discriminant validity (Agrawal et al., 2015). Face validity refers to the degree that a proposed measurement seems to include items that are expected of it to include (Jonker and Pennink, 2010). Content validity refers to how an instrument encompasses all aspects that it is expected to cover on a construct (Betz, 2011). Criterion validity looks at how a measure correlates to other variables that it is expected to correlate with (Agrawal et al., 2015). On the other hand, discriminant validity looks at how a measure distinguishes itself from variables that it is not correlated with. The validity was assessed firstly by the supervisor who assessed the questionnaire and determined whether the objectives of the study were being met. The researcher also looked at what other researchers where saying in literature on the subject.

In summary, both reliability and validity were tested on the instrument for this study with guidance from the supervisor, other researchers and a pilot test.

3.12 Bias

The researcher notified that he once worked for the company where the study recruits were sourced. In addition, the researcher is also a quantity surveyor by profession. In order to eradicate likelihood of bias, the researcher conducted the study from a disinterested position. In addition, at all stages during the study, the researcher avoided making own opinions, but adhered within the confines of the respondents' answers.

3.13 Ethical Concerns

Whilst undertaking all processes to ensure data is collected using the most appropriate population, sampling strategy, instrument design amongst other processes; due care was applied in order to ensure the whole process was conducted in an ethical manner. Intentions of the researcher were communicated beforehand through the college ethics department, and appropriate letters were sourced from company gatekeepers before any questionnaires could be disseminated to the company premises or to their employees.

All participants were contacted beforehand to ask for their consent to participate including clarifying to them that they were free to stop or withdraw their participation at any stage of their participation and for their own reasons. It was also clarified that the firm and its participants' information would be treated with confidentiality and was only going to be used for academic purposes and strictly for this study. Assurance was also given that their names were not required for purposes of the study for confidential reasons but they could still provide at their own will if they felt they needed to.

The researcher was also in constant liaison with the college-appointed supervisor for advice on ethical matters at every stage of the research study.

3.14 Summary

In this chapter, the researcher looked at the research methodology that was adopted for the study. This included, data collection method, sampling strategy and techniques, population of the study, research instruments and design, validity and reliability of the study, data analysis methods, limitations of the study and ethical considerations. The next chapter will be presenting results of the study.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

In the previous chapter, the researcher looked at the methodology that was employed in conducting this study, as well as how the collected data was collated and summarised in preparation for interpretation. The aim of this chapter is to present and interpret the research results in order to address the main research objective which was to assess the ethical perceptions of quantity surveyors at the firm in terms of their prioritisation of self-interests versus interests of other stakeholders, who in this study include the public, clients and employers. The study had three objectives, firstly to ascertain quantity surveyors' ethical perceptions at the firm in terms of order of prioritisation of stakeholder interests versus self-interests, secondly to establish strategies that could be implemented at the firm in order to bridge ethical gaps, if any are established to exist and lastly to find ways in which public trust could be restored to the quantity surveying profession on ethical matters beginning from an organisational level.

The quantitative approach used the aims to describe and compare variables. The analysis is presented in five steps;

- The first step outlines the reliability of the instrument.
- The second step outlines the descriptive statistics of the variables using frequencies, proportions, means and standard deviations.
- Exploratory factor analysis is then used to test the validity of the instrument. The results of the factor analysis are then used to create composite variables by averaging the items, thus finalising the third step.
- The fourth step involved the comparative analysis using Independent t-tests. The independent t-tests were done to determine impact of membership to any quantity surveying professional association/council body, and the perception of whether ethical standards of the surveying profession have been declining over the past ten years on ranking of parties and perception of the Professional Ethics Codes or ethics reading material.

- The fifth step was to determine the impact of highest level of formal education, years practising as a surveying professional and position in the organisation on ranking of parties and perception of the Professional Ethics Codes or ethics reading material. The results are presented in the next sections.

4.2 Reliability of Questionnaire

The reliability of the questionnaire was measured using Cronbach alpha as shown in Table 4.1.

Table 4.1: Reliability of the Questionnaire

Construct	No. of items	Cronbach's alpha	Acceptable level
Professional Ethics Code	10	.600	Acceptable

The instrument had a reliability of .6 which is considered acceptable by Manerikar and Manerikar (2015) and this is also supported by Hair et al. (2019) who indicated that a Cronbach value of .7 is normally used as the lower limit, although it may decrease to .6 in exploratory research. Since the reliability is acceptable, the questionnaire was used in further data analysis.

4.3 Characteristics of the Sample

A total of 51 quantity surveyors participated in the study to assess their ethical perception in terms of stakeholder versus self-interests prioritisation out of an intended target of 53 giving a response rate of 96.2%. This is a complete response according to Saunders, Lewis and Thornhill (2016) who postulated that a complete response is when over 80% of all questions are answered.

4.3.1 Biographic data of the respondents

The profile of the quantity surveyors is shown in Table 4.2 where they indicated their gender, age, membership to any quantity surveying professional body, highest level of formal education, number of years practicing as a quantity surveyor and position in the organisation.

Table 4.2: Biographic data of the respondents

Variable	Category	Frequency	%
Gender	Female	17	33.3%
	Male	34	66.7%
	Total	**51**	**100 .0%**
Age	At most 30 years	23	45.1%
	31 – 35 years	11	21.6%
	36 – 40 years	11	21.6%
	More than 40 years	6	11.8%
	Total	**51**	**100 .0%**
Membership	Non-member of a professional body	21	41.2%
	Member of a quantity surveying professional body	30	58.8%
	Total	**51**	**100 .0%**
Highest level of formal education	Current college students or interns	2	3.9%
	Surveyors with diplomas	5	9.8%
	Surveyors with a B.Tech or BSc Degree	24	47.1%
	Surveyors with an Honours Degree	18	35.3%
	Surveyors with a Masters Degree	2	3.9%
	Total	**51**	**100 .0%**
Years of experience	Surveyors with less than 5 years experience	15	29.4%
	Surveyors with 5 to 10 years experience	21	41.2%
	Surveyors with more than 10 years	15	29.4%

Variable	Category	Frequency	%
	experience		
	Total	**51**	**100.0%**
Position	Junior Quantity Surveyors	9	17.6%
	Intermediate Quantity Surveyors	19	37.3%
	Senior Quantity Surveyors	20	39.2%
	Managers	3	5.9%
	Total	**51**	**100 .0%**

4.3.1.1 Gender Distribution

A third of the respondents were women while two thirds were males. Thus the ratio of males to females is 2:1 (67%:33%), respectively. This is a profession that has been dominated by men. The disproportionality of males to females in the construction industry is shown in the statistics by the Construction Industry Development Board (CIDB) published in their 2018 Quarterly Monitor in which they highlight that males account for 89% of the construction workforce, whilst females account for the remainder 11%. The construction industry demographics for men to women differ from those of other South African industrial sectors with approximately 56% to 44% respectively.

4.3.1.2 Age Distribution

The age was distributed as 45.1% (n=23) aged at most 30 years, 21.6% (n=11) aged between 31-35 years; the same proportion (21.6%) was aged 36 – 40 years, and 11.8% (n=6) were aged more than 40 years. Thus, the majority of the respondents were not more than 35 years of age.

4.3.1.3 Membership

In terms of membership to a quantity surveying professional association council or body, 58.8% (n=30) acknowledged that they were members of the body, while 41.2% (n=21) were not affiliated to any professional body at all.

4.3.1.4 Level of Education

About 47.1% (n=24) of the respondents were surveyors with a B.Tech or BSc degree, 35.3% (n=18) were surveyors with an honours degree, 9.8% (n=5) were diploma holders while 3.9% (n=2) had masters degrees and the same proportion were currently college students or interns. It can be noted that the majority of the surveyors were degree holders comprising of 86%.

4.3.1.5 Experience

In terms of years of practising in the surveying profession, 29.4% (n=15) had less than 5 years' experience, 41.2% (n=21) had 5 to 10 years' experience and 29.4% (n=15) had more than 10 years' experience. It can be concluded that the majority of the respondents had more than 5 years' experience.

4.3.1.6 Managerial Level

The largest proportion of the respondents, that is, 39.2% (n=20) were senior quantity surveyors, 37.3% (n=19) were intermediate quantity surveyors, 17.6% (n=9) were junior quantity surveyors and 5.9% (n=3) were managers.

4.4 DESCRIPTIVE STATISTICS ON PERCEPTION OF DECLINING PROFESSIONAL ETHICAL STANDARDS

The respondents were asked to give their opinion on declining surveyors' professional ethical standards. Firstly, the respondents' were asked whether they perceive that ethical standards of the surveying profession have been declining over the past ten years. About 64.7% (n=33) disagreed while 35.3% (n=18) agreed that the standards were declining. About 92.2% (n=47) mentioned that

they read ethics-related material or attend courses, while 7.8% (n=4) testified that they do not read ethics related material.

4.4.1 Descriptive Statistics on Importance of Interests of Various Stakeholders

The respondents were asked to rank the importance of interests of parties when resolving ethical dilemmas during their practice. They were given seven parties which were themselves, employer/company, clients, superiors, colleagues, family and general public. The respondents were asked to give a rank of 1 to the most important party and a rank of 7 to the least important party. This shows that the lower the rank the more important the parties are. The information is shown in Table 4.3.

Table 4.3 : Rank of importance of the interest of the parties

Statement	Min	Max	Median	Mean	SD
Q2.3.3. Your clients	1	7	2	2.73	1.27
Q2.3.2. Your employer/company	1	6	3	3.08	1.13
Q2.3.7. General public	1	6	2	3.31	2.66
Q2.3.4. Your superior	1	7	4	3.88	1.19
Q2.3.1. Yourself	1	7	5	4.55	2.45
Q2.3.6. Your family	1	7	6	5.08	1.71
Q2.3.5. Your colleagues	1	7	6	5.29	1.17

The party that was rated the most important were clients with a mean of 2.73 and a median of 2. The standard deviation of the ranks was 1.27, thus about 68.26% of the respondents ranked the client between 1.46 and 4 using the empirical rule.

The employer/company had the second lowest average rank of 3.08 with a median of 3 and a standard deviation of 1.13. This shows that about 68.26% of the respondents gave ratings between 1.95 and 4.21.

The general public had the third lowest rank with a mean of 3.31, a median of 2 and a standard deviation of 2.66. Looking at the median, this shows that at most 50% of the respondents gave the general public a rank of 2 or less.

The superior had an average rank of 3.88 with a median of 4 and a standard deviation of 1.19. Thus, using the empirical rule of the normal distribution about 68.26% of the respondents gave rankings between 2.69 and 5.07. Thus, most rankings of superior were from 3rd to 5th.

The respondents gave themselves an average rank of importance of 4.55 with a median of 5 and a standard deviation of 2.45. Thus at least 50% of the people gave a ranking of 5 or more.

Family was ranked second from last with a mean of 5.08, a median of 6 and a standard deviation of 1.71. About 68.26% of the respondents ranked family between 3.37 and 6.79.

Colleagues were ranked the last with a mean of 5.29, a median of 6 and a standard deviation of 1.17. Looking at the median, it can be concluded that at least 50% gave a ranking of at least 6. Thus most people ranked colleagues on position 6 or 7.

In summary, the order of importance of parties in making ethical decisions were ranked as clients, employer/company, general public, superiors, themselves, family and colleagues, respectively.

4.4.1.1 Comparison of the Stakeholder Ranking with existing literature.

In contrast to the results of this study, in their study in Hong Kong, Fan et al. (2010) found the order of ranking of (1) employer; (2) self; (3) client; (4) superior;

(5) family; (6) colleagues; and (7) public. Accordingly, the results of the current study reveal that in the firm's (or local) context, the respondents were more inclined to prioritising public interests (third), as compared to the Hong Kong studies where the same was ranked seventh (Ho Man-Fong and Ng Chi-Wai, 2010). In addition, the Asian studies by Fan et al. (2010) show that quantity surveyors who participated in their study in overall prioritised self-interests (2) before public interests (7).

In the context of the current study, the quantity surveyors who participated put public interests (3) first before self-interests (5). Respondents in the current study also ranked client first (1) just before the public (3).

4.4.2 Descriptive Statistics on Perceptions of the Professional Ethics Codes

The respondents were given to assess 10 items on professional ethics codes or reading material. The items were ranked on a four-point Likert scale that ranged from 1 (strongly disagree) to 4 (strongly agree per Table 4.4 below.). Thus, an average of at least 2.5 meant that the respondents were in agreement with the issues. The information is tabulated in Table 4.4.

Table 4.4 : Level of agreement on professional ethics codes

Statement	Level of agreement				Mean	SD
	Strongly agree	Agree	Disagree	Strongly disagree		
	4	3	2	1		
Q2.4j. Must be subject to continuous refinement and updating since ethical behaviour is dynamic in nature	49.0% (25)	49.0% (25)	2% (1)	-	3.47	.54
Q2.4i. Can be used to encourage higher ethical standards in the surveying profession	41.2% (21)	56.9% (29)	2.0% (1)	-	3.39	.53

Statement	Level of agreement				Mean	SD
	Strongly agree	Agree	Disagree	Strongly disagree		
	4	3	2	1		
Q2.4b. Helps surveyors sort out ethical concerns	33.3% (17)	60.8% (31)	3.9% (2)	2.0% (1)	3.25	.63
Q2.4f. Enhances the professional image of surveyors	35.3% (18)	56.9% (29)	3.9% (2)	3.9% (2)	3.24	.71
Q2.4h. Generally meets the needs of the surveying profession	27.5% (14)	68.6% (35)	3.9% (2)	-	3.24	.51
Q2.4g. Can to a large extent address and provide a working guideline for major ethical problems	23.5% (12)	72.5% (37)	3.9% (2)	-	3.2	.49
Q2.4e. Assists surveyors to resist any pressure to perform unethical acts	37.3% (19)	45.1% (23)	9.8% (5)	7.8% (4)	3.12	.89
Q2.4c. The material is meaningless since there are no effective methods of enforcing them	5.9% (3)	5.9% (3)	66.7% (34)	21.6% (11)	1.96	.72
Q2.4d. Its window dressing; each surveyor acts according to his or her own personal belief	2.0% (1)	9.8% (5)	62.7% (32)	25.5% (13)	1.88	.65
Q2.4a. I do not read any	-	17.6% (9)	41.2% (21)	41.2% (21)	1.76	.74

Seven of the items had means more than 2.5 indicating that the respondents were in agreement on the issues. Over 95% of the respondents agreed that the professional codes of ethics must be subjected to continuous refinement and updating, since ethical behaviour is dynamic in nature, as 49% ‘strongly agreed’

and the same proportion (49%) ‘agreed.’ Overall it can be observed that 98% were in agreement that they can be used to encourage higher ethical standards in the surveying profession, where 41.2% ‘strongly agreed’ and 49% were in ‘agreement’. About 33.3% ‘strongly agreed’ while 60.8% ‘agreed’ and 5.9% were in ‘disagreement’ that professional ethics codes or ethics reading material helped surveyors sort out ethical concerns.

A large proportion of 92.2% were in agreement that the professional codes of ethics enhance the professional image of surveyors, with 7.8% in disagreement. This shows that the majority of the respondents think that by adhering to professional codes or reading ethics material, one’s image is improved. When the respondents were asked if the codes generally meet the needs of the surveying profession, 27.5% ‘strongly agreed’, 69.6% ‘agreed’ and 3.85% were in disagreement. This shows that most of the respondents believe current ethics standards are commensurate with the needs of the profession.

Close to 95% of the respondents thought that the professional ethics codes can to a large extent address and provide a working guideline for major ethical problems. This was observed with 23.5% ‘strongly agreeing’ and 72.5% in ‘agreement’. Most of the respondents were of the view that professional ethics codes assist the quantity surveyors to overcome tempting situations which could result to compromise on acceptable ethical conduct with 37.3% ‘strongly agreeing’ and 45.1% in ‘agreement’.

Three of the issues had respondents in disagreement. About 66.7% were in ‘disagreement’ while 21.6% ‘strongly disagreed’ to the statement that the ‘*material is meaningless since there are no effective methods of enforcing them*’. Close to 88% of the respondents disagreed to the statement “*its window dressing; each surveyor acts according to his or her own personal belief,*” where 62.7% ‘disagreed’ and 25.5% were in ‘strong disagreement’. The respondents were also asked if they do not read any ethics material and 82.4% disagreed while 17.6% agreed. Thus, close to 18% seem not to read any material on professional codes of ethics.

4.4.2.1 Comparison of Literature with the Responses on Codes of Ethics.

The respondents' answers to the above three statements reveal that most of the quantity surveyors are aware of benefits of ethical codes in setting the minimum expectation of the public from the profession (Teo, 2010). It is also quite evident that majority (88%) believe the ethical codes are not being published just for show business, but still, views of the remainder 12% may need to be assessed since Edward (2010) also warn that failure to effectively enforce the codes could result to the public losing trust in the profession altogether. Sometimes, it may not be the number in agreement that matters, but also ensuring the companies and professional councils address issues that even the few discontent pick out (Copeland, 2015).

The few bad areas in implementation could far outweigh the good that the codes could be doing to the profession; hence, there could be a need to revisit where necessary, either the codes or the implementation process. Strong (2016) also emphasises that it is imperative that companies and professional affiliations attend more to the sceptics concerns, if any codes are to become effective and relevant. In addition, whilst the ethical codes or material could be available, ensuring that the codes are accessible to all quantity surveyors, as well as ensuring that they understand and apply them (Strong, 2016) is important. In addition Copeland (2015) hints that sometimes no matter how good the ethical codes may seem to be, they are usually meaningless in the absence of leadership or management that foster good behaviour.

RICS (2017), which is also a professional body governing the quantity surveying profession, are also in agreement, hence why they reiterate that the effectiveness of the codes is only measured at the point of their potential application. If a surveyor fails to apply the code at the right time, the same ethical code will remain worthless to the surveyor up and until one applies it; hence RICS's encouragement to meet the 'spirit of the standards, and not just the letter of the standards' (RICS, 2017:5).

4.5 EXPLORATORY FACTOR ANALYSIS OF THE VARIABLES

The researcher made use of the Exploratory factor analysis (EFA) to combine items that were highly correlated. Whilst applying EFA, the latent root criterion was employed to find the amount of factors, and latent roots (eigen values) that equalled or exceeded one determined the resultant quantity of factors. Thus, all the factors whose eigen-values did not equal or exceed one were deemed not significant. As recommended by Hair et al. (2019), factor loadings of ±.50 or larger were deemed as essentially significant. The researcher applied the exploratory factor analysis on the nine items assessing the perception of the professional ethics codes. The method of principal component analysis making use of varimax rotation was employed to extract the factors.

The factor solution produced a Kaiser-Meyer-Olkin measure of sampling adequacy (KMO), of .520 which exceeds .5 demonstrating that the interrelationships were sufficient to proceed with factor analysis. With a resultant chi-square value of 126.938, the Bartlett's Test of Sphericity also produced a p-value that was highly significant ($p < .001$), hence prompting to the dismissal of the null hypothesis that there was insufficient correlation amongst the variables. Hence, it was demonstrated that significant correlation existed inside the constructs. A total of four factors emerged from the factor abstraction with a total variance of 70% as shown in the table below.

Table 4.5 Four factor rotated structure.

Item	Factor 1	Factor 2	Factor 3	Factor 4
Q2.4e. Assists surveyors to resist any pressure to perform unethical acts	.859			
Q2.4f. Enhances the professional image of surveyors	.777			

Item	Factor 1	Factor 2	Factor 3	Factor 4
Q2.4b. Helps surveyors sort out ethical concerns	.633			
Q2.4j. Must be subject to continuous refinement and updating since ethical behaviour is dynamic in nature	.586			
Q2.4c. The material is meaningless since there are no effective methods of enforcing them (R*)		.837		
Q2.4d. Its window dressing; each surveyor acts according to his or her own personal belief (R*)		.787		
Q2.4i. Can be used to encourage higher ethical standards in the surveying profession			.876	
Q2.4g. Can to a large extent address and provide a working guideline for major ethical problems			.846	
Q2.4h. Generally meets the needs of the surveying profession				.748
Q2.4a. I do not read any (R*)				-.584
Eigen values	***2.288***	***1.793***	***1.697***	***1.220***
Percentage variance explained	***22.882***	***17.930***	***16.973***	***12.198***
KMO measure of sampling adequacy	***.520***			
Level of significance:	***p<.001***			

The amount of total variation explained by the factor solution was 70%. According to Pallant (2013), a robust solution should account for at least 50% of the variance and thus in this case the solution was robust.

4.5.1 Factor 1 – Professional Ethics Image and Behavior

Factor 1 had the items loading onto the factor in order of their magnitude of impact as "*assists surveyors to resist any pressure to perform unethical acts*", "*enhances the professional image of surveyors*", "*helps surveyors sort out ethical concerns"* and *"must be subject to continuous refinement and updating since ethical behaviour is dynamic in nature"* with factor loadings of .859, .777, .633 and .586 respectively. The factor had an eigen value of 2.288 and explained 22.88% of the total variation. The factor was named as "*professional ethics image and behaviour".*

The positive responses to the above statements which are grouped as Factor 1 "Professional Ethics Image and Behaviour" reveal a robust belief by the quantity surveyors on the merits of the ethical codes as far as boosting image with clients and public is concerned. This corresponds to Greenway (2002) mentioning of how ethical codes promote good reputation as well as saving company from questionable conduct which could lead to disrepute of the profession. The responses to this factor also support RICS's emphasis of the need to continually revise the codes to suit the growth of the profession as well as changing times (Edwards and Pottinger, 2010, Teo, 2010). Also supported is the fact that before implementation of ethical standards, it is ideal to have the codes somewhere anyway as a first reference point should one face an ethical dilemma. Thus, having the codes in place is a necessary initial step which later lead to application of the ethical standards by surveyors in given scenarios (The Ethics Centre, 2019, Kidder, 2017).

4.5.2 Factor 2 – Professional Ethics Knowledge

The items "*the material is meaningless since there are no effective methods of enforcing them (R*),*" and "i*ts window dressing; each surveyor acts according to his or her own personal belief (R*),*" were the factors loading on factor 2 with factor loadings of .837 and .787 respectively. The eigen value was 1.793 and the factor solution accounted for 17.93% of the total variation. The factor was named "*professional ethics knowledge"* since the factor with the highest loading was talking about content of materials.

Factor 2 looked at the effectiveness of both the content in current codes being used by the profession as well as the effectiveness of implementation of the knowledge contained therein. Most respondents robustly denounced the assertion that 'the codes are not being effectively implemented' and they further denounced the statement that the codes are just being used for 'window dressing'. Such robust responses support Greenway (2002) where he emphasises the need for employer and professional affiliation's expectations being in congruency to personal values or societal expectations.

4.5.3 Factor 3 – Standards and Guidelines, and their Support towards Excellence

The third grouping was classified as "*Standards and Guidelines, and their Support towards Excellence*". The items in the group were "*can be used to encourage higher ethical standards in the surveying profession*" and "*can to a large extent address and provide a working guideline for major ethical problems*" with factor loadings of .876 and .846 respectively. The issues had agreement levels of more than 90% and had an eigen value of 1.697 and accounted for 16.97% of the total variation.

The robustness in the quantity surveyors' responses in this factor support RICS's (2017) proposition that adherence to spirit of the codes, helps one to tackle most ethical challenges posed to him/her in the most professional manner (Teo, 2010), and in a way that promotes the highest standards in the profession (Cunningham, 2011) as expected by the clients and public.

4.5.4 Factor 4 – Professional Ethics' Needs

The items "*generally meets the needs of the surveying profession*" and "*I do not read any* (R*)" were the factors loading on factor 4 with factor loadings of .748 and -.584 respectively. The eigen value was 1.22 and the factor solution accounted for 12.20% of the total variation. The factor was named "*professional ethics needs"* since the factor with the highest loading was talking about needs of the surveying professional.

The factor combined statements which looked at deficiencies of the current codes, including surveyors' attitude on whether the material is 'read-worthy'. Most of the readers robustly agreed that ethical needs of their surveying profession could be met by the current ethical codes, and most of them found the material worth reading.

4.6 COMPARATIVE ANALYSIS USING INDEPENDENT T-TESTS

The independent sample t-test was done to determine whether the views on the respondents on the ranking of importance of party interests, as well as if perceptions on professional codes of ethics differed by membership, or by whether standards are declining. As mentioned in chapter three, the independent t-tests has three assumptions which are independence, normality and equal groups. The surveyors that participated were independent from each other and the central limit theorem was applied to achieve normality. The Levene's test of homogeneity of variance was used to test whether the groups had equal variances. In this case, if the variances were not equal, then statistics under 'equal variances not assumed' were discussed and in case were the variances were equal, assumption under 'equal variances assumed' were discussed.

The test was done on the issues on the importance of interested parties and on perceptions of respondents on professional codes of ethics codes which were divided into four factors. The tests were done at the 5% level of significances and the tests were significant if the p-value was less than .05. If the p-value was more than .05, on the test of equality of means, then there was homogeneity of means across groups, that is, the means were equal.

4.6.1 Independent t-test for determining difference in mean scores by Membership

The respondents were asked if they were members to a quantity surveying professional association council or body or not. Thus, the variable was divided into members and non-members. The test of homogeneity of variance resulted in all the variables having equal variances across group since all the p-values were more than .05 except for the variables 'interests of family' and 'interests of general

public' with p-values of .001 and .003 respectively. In this case statistics under 'equal variances not assumed' were presented.

The independent sample t-test of equality of means test resulted in all variables having equal means except 'interests of family', 'interests of general public', perceptions on professional ethics codes' ability to make good the image of the profession and promote good behavior, perceptions on 'professional ethics codes' ability to meet needs of the profession' and perceptions on 'professional ethics codes need to be updated regularly'.

Table 4.6: Independent t-test to determine difference in mean scores by membership

Indicator	Group Statistics				Levene's Test for Equality of Variances			T-test for Equality of Means	
	Membership	N	Mean	SD	Equal Variances	F	Sig	t-value	Sig (2 – tailed p-score)
Q2.3.1. Yourself	No	21	3.76	2.644	Assumed	3.790	.057	-1.973	.054
	Yes	30	5.10	2.187	Not assumed			-1.907	.064
Q2.3.2. Your employer/company	No	21	3.10	1.338	Assumed	1.813	.184	.088	.930
	Yes	30	3.07	.980	Not assumed			.083	.934
Q2.3.3. Your clients	No	21	3.00	1.378	Assumed	1.006	.321	1.304	.198
	Yes	30	2.53	1.167	Not assumed			1.266	.213
Q2.3.4. Your superior	No	21	4.24	1.179	Assumed	.026	.872	1.821	.075
	Yes	30	3.63	1.159	Not assumed			1.815	.077
Q2.3.5. Your colleagues	No	21	5.05	1.284	Assumed	.528	.471	-1.265	.212
	Yes	30	5.47	1.074	Not assumed			-1.225	.228

Indicator	Group Statistics				Levene's Test for Equality of Variances			T-test for Equality of Means	
	Membership	N	Mean	SD	Equal Variances	F	Sig	t-value	Sig (2 – tailed p-score)
Q2.3.6. Your family	No	21	4.29	1.978	Assumed	13.673	.001	-2.986	.004
	Yes	30	5.63	1.245	Not assumed			-2.762	.010
Q2.3.7. General public	No	21	4.71	2.795	Assumed	9.687	.003	3.482	.001
	Yes	30	2.33	2.090	Not assumed			3.309	.002
Q2.4 Perceptions on professional ethics codes' ability to make good the image of the profession and promote good behaviour	No	21	3.08	.508	Assumed	.001	.973	-2.262	.028
	Yes	30	3.40	.481	Not assumed			-2.239	.031
Q2.4 Perceptions on professional ethics knowledge	No	21	2.90	.768	Assumed	3.898	.054	-1.810	.076
	Yes	30	3.20	.385	Not assumed			-1.624	.116
Q2.4 Perceptions on	No	21	3.33	.398	Assumed	.720	.400	.518	.607

Indicator	Group Statistics				Levene's Test for Equality of Variances			T-test for Equality of Means	
	Membership	N	Mean	SD	Equal Variances	F	Sig	t-value	Sig (2 – tailed p-score)
professional ethics standards and guidelines	Yes	30	3.27	.487	Not assumed			.537	.594
Q2.4 Perceptions on professional ethics meeting needs of the profession	No	21	3.06	.445	Assumed	.297	.588	-2.705	.009
	Yes	30	3.37	.392	Not assumed			-2.645	.012
Q2.4 Perceptions on the professional ethics codes need for update	No	21	3.09	.293	Assumed	.410	.525	-2.929	.005
	Yes	30	3.33	.277	Not assumed			-2.898	.006

There was no difference in means for the variables 'interests of oneself', 'interests of employer/company', 'interests of clients', 'interests of superior', 'interests of colleagues', perceptions on 'professional ethics knowledge' and 'perceptions on professional ethics standards and guidelines'. Thus, the responses for those who are affiliated to a quantity surveying body and those who are not were the same. There were differences in means for the variables 'interests of family', 'interests of the general public', perceptions on professional ethics codes' ability to make good the image of the profession and promote good behaviour, perceptions on professional ethics codes' ability to meet needs of the profession and perceptions on the professional ethics codes' need for update. Thus, membership had an effect on the rating of these issues.

4.6.1.1 Ranking of Importance of 'Family Interests' by 'Membership'

The independent t-tests results for 'interests of family' were found to be statistically significant, $\mathrm{t}(30.986) = -2.762, \mathrm{p} = .010$. The mean response rate for non.members (M= 4.29, $SD = 1.98$) was lower than the mean response rate for members (M= 5.63, $SD = 1.25$). A large effect size of $\eta^2 = .20$ was obtained and it can be noted that about 20% of the variation in interests of family was accounted by membership status. The difference is also shown in Figure 4.1 by the non-overlapping of the error bars.

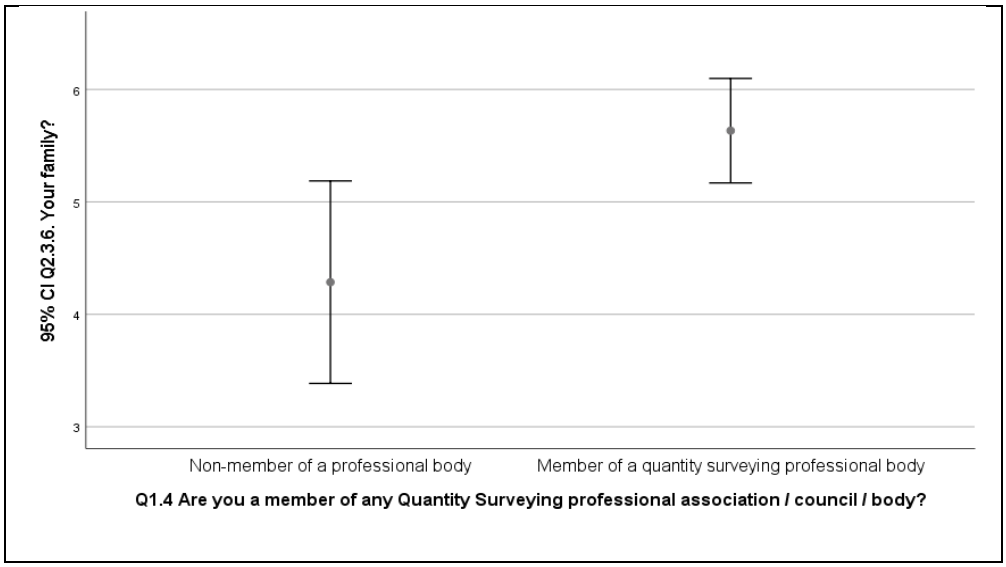

Figure 4.1: Confidence interval error bars for interests of family by membership

The ranking for members was close to 6 while those for non- members was close to 4. Those affiliated to a quantity surveying professional body ranked family less important than the non-members.

4.6.1.2 Ranking by 'Membership' of importance of 'Public Interests'.

Results of the independent t-test showed that there were statistically significant differences on the ranking of the interests of the general public $\mathrm{t}(35.016) = 3.309, \mathrm{p} = .002$. The mean response rate for non-members (M= 4.71, $SD = 2.80$) was significantly higher than for members (M= 2.33, $SD = 2.09$). The effect size was, $\eta^2 = .24$ which was of a large effect and thus about 24% of the amount of variability in rating of interests of the general public was accounted for by membership status. The confidence interval error bars shown in Figure 4.2 below.

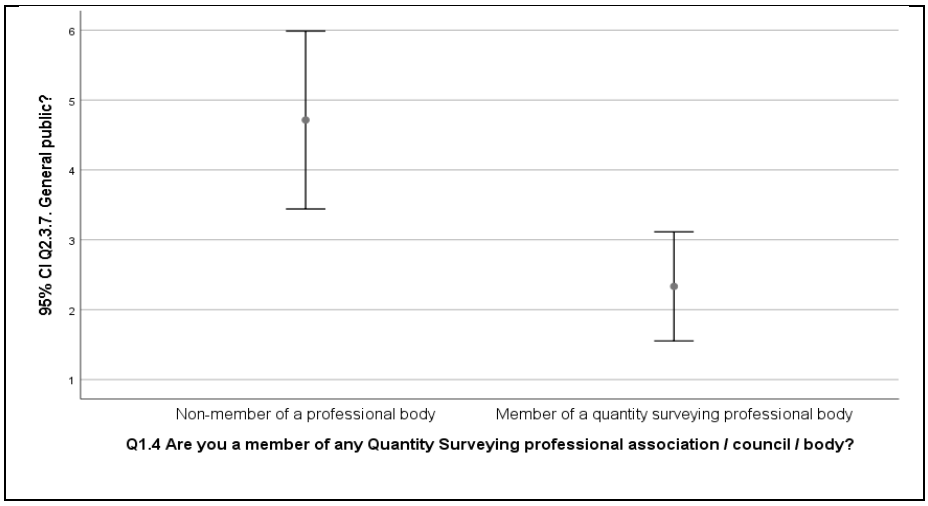

Figure 4.2: Confidence interval error bars for interests of general public by membership

Those who are members had means close to two while those who are not members had an average mean close to 5. Those who are members of a quantity surveying association body found the concerns of the general public worth considering or important than those who were non-members.

4.6.1.3 Codes' ability to improve reputation of the profession - by 'Membership'

The variable on perceptions on professional ethics codes' ability to make good the image of the profession and promote good behavior resulted in the t-test being statistically significant, $\mathrm{t}(49) = -2.262, \mathrm{p} = .028)$. The results showed that non-members had an average response rate (M= 3.08, $SD = .51$) that was significantly lower than the average response rate for members (M= 3.40, $SD = .48$). The effect size was found to be $\eta^2 = .09$ which is of a moderate effect. About 9% of the variation in perceptions on professional ethics codes' ability to make good the image of the profession and promote good behavior was accounted for by membership status. The confidence interval error bars are shown in Figure 4. 3.

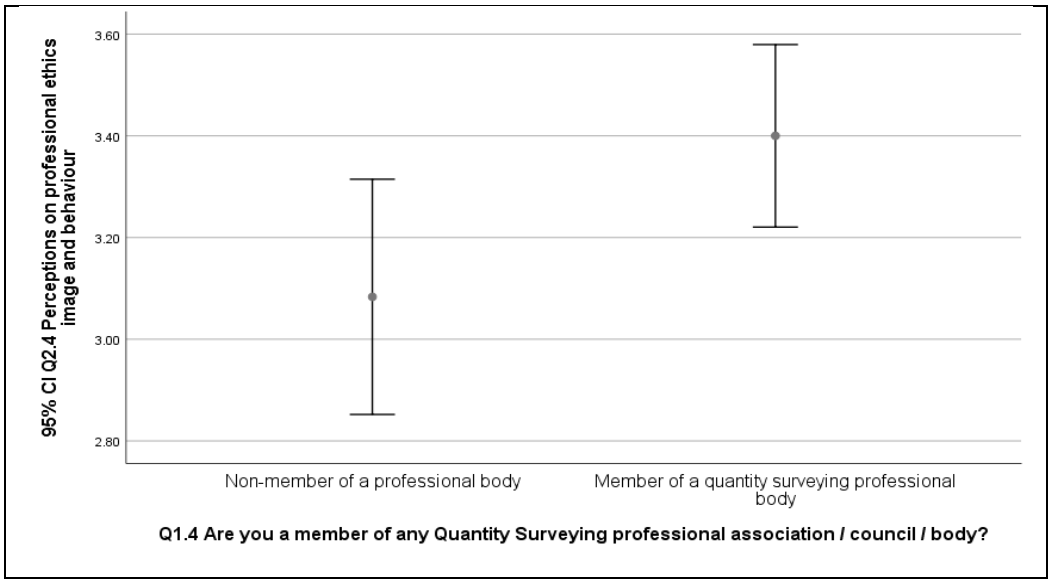

Figure 4.3: Confidence interval error bars for perception on professional ethics codes' ability to make good the image of the profession and promote good behaviour by membership

Both groups had means close to three indicating that there were in agreement. However, those who are members of a quantity surveying association body were more in agreement than those who were not members on 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors'.

In essence, members or professional body affiliates do appreciate or see more on the importance of codes in enhancing the professional image than non-members.

4.6.1.4 Professional Codes' ability to meet needs of the profession – by 'Membership'

Results of the t-test were found to be statistically significant on the variable perceptions on professional ethics codes' ability to meet needs of the profession, $\mathrm{t}(49) = -2.705, \mathrm{p} = .009$. The mean response for non-members (M= 3.05, $SD = .44$) was higher than the mean response for members (M= 3.37, $SD = .39$). A moderate effect size of $\eta^2 = .13$ was obtained. About 13% of the variability in perceptions on professional ethics codes' ability to meet needs of the profession was being explained by membership status. The confidence interval error bars are depicted in Figure 4.4 below.

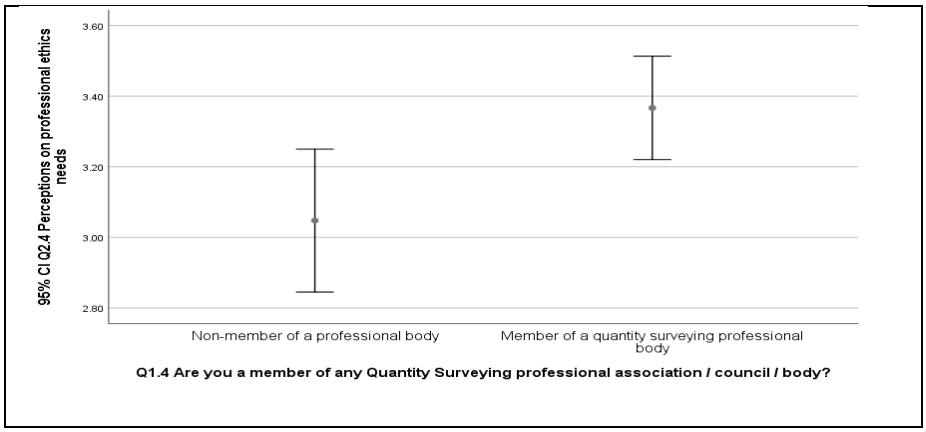

Figure 4.4: Confidence interval error bars for perception on professional ethics codes' ability to meet needs of the profession by membership

All means were close to three indicating that the respondents were in agreement. However the level of agreement was higher for those with membership status than those without on perceptions on professional ethics codes' ability to meet needs of the profession.

Members were more in agreement on how the ethical codes meet the needs of the profession as compared to non-members. In addition, the results also reveal that it is more likely for a non-member to be not reading any ethics-related material than a member affiliated to a quantity surveying association or body or council.

4.6.1.5 'Need for update of ethics codes' by 'Membership

In terms of perceptions on the professional ethics codes' need for update, there was statistically significant difference across members $\mathrm{t}(49) = -2.929, \mathrm{p} = .005)$. The mean response for non-members (M= 3.09, $SD = .29$) was significantly lower than mean response for members (M= 3.33, $SD = .28$). A large effect size of $\eta^2 = .15$ was obtained. About 15% of the variability in perceptions on the professional ethics codes' need for update was being accounted for by membership status. The error bars are shown Figure 4.5 below.

Both groups were close to three indicating that they were in agreement on perceptions on professional ethics codes' need for update. However, those with membership status were more in agreement than those who are not affiliated to a quantity surveying association body on professional ethics codes' need for update.

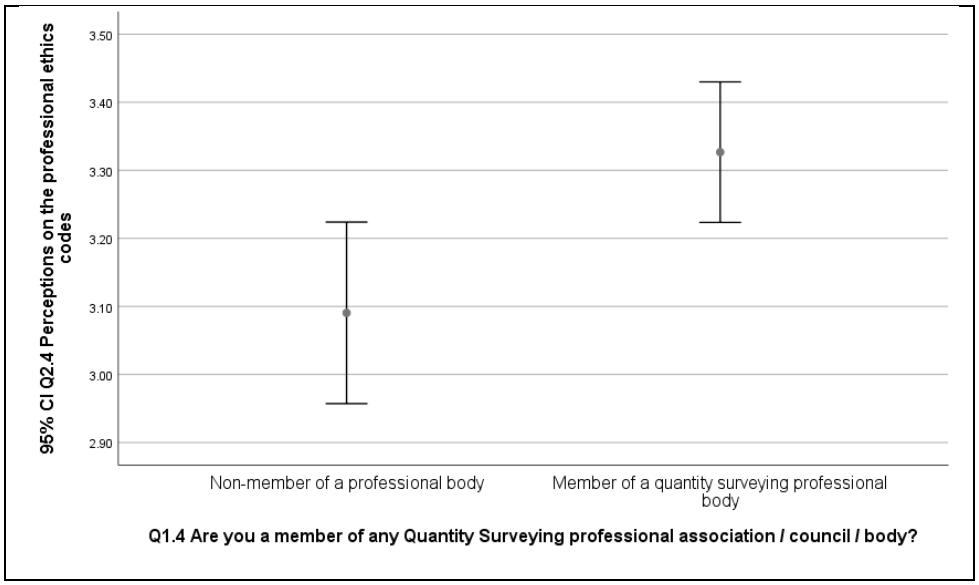

Figure 4.5: Confidence interval error bars for perception on professional ethics codes' need for update by membership

Again, members do see more the importance of keeping the codes of ethics up to date with industry needs and changing times as mentioned by Teo (2010) who emphasised the need for codes to remain relevant to the profession and times (Cunningham, 2011).

4.6.2 Independent t-test for determining difference in mean scores by whether the standards are declining

The respondents were asked to indicate whether the ethical standards of the surveying professional were declining over the past years. The response was classified into two categories which were 'disagree' and 'agree'. The Levene's test of homogeneity of variance resulted in all the variables having equal variances across groups and thus statistics under equal variance assumed were presented.

The results of the independent t-tests showed that all variables had equal means across groups except 'interests of oneself', 'interests of employer/company', 'interests of general public', perceptions on professional ethics image and behavior, perceptions on professional ethics codes' ability to meet needs of the profession and perceptions on the professional ethics codes' need for update. The information is presented in Table 4.7.

Table 4.7: Independent t-test to determine difference in mean scores by whether the standards are declining

Indicator	Group Statistics				Levene's Test for Equality of Variances			T-test for Equality of Means	
	Declining standards	N	Mean	SD	Equal Variances	F	Sig	t-value	Sig (2 – tailed p-score)
Q2.3.1. Yourself	Disagree	33	5.36	2.275	Assumed	.242	.625	3.570	.001
	Agree	18	3.06	2.071	Not assumed			3.671	.001
Q2.3.2. Your employer/company	Disagree	33	3.36	.929	Assumed	3.213	.079	2.578	.013
	Agree	18	2.56	1.294	Not assumed			2.341	.027
Q2.3.3. Your clients	Disagree	33	2.58	1.119	Assumed	1.982	.166	-1.147	.257
	Agree	18	3.00	1.495	Not assumed			-1.054	.301
Q2.3.4. Your superior	Disagree	33	3.94	1.248	Assumed	.941	.337	.458	.649
	Agree	18	3.78	1.114	Not assumed			.474	.638
Q2.3.5. Your colleagues	Disagree	33	5.45	1.034	Assumed	1.470	.231	1.335	.188
	Agree	18	5.00	1.372	Not			1.228	.230

Indicator	Group Statistics				Levene's Test for Equality of Variances			T-test for Equality of Means	
	Declining standards	N	Mean	SD	Equal Variances	F	Sig	t-value	Sig (2 – tailed p-score)
					assumed				
Q2.3.6. Your family	Disagree	33	4.94	1.713	Assumed	.001	.981	-.785	.436
	Agree	18	5.33	1.715	Not assumed			-.784	.438
Q2.3.7. General public	Disagree	33	2.30	2.172	Assumed	2.150	.149	-4.263	.000
	Agree	18	5.17	2.503	Not assumed			-4.087	.000
Q2.4 Perceptions on professional ethics codes' ability to make good the image of the profession and promote good behavior	Disagree	33	3.39	.488	Assumed	.618	.435	2.465	.017
	Agree	18	3.04	.487	Not assumed			2.467	.019
Q2.4 Perceptions on professional ethics knowledge	Disagree	33	3.18	.448	Assumed	4.017	.051	1.739	.088
	Agree	18	2.89	.758	Not assumed			1.502	.146

Indicator	Group Statistics				Levene's Test for Equality of Variances			T-test for Equality of Means	
	Declining standards	N	Mean	SD	Equal Variances	F	Sig	t-value	Sig (2 – tailed p-score)
Q2.4 Perceptions on professional ethics standards and guidelines	Disagree	33	3.35	.442	Assumed	.682	.413	1.175	.246
	Agree	18	3.19	.458	Not assumed			1.162	.253
Q2.4 Perceptions on professional ethics codes' ability to meet needs of the profession	Disagree	33	3.35	.442	Assumed	1.523	.223	2.631	.011
	Agree	18	3.03	.363	Not assumed			2.789	.008
Q2.4 Perceptions on the professional ethics codes' need for update	Disagree	33	3.33	.273	Assumed	.572	.453	3.699	.001
	Agree	18	3.04	.268	Not assumed			3.721	.001

Results of the t-test showed that there was no statistical difference between those who agreed and those who disagreed on the issue on whether the ethical standards were declining for the variables 'interests of clients', 'interests of superior', 'interests of colleagues', 'interests of family', perceptions on professional ethics knowledge and perceptions on professional ethics standards and guidelines. Thus, perception on whether ethical standards of the surveying professional have been declining over the past years had no effect on the responses.

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However, perception on whether ethical standards of the surveying professional have been declining over the past 10 years had an impact on the issues on interests of oneself, interests of employer/company, interests of general public, perceptions on professional ethics codes' ability to make good the image of the profession and promote good behaviour, perceptions on professional ethics codes' ability to meet needs of the profession and perceptions on the professional ethics codes' need for update.

4.6.2.1 Relationship between Perception on 'declining ethical standards' and ranking of importance of 'personal interests'.

Results of the independent t-test on the ranking on importance of interests of oneself was found to be statistically significant $\mathrm{t}(49) = 3.570, \mathrm{p} = .001)$. Those who 'disagree' (M= 5.36, $SD = 2.28$) had a significantly higher mean than those who 'agree' (M= 3.06, $SD = 2.07$). A large effect size of $\eta^2 = .21$ was obtained. About 21% of the variation in interests of oneself was accounted for by whether standards are declining. The confidence interval error bars shown in Figure 4. 6 below.

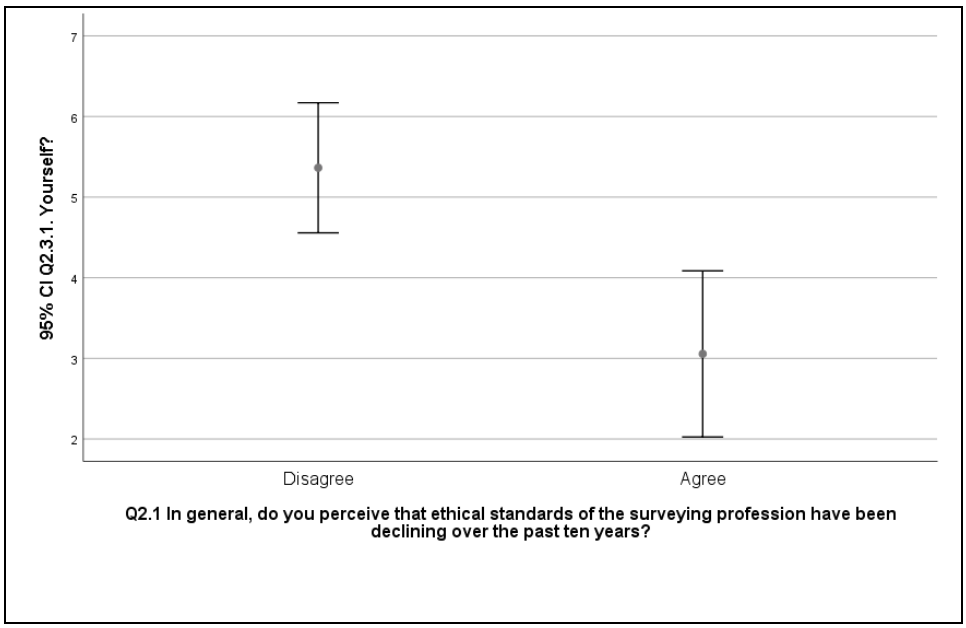

Figure 4.6: Confidence interval error bars for interests of oneself by whether standards are declining

Those who ‘disagreed’ had a mean close to ‘five’ while those who agreed had a mean close to ‘three’. Those who agreed that the ethical standards are declining rate themselves as more important than those who disagreed.

Those who are more self-centred when faced with ethical dilemmas were also more inclined to perceive that ethical standards are declining, whereas those who prioritise interests of other stakeholders needs before themselves were more optimistic about the decline of ethical standards in the past 10 years.

4.6.2.2 Relationship between perception of declining ethical standards and ranking of importance of ‘interests of employer/company’.

Results from the independent t-tests on the variable interests of the employer/company, resulted in a statistically significant $t(49) = 2.578, p = .013$. Results show that those who disagreed that ethical standards were declining (M= 3.36 $SD = .93$) were significantly higher than those who agreed (M= 2.56 $SD = 1.29$). A moderate effect size of eta-squared = .12 was obtained. The amount of variability in interests of employer/company that is accounted for by whether standards are declining is 12%. The confidence interval error bars are shown in Figure 4.7.

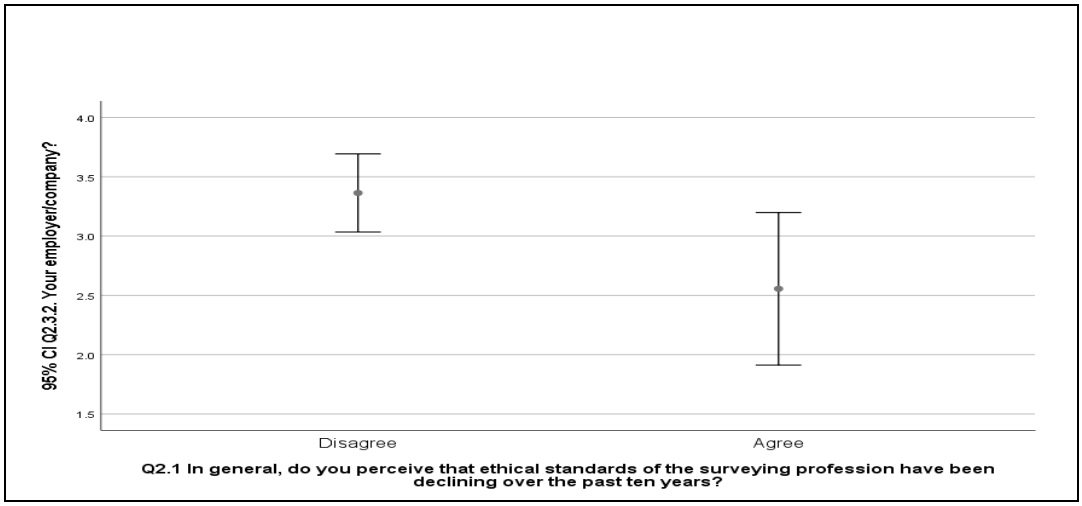

Figure 4.7: Confidence interval error bars for interests of your employer/company by whether standards are declining

All means were close to three but those who 'disagreed' ranked employer/customer less important than those who 'agreed' that the standards were declining.

4.6.2.3 Relationship between 'declining ethical standards' and the ranking of importance of 'interests of the public'.

The independent t-test for the variable 'interests of general public' was found to be statistically significant $\mathrm{t}(49) = -4.263, \mathrm{p} < .001$. The results indicated that those who disagreed that ethical standards were declining (M= 2.30, $SD = 2.17$) had a significantly lower mean than those who agreed (M= 5.17, $SD = 2.50$) that the standards were declining. A large effect size of $\eta^2 = .27$ was obtained and about 27% of the variability in interests of the general public is accounted for by whether standards are declining. The confidence interval error bars are shown in Figure 4.8 below.

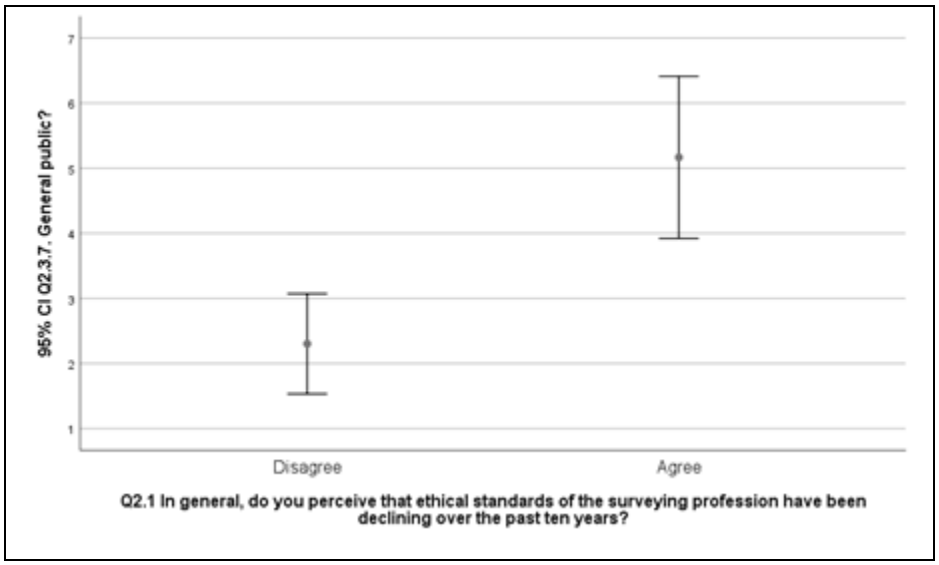

Figure 4.8: Confidence interval error bars for interests of general public by whether standards are declining

Those who 'disagreed' had a mean close to 'two' while those who 'agreed' had a mean close to 'five'. Those who 'agreed' that the standards are declining ranked the general public the 'second' while those who 'disagreed' ranked them fifth. Thus those who agreed that the standards are declining regard the general public less important when making ethical decisions, which is a point of concern considering

RICS (2019) and Cullingham (2011) reiteration of the importance of prioritising public, as well as ensuring their interests are prime.

4.6.2.4 Relationship between agreeableness on 'declining ethical standards' and perceptions on 'ethical codes ability to restore image of the profession'.

Results of the independent sample t-test found out that there was a statistically significant difference on perceptions on professional ethics codes' ability to make good the image of the profession and promote good behaviour $\mathrm{t}(49) = 2.465, \mathrm{p} = .017$). The results indicate that those who disagreed (M= 3.39, SD = .49) had a significantly higher mean than those who agreed (M= 3.04, SD = .49). A moderate effect size of $\eta^2 = .12$ was obtained. About 12% of the variability in perceptions on professional ethics codes' ability to make good the image of the profession and promote good behavior is being explained by whether standards are declining. The confidence interval error bars shown in Figure 4.9 below.

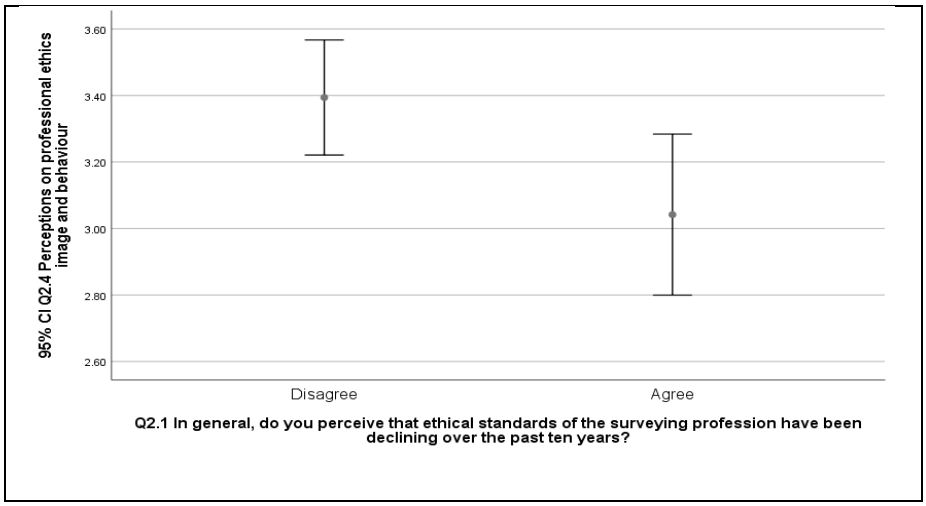

Figure 4.9: Confidence interval error bars for perception on professional ethics codes' ability to make good the image of the profession and promote good behaviour by whether standards are declining

All the means were close to three indicating that the respondents were in agreement on issues on perceptions on professional ethics codes' ability to make good the image of the profession and promote good behaviour. Those who disagreed that standards were declining were more in agreement on perceptions

on professional ethics codes' ability to make good the image of the profession and promote good behaviour.

4.6.2.5 Relationship between agreeableness on 'declining standards' and perception on 'codes ability to meet needs of the profession.

Results showed that the independent t-test for perceptions on professional ethics codes' ability to meet needs of the profession was statistically significant $t(49) = 2.631$ $p = .011$). Those who disagreed that ethical standards were declining (M= 3.35, $SD = .44$) had a significantly higher mean than those who agreed (M= 3.03, $SD = .36$). The effect size was found to be $\eta^2 = .12$, which was of a moderate effect. About 12% of the variability in perceptions on professional ethics codes' ability to meet needs of the profession is accounted for by whether the standards are declining. The difference is supported by non-overlapping of the confidence interval error bars shown in Figure 4.10 below.

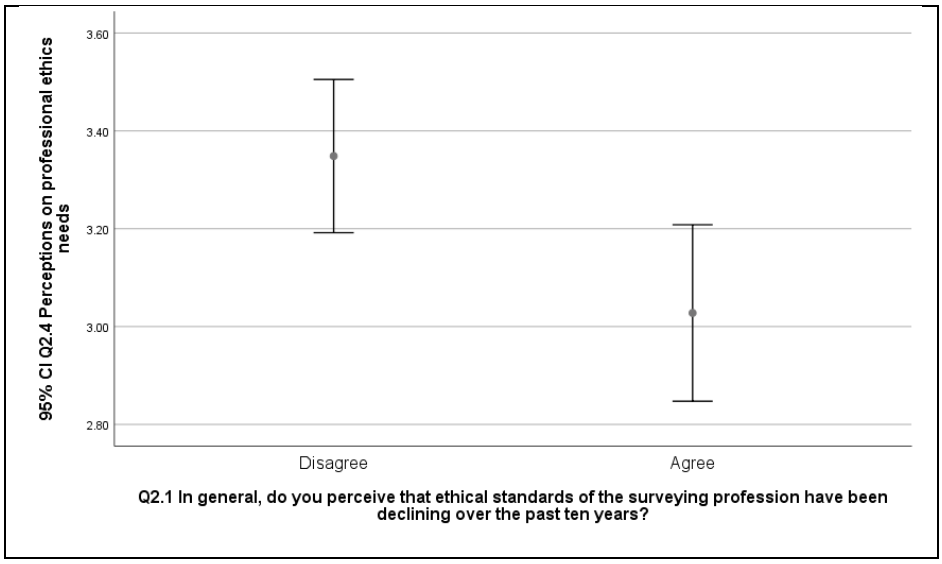

Figure 4.10: Confidence interval error bars for perception on professional needs by whether standards are declining

Both means were close to three indicating that the respondents were in agreement about issues on perceptions on professional ethics codes' ability to meet needs of the profession. Those who disagreed that ethics standards were declining agreed

more on perceptions on professional ethics codes' ability to meet needs of the profession than those who said that the standards were declining.

4.6.2.6 Relationship between agreeableness on 'declining standards' and 'need for update of codes'.

Results of the independent t-test found out a statistically significant difference on the variable on perceptions on the professional ethics codes' need for update, $t(49) = 3.699, p = .001$. Those who disagreed (M= 3.33, $SD = .27$) had a significantly higher mean than those who agreed (M= 3.04, $SD = .27$). The effect size was found to be $\eta^2 = .22$, which was of a moderate effect. About 22% of the variability in perceptions on professional ethics codes' need for update is accounted for by whether the standards are declining. The confidence interval error bars shown in Figure 4.11 below.

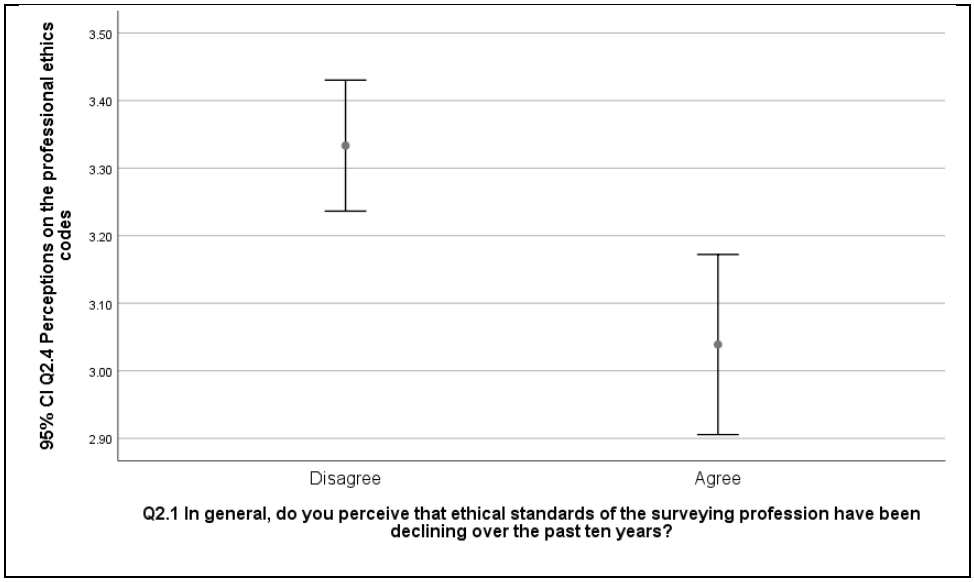

Figure 4.11: Confidence interval error bars for perception on professional ethics codes' need for update by whether standards are declining

Both means were close to three indicating that the respondents were in agreement on issues on perceptions on professional ethics codes' need for update. Those who disagreed that ethics standards were declining agreed more on issues on perceptions on professional ethics codes' need for update than those who said that the standards were declining.

4.7 COMPARATIVE ANALYSIS USING ANOVA

The univariate analysis of variance (ANOVA) was performed to determine whether 'highest level of formal education', 'years of experience' as a quantity surveyor professional and 'position' in the organisation has an impact on assessment of quantity surveyors' ethical perceptions in terms of stakeholders versus self-interests prioritisation. The assumptions of the ANOVA tests are similar to those of the independent t–test and thus were tested in a similar manner. However, in the case where the variances across groups were not equal, the Welch robust test of equality of means was used and the Games-Howell tests as a post hoc test. In the case where the assumption of equality of variances was not violated, the traditional ANOVA F test was used and Tukey HSD as the post hoc tests. The variables used were the same as those used for the independent t-test. The test was done at the 5% level of significance and the results are presented in the next subsections

4.7.1 ANOVA test to determine difference in mean score by highest level of formal education

The highest level of formal education was classified into three categories which were students/ interns or surveyors with diplomas, surveyors with a B.Tech or BSc Degree and surveyors with an Honours/ Masters Degree. The assumption of equality of variance was met for all variables except 'interests of oneself' and perceptions on 'professional ethics knowledge' with p-values of .035 and less than .001 respectively. In this case the Welch robust test for equality of means was used. The results of the F-tests are shown in Table 4.8.

Table 4.8: ANOVA test to determine difference in mean score by highest level of formal education

Constructs	Levene's test for equality of variance		Test for equality of means	
	F	*p-value*	*F*	*p-value*
Q2.3.1. Yourself	3.583	.035	4.445[b]	.028
Q2.3.2. Your employer/company	.879	.422	3.021	.058
Q2.3.3. Your clients	1.812	.174	.065	.937
Q2.3.4. Your superior	.068	.935	2.529	.090
Q2.3.5. Your colleagues	2.947	.062	4.176	.021
Q2.3.6. Your family	1.321	.276	1.064	.353
Q2.3.7. General public	.366	.695	3.185	.050
Q2.4 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors'	1.878	.164	1.862	.166
Q2.4 Perceptions on professional ethics knowledge	9.515	$p < .001$	.079	.925
Q2.4 Perceptions on professional ethics standards and guidelines	.625	.539	1.766	.182
Q2.4 Perceptions on professional ethics codes' ability to meet needs of the profession	1.280	.287	.026	.975
Q2.4 Perceptions on the professional ethics codes' need for update	1.862	.166	.976	.384

[b] Welch F-statistic

There was no statistical difference in means for the variables interests of employer/company, 'interests of client's, 'interests of superiors', 'interests of family', 'interests of general public', 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors', perceptions on professional ethics knowledge, perceptions on professional ethics standards and guidelines, perceptions on professional ethics codes' ability to meet needs of the profession and perceptions on professional ethics codes' need for update. Thus, highest level of formal education had no impact on these issues.

The variables 'interests of oneself' and 'interests of colleagues' had means that were statistically significant since the p-values were .028 and .021 respectively. Highest level of formal education had an impact on the responses on the views of these issues. The Welch robust tests of equality of means showed that the effect of highest level of formal education on 'interests of oneself' was statistically significant, $F(2,17.256) = 4.445, p = .028$. A moderate effect size of .12 was achieved and about 12% of the variation in 'interests of oneself' was accounted for by highest level of formal education. Post hoc comparisons using Games-Howell test resulted in two homogeneous groups as shown in Table 4.9:

Table 4.9: Games-Howell Homogeneous groups for interest in oneself by highest level of formal education

	Q1.5 What is your highest level of formal education?	N	Subset for alpha = 0.05	
			1	2
Games-Howell	Students/ interns or surveyors with diplomas	7	2.57	
	Surveyors with a B.Tech or BSc Degree	24	4.42	4.42
	Surveyors with an Honours/ Masters Degree	20		5.40

The mean response for students/ interns or surveyors with diplomas $(M = 2.57, SD = 2.23)$ was significantly different from the mean response for surveyors with an Honours / Master's Degree $(M = 5.40, SD = 1.96)$. Surveyors with a

B.Tech or BSc Degree were not significantly different from the other groups. The confidence interval error bars are shown in Figure 4.12.

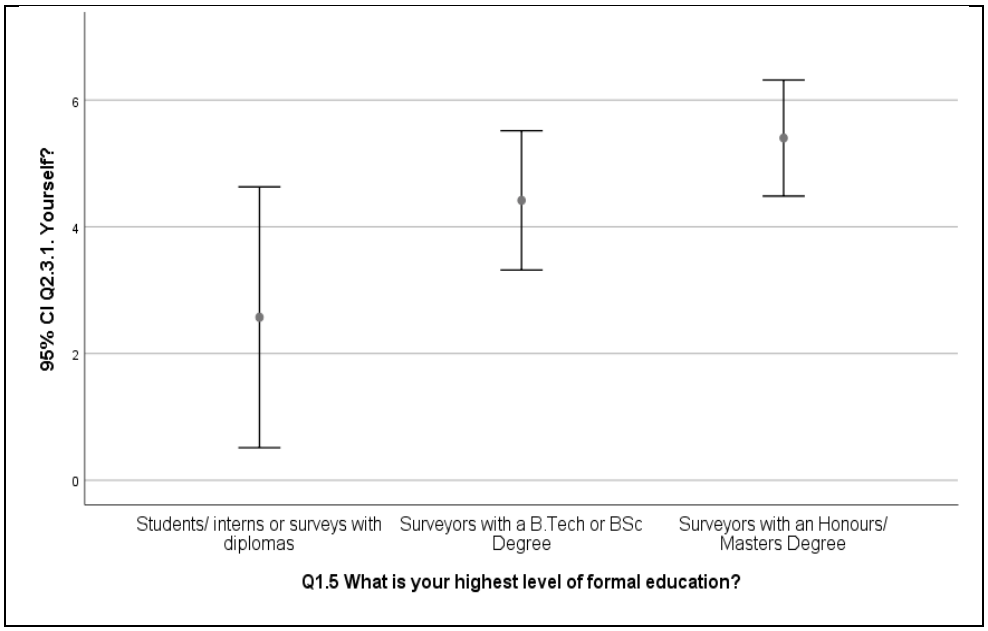

Figure 4.12: Confidence interval error bars for 'interests of oneself' by highest level of formal education

Looking at Figure 4.12, the average response seems to increase with level of qualification. Those highly educated tend to rank personal interests in resolving ethical dilemmas less important. It can be noted that the surveyors with an 'Honours / Master's Degree' tend to rank themselves 'fifth' while those who are 'students / interns or diploma' holders tend to rank themselves 'third'.

In essence, it can be inferred from the results that the more the surveyors advance themselves academically, the more their likelihood of appreciating that others' interests come first as far as ethical matters are concerned. The finding to an extend tallies with those Christabel et al (2010) where they find a correlation between the level of education, and a surveyor's appreciation of other's concerns when faced with ethical dilemmas.

Level of 'Education' and ranking of 'interests of colleagues'.

There was a statistically significant difference on 'interests of colleagues' mean scores for the three groups, $F(2,48) = 4.176\,, p = .021$. A moderate effect size of .15 was obtained and about 15% of the variability in 'interests of colleagues' were

accounted for by highest level of formal education. The post hoc tests using Tukey HSD resulted in two homogeneous groups.

Table 4.10: Tukey HSD homogeneous groups for 'interests of colleagues' by highest level of formal education

	Q1.5 What is your highest level of formal education?	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,b]	Surveyors with an Honours/ Masters Degree	20	4.75	
	Students/ interns or surveyors with diplomas	7	5.43	5.43
	Surveyors with a B.Tech or BSc Degree	24		5.71

The post hoc tests revealed that the average response for surveyors with an Honours/ Masters degree $(M = 4.75, SD = 1.52)$ was significantly lower than the average response for surveyors with a B.Tech or BSc Degree $(M = 5.71, SD = .69)$. Students/ interns or surveyors with diplomas were in-between both groups and thus were not significantly different from the other groups. The confidence interval error bars are depicted in Figure 4.13.

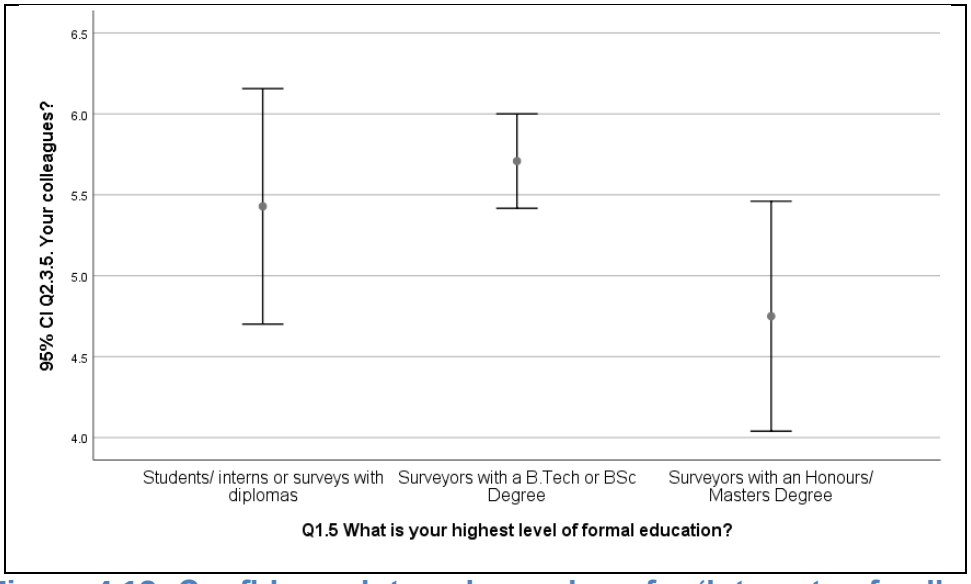

Figure 4.13: Confidence interval error bars for 'interests of colleagues' by highest level of formal education

The surveyors with a B.Tech or BSc degree had a mean close to six while the other groups had a mean close to five. The B.Tech or BSc holders ranked their colleagues the sixth while the other groups put them on position five. 'interests of colleagues' were less important for the B.Tech or BSc holders.

4.7.2 ANOVA test to determine difference in mean score by experience

The 'years practised as surveying professionals' were categorised into three groups which were surveyors with less than 5 years' experience, surveyors with 5 to 10 years' experience and surveyors with more than 10 years' experience. The assumption of equality of variance was not met for the variables 'interests of oneself', interest in employer/company and interest in general public with p-values of .008, .014 and .028 respectively. The Welch robust test for equality of means was used. Table 4.11 shows the results of the F-test.

Table 4.11: ANOVA test to determine difference in mean score by experience

Constructs	Levene's test for equality of variance		Test for equality of means	
	F	***p-value***	***F***	***p-value***
Q2.3.1. Yourself	5.276	.008	7.276[b]	.003
Q2.3.2. Your employer/company	4.696	.014	.711[b]	.499
Q2.3.3. Your clients	.432	.651	.197	.822
Q2.3.4. Your superior	.100	.905	2.452	.097
Q2.3.5. Your colleagues	1.927	.157	.228	.797
Q2.3.6. Your family	1.663	.200	.456	.637
Q2.3.7. General public	3.863	.028	5.779[b]	.007
Q2.4 'perceptions on professional ethics codes ability to enhance image	.076	.926	4.668	.014

Constructs	Levene's test for equality of variance		Test for equality of means	
	F	*p-value*	*F*	*p-value*
of profession and behaviour of surveyors'				
Q2.4 Perceptions on professional ethics knowledge	.517	.600	1.275	.289
Q2.4 Perceptions on professional ethics standards and guidelines	.729	.488	1.744	.186
Q2.4 Perceptions on professional ethics codes' ability to meet needs of the profession	.630	.537	10.960	$p < .001$
Q2.4 Perceptions on the professional ethics codes' need for update	1.598	.213	11.070	$p < .001$

[b] Welch F-statistic

Results of the F-test showed that there was no statistical difference in means for the variables interests of employer/company, 'interests of clients', 'interests of superiors', 'interests of colleagues', 'interests of family', perceptions on professional ethics knowledge and perceptions on professional ethics standards and guidelines. Thus, 'years of experience' had no impact on these issues.

The variables 'interests of oneself', 'interests of general public', 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors', perceptions on professional ethics codes' ability to meet needs of the profession and perceptions on professional ethics codes' need for update had means that were statistically significant since the p-values were .003, 007, .014, less than .001 and less than .001 respectively. The responses on these issues were dependent on experience.

4.7.2.1 'Years of Experience' and ranking of 'personal Interests' in making ethical decisions.

The Welch robust tests of equality of mean showed that there was a statistically significant difference on interests of oneself on the average responses for the three groups, $F(2,31.601) = 7.276, p = .003$. A large effect size of .20 was obtained and about 20% of the variability in 'interests of oneself' was explained by experience. The Games-Howell test gave result to two homogeneous groups as shown in Table 4.12.

Table 4.12: Games-Howell homogeneous groups for 'interests of oneself' by experience

	Q1.6 How long have you practised as a surveying professional?	N	Subset for alpha = 0.05	
			1	2
Games-Howell	Surveyors with less than 5 years experience	15	3.47	
	Surveyors with 5 to 10 years experience	21	4.24	4.24
	Surveyors with more than 10 years experience	15		6.07

Those with less than 5 years of experience had a mean $(M = 3.47, SD = 2.03)$ significantly lower than those with more than 10 years' experience$(M = 6.07, SD = 1.79)$. Those with 5 – 10 years' experience were in-between both groups and thus were not significantly different from the other groups. The confidence interval error bars are shown in Figure 4.14.

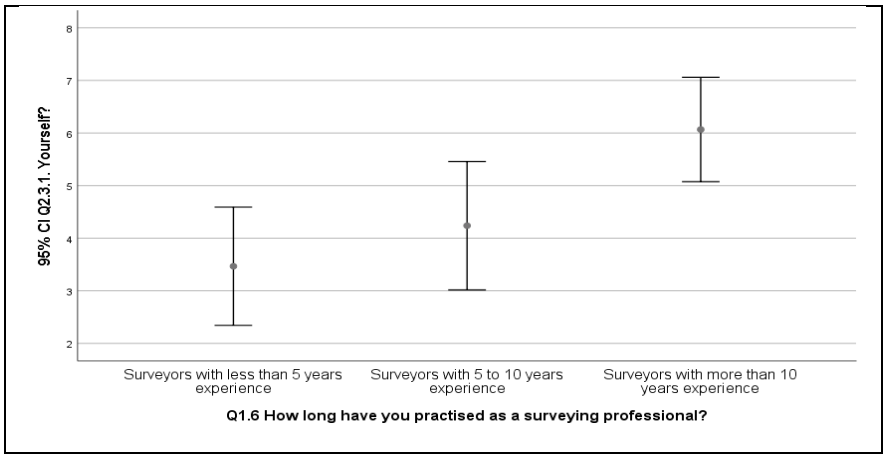

Figure 4.14: Confidence interval error bars for 'interests of oneself' by experience

Looking at Figure 4.14, those with less than 5 years had a mean close to three while those with more than 10 years' experience had means close to six. Thus, the more the experienced the surveyor was the less importance they gave to oneself when resolving ethical dilemmas.

4.7.2.2 'Years of Experience' and ranking of 'interests of the public'

The Welch F test on 'interests of general public' revealed statistically significant means scores for the three groups, $F(2,31.249) = 5.779\,, p = .007$. A moderate effect size of .16, that is, $\omega = .16$ was obtained and about 16% of the variation in 'interests of general public' was explained by experience. The Games-Howell test produced two homogenous groups as shown in Table 4.13.

Table 4.13: Games-Howell homogeneous groups for 'interests of general public' by experience

	Q1.6 How long have you practised as a surveying professional?	N	Subset for alpha = 0.05	
			1	2
Games-Howell	Surveyors with more than 10 years experience	15	1.93	
	Surveyors with 5 to 10 years experience	21	3.29	3.29
	Surveyors with less than 5 years experience	15		4.73

The mean score for those with more than 10 years' experience $(M = 1.93, SD = 2.09)$ was significantly lower than those with less than 5 years' experience $(M =$

$4.73, SD = 2.37$). Those with 5 to 10 years were not significantly different from the other groups thus it was in-between both homogeneous groups. The confidence interval error bars are shown in Figure 4.15.

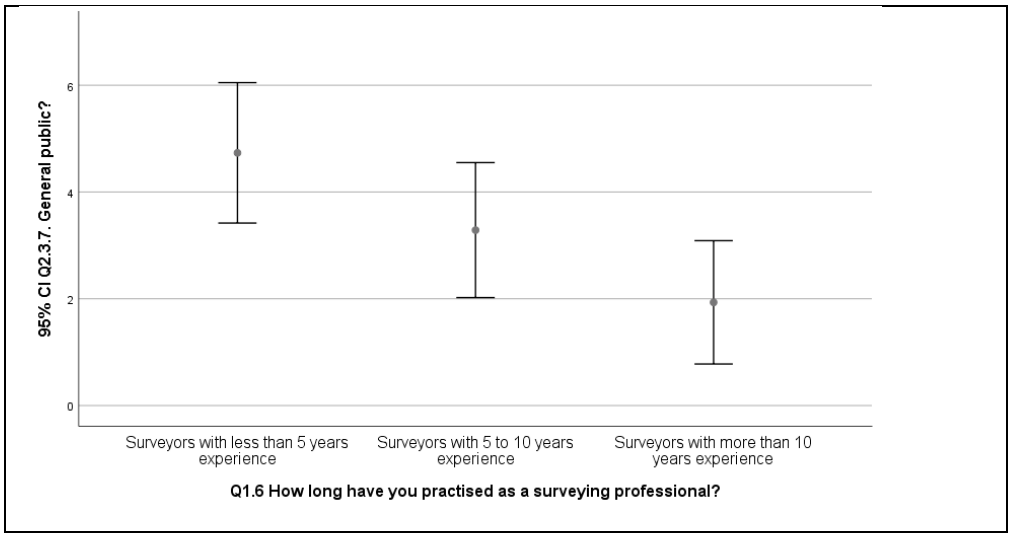

Figure 4.15: Confidence interval error bars for 'interests of general public' by experience

From the confidence interval error bars, it can be noted that the level of importance of the interest of the general public in resolving ethical dilemmas increases as experience increases. Those with more experience as surveyors tend to rank the interest on the general public more important than the less experienced.

4.7.2.3 'Years of Experience' and perceptions on 'ability of the codes to enhance the image of the profession'.

The ANOVA F test revealed that the variable 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors' showed a statistical significance difference across the three groups $F(2, 48) = 4.668, p = .014$. A large effect size ($\eta$) of .16 was obtained. Thus, 16% of the variation on 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors' is accounted for by years of experience. Post hoc comparisons using Tukey HSD test resulted in two homogeneous groups as shown in table 4.14.

Table 4.14: Tukey HSD homogeneous groups for 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors' by experience

	Q1.6 How long have you practised as a surveying professional?	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,b]	Surveyors with less than 5 years experience	15	3.0000	
	Surveyors with 5 to 10 years experience	21	3.2738	3.2738
	Surveyors with more than 10 years experience	15		3.5333

The mean score for those with less than 5 years' experience $(M = 3.00, SD = .52)$ was significantly lower than those with more than 10 years' experience $(M = 3.53, SD = .51)$. Those with 5 to 10 years were not significantly different from the other groups thus they were in-between both homogeneous groups. The confidence interval error bars are shown in Figure 4.16.

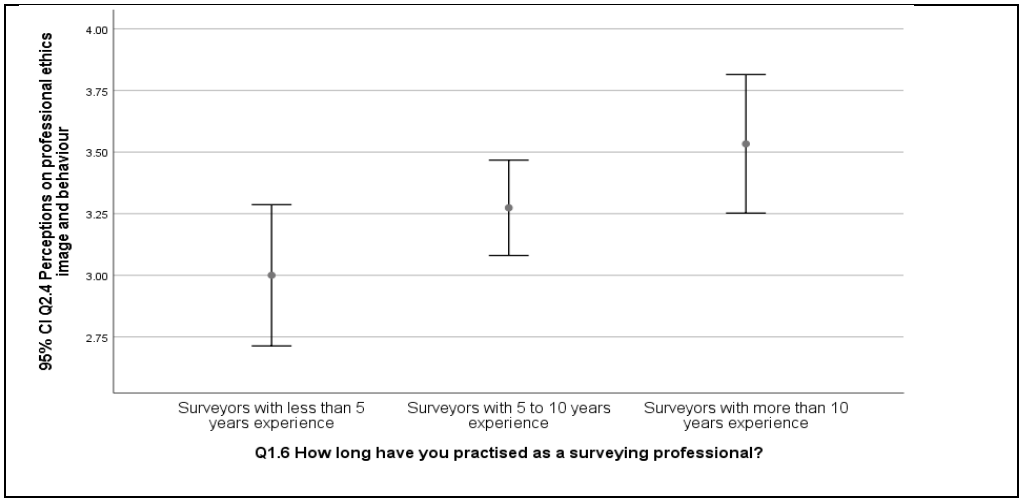

Figure 4.16: Confidence interval error bars for 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors' by experience

The level of agreement increases with the level of experience. Those more experienced had an average close to four indicating that they strongly agreed with issues on 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors'.

4.7.2.4 Years of 'Experience' and 'ability of codes to meet needs of the profession'.

The results of the ANOVA F tests revealed that the variable perceptions on professional ethics codes' ability to meet needs of the profession showed a statistical significance difference across the three groups, $F(2, 48) = 10.96, p < .001$. A large effect size of $\eta = .31$, was obtained and about 31% of the variability in perceptions on professional ethics codes' ability to meet needs of the profession is accounted for by experience. Two homogeneous group were obtained using the Tukey HSD post hoc test as shown in Table 4.15.

Table 4.15: Tukey HSD homogeneous groups for perceptions on professional ethics codes' ability to meet needs of the profession by experience

	Q1.6 How long have you practised as a surveying professional?	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,b]	Surveyors with less than 5 years experience	15	2.9000	
	Surveyors with 5 to 10 years experience	21		3.2619
	Surveyors with more than 10 years experience	15		3.5333

Those with more than 10 years' experience had a significantly higher mean $(M = 2.90, SD = .39)$ than those with less than 5 years' experience $(M = 3.53, SD = .35)$. The less experienced group are significantly different from the other groups as shown in Figure 4.17 with non-overlapping of the error bars.

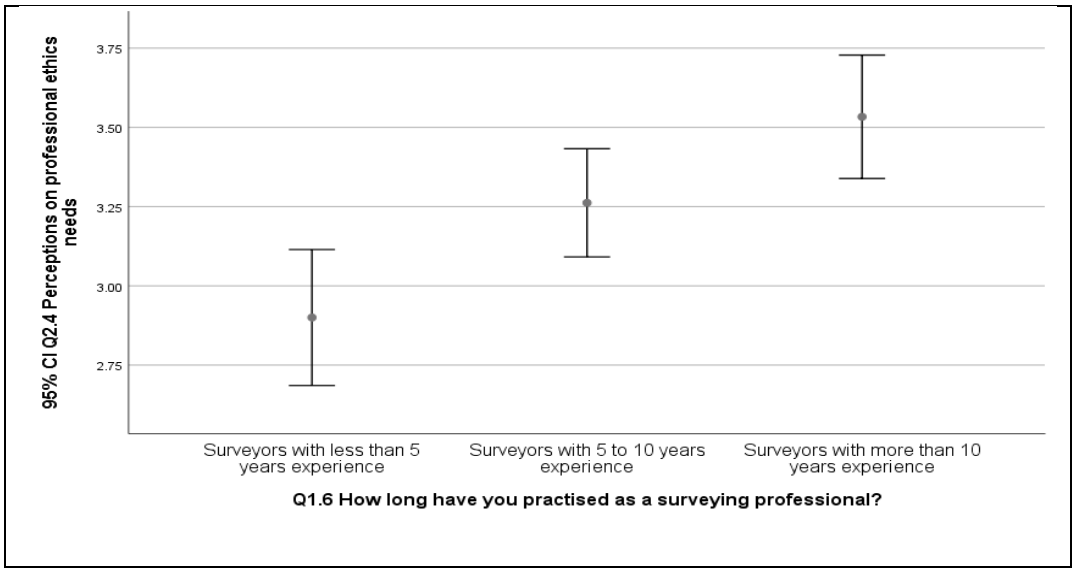

Figure 4.17: Confidence interval error bars for perceptions on professional ethics codes' ability to meet needs of the profession by experience

Looking at Figure 4.17, the level of agreement increases as the years of practising as a quantity surveyor increases. Those who are more experienced agreed more on issues on perceptions on professional ethics codes' ability to meet needs of the profession.

4.7.2.5 Years of 'Experience' and perception on 'need for update of ethical codes'.

The univariate analysis of variance resulted in the variable perceptions on professional ethics codes' need for update showing a statistical significance difference across the three groups, $F(2, 48) = 11.07, p < .001$. A large effect size of $\eta = .32$, was obtained and about 32% of the variability in perceptions on professional ethics codes' need for update is accounted for by number of years working as a surveyor. Post hoc comparisons using Tukey HSD resulted in two homogenous groups shown in Table 4.16.

Table 4.16: Tukey HSD homogeneous groups for perceptions on professional ethics codes' need for update by experience

	Q1.6 How long have you practised as a surveying professional?	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,b]	Surveyors with less than 5 years experience	15	3.0200	
	Surveyors with 5 to 10 years experience	21	3.2143	
	Surveyors with more than 10 years experience	15		3.4600

Those with more than 10 years' experience had a significantly higher mean $(M = 3.46, SD = .23)$ than those with less than 5 years' experience $(M = 3.02, SD = .25)$. The more experienced group are significantly different from the other groups as shown in Figure 4.18.

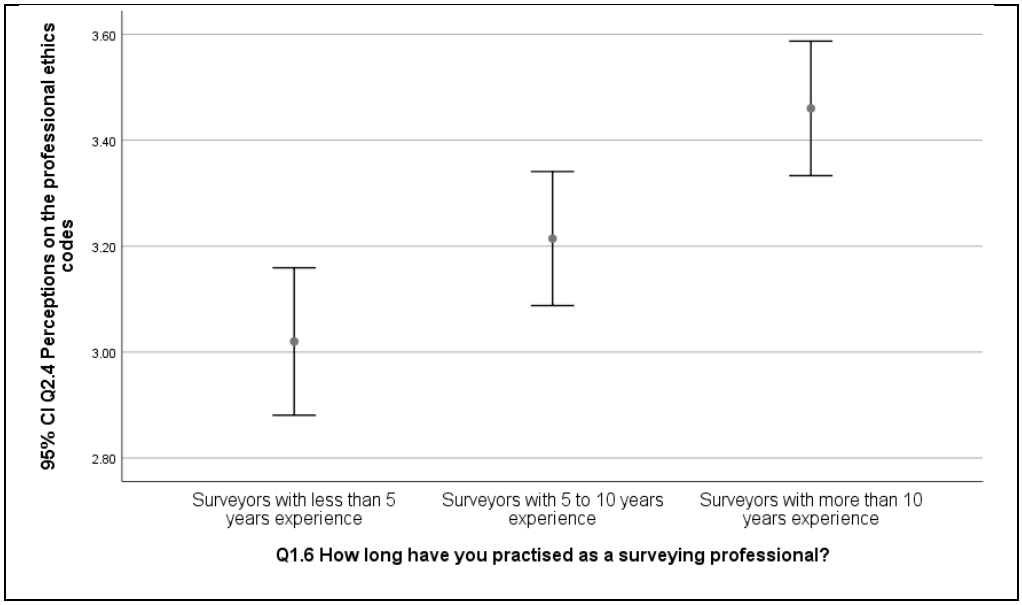

Figure 4.18: Confidence interval error bars for perceptions' on professional ethics codes' need for update by experience

Both the means were close to three indicating agreement. However, the level of agreement increases with the number of years practicing as a surveyor. The more experienced surveyors tend to agree more than the other group.

4.7.3 ANOVA test to determine difference in mean score by position

The variable position was divided into three groups which were junior quantity surveyors, intermediate quantity surveyors and senior quantity surveyors/managers. The test of equality of variances resulted in all the variables having equal variances except interests of employer/company and interests of clients with p-value of .005 and less than .001 respectively. In this case the Welch robust test of equality of means was used. The results of the F -tests are shown in Table 4.17.

Table 4.17: ANOVA test to determine difference in mean score by position

Constructs	Levene's test for equality of variance		Test for equality of means	
	F	***p-value***	***F***	***p-value***
Q2.3.1. Yourself	.804	.453	3.302	.045
Q2.3.2. Your employer/company	5.920	.005	.457[b]	.640
Q2.3.3. Your clients	11.321	$p < .001$	4.413[b]	.027
Q2.3.4. Your superior	.514	.601	1.161	.322
Q2.3.5. Your colleagues	2.918	.064	1.739	.187
Q2.3.6. Your family	.801	.455	.428	.655
Q2.3.7. General public	2.249	.117	5.149	.009
Q2.4 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of	1.498	.234	6.103	.004

Constructs	Levene's test for equality of variance		Test for equality of means	
	F	*p-value*	*F*	*p-value*
surveyors'				
Q2.4 Perceptions on professional ethics knowledge	.886	.419	.138	.872
Q2.4 Perceptions on professional ethics standards and guidelines	.520	.598	.982	.382
Q2.4 Perceptions on professional ethics codes' ability to meet needs of the profession	1.407	.255	6.605	.003
Q2.4 Perceptions on the professional ethics codes' need for update	1.273	.289	4.864	.012

[b] Welch F-statistic

The F tests showed that there was no statistical difference for the variables interests of employer/company, 'interests of superiors', 'interests of colleagues', 'interests of family', perceptions on professional ethics knowledge and perceptions on professional ethics standards and guidelines. Position had no effect on these issues. The difference in means was observed for the variables 'interests of oneself', interests of clients, interest in general public, 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors', perceptions on professional ethics codes' ability to meet needs of the profession and perceptions on the professional ethics codes' need for update. Position had an effect on the rating of these last issues.

4.7.3.1 'Position' and ranking of 'personal interests'

The univariate analysis of variance results showed that the variable 'interests of oneself' showed a statistical significance difference across the three groups

($F(2, 48) = 3.302, p = .045$). A moderate effect size of $\eta = .12$, was obtained and 12% of the variability in 'interests of oneself' was accounted for by position. The Tukey HSD post hoc test resulted in two homogeneous groups as shown in Table 4.18.

Table 4.18: Tukey HSD homogeneous groups for 'interests of oneself' by position

Tukey HSD[a,b]	Q1.7 How could your position be best described in the management structure of your organisation?	N	Subset for alpha = 0.05	
			1	2
	Junior Quantity Surveyors	9	2.78	
	Intermediate Quantity Surveyors	19	4.68	4.68
	Senior Quantity Surveyors/Managers	23		5.13

The lowest average response was for junior quantity surveyors ($M = 2.78, SD = 1.99$) and was significantly different from the average response for senior quantity surveyors/managers ($M = 5.13, SD = 2.42$) who were the highest. The intermediate quantity surveyors were not significantly different from any group and thus in-between both homogeneous groups. The confidence interval error bars are shown in Figure 4.19.

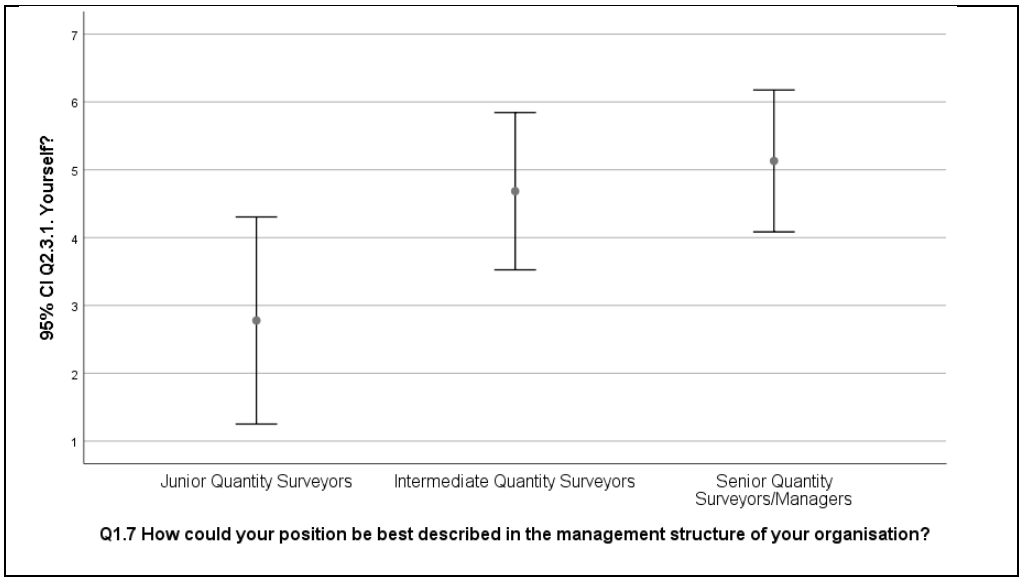

Figure 4.19: Confidence interval error bars for 'interests of oneself' by position

The level of importance of 'interests of oneself' decreases as the position increases. The junior quantity surveyors had a mean of three while the senior quantity surveyors/managers had a mean close to five. Thus, the senior quantity surveyors ranked 'interests of oneself' in resolving ethical dilemmas as fifth thus lower than the ones with lower positions.

4.7.3.2 'Position' and 'client interests'

The Welch robust test of equality of means showed a statistically significant difference on interests of clients for the three groups ($F(2, 19.027) = 4.413, p = .027$). A moderate effect size of $\omega = .12$, was obtained and about 12% of the variability in interests of clients is explained by position. Post hoc comparisons using Games-Howell resulted in two homogeneous group as shown in Table 4.19.

Table 4.19: Games-Howell homogeneous groups for 'interests of clients' by position

	Q1.7 How could your position be best described in the management structure of your organisation?	N	Subset for alpha = 0.05	
			1	2
Games-Howell	Intermediate Quantity Surveyors	19	2.16	
	Senior Quantity Surveyors/Managers	23	2.87	2.87
	Junior Quantity Surveyors	9		3.56

The intermediate quantity surveyors had the lowest mean ($M = 2.16, SD = .77$) that was significantly lower than the junior quantity surveyors ($M = 3.56, SD = 1.74$) who were the highest. The senior quantity surveyors/managers were not significantly different from both groups and the confidence interval error bars are shown in Figure 4.20.

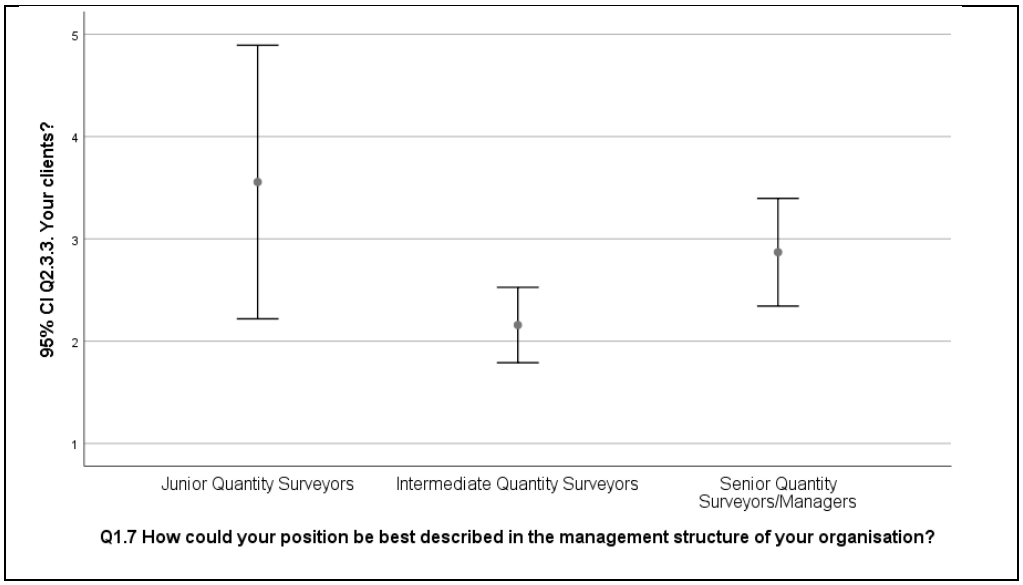

Figure 4.20: Confidence interval error bars for interests of clients by position

The intermediate quantity surveyors had mean of two while the junior quantity surveyors a mean close to four. Thus, the junior surveyors ranked interests of clients lower than the intermediate and senior quantity surveyors.

4.7.3.3 Position and ranking of importance of public interests

The ANOVA F results showed that that the variable 'interests of general public' showed a statistical significance difference across the three groups ($F(2, 48) = 5.149, p = .009$). A large effect size of $\eta = .18$, was obtained and about 18% of the variability in 'interests of general public' is accounted for by position. Post hoc comparisons using Tukey HSD resulted in two homogeneous groups as in Table 4.20.

Table 4.20: Tukey HSD homogeneous groups for 'interests of general public' by position

Tukey HSD[a,b]	Q1.7 How could your position be best described in the management structure of your organisation?	N	Subset for alpha = 0.05	
			1	2
	Intermediate Quantity Surveyors	19	2.58	
	Senior Quantity Surveyors/Managers	23	3.00	
	Junior Quantity Surveyors	9		5.67

The average response for junior quantity surveyors $(M = 5.67, SD = 1.80)$ was significantly different from the average response for intermediate surveyors $(M = 2.58, SD = 2.34)$ and senior quantity surveyors/managers $(M = 3.00, SD = 2.75)$. The confidence interval error bars are shown in Figure 4.21

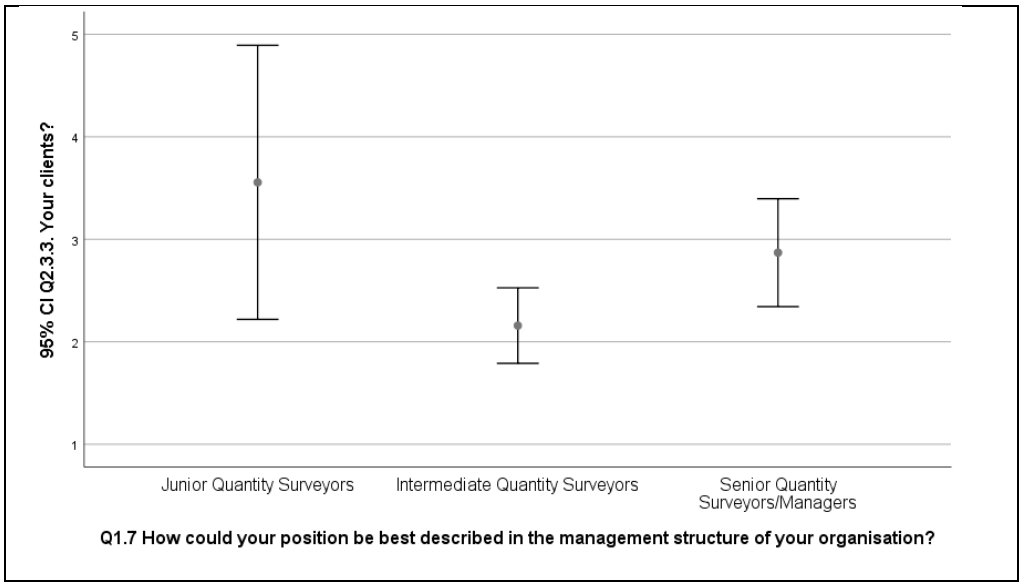

Figure 4.21: Confidence interval error bars for 'interests of general public' by position

The junior quantity surveyors had a mean close to six indicating that they ranked the 'interests of general public' less important than the other groups.

4.7.3.4 'Position' and perception on codes' ability to 'enhance image of profession and behaviour of surveyors'.

The univariate analysis of variance results revealed that the variable 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors' showed a statistical significance difference across the three groups $(F(2, 48) = 6.103, p = .004)$. A large effect size of $\eta = .20$, was obtained and thus about 20% of the variability in 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors' was accounted for by position. Post hoc comparisons using Tukey HSD test resulted in two homogeneous groups as shown in Table 4.21.

Table 4.21: Tukey HSD homogeneous groups for perceptions on professional ethics image and behaviour by position

Tukey HSD[a,b]	Q1.7 How could your position be best described in the management structure of your organisation?	N	Subset for alpha = 0.05	
			1	2
	Junior Quantity Surveyors	9	2.7778	
	Intermediate Quantity Surveyors	19		3.3553
	Senior Quantity Surveyors/Managers	23		3.3913

The junior quantity surveyors $(M = 2.78, SD = .49)$ were significantly different from the average response for intermediate quantity surveyors $(M = 3.39, SD = .53)$ and senior quantity surveyors/managers $(M = 3.36, SD = .36)$. The confidence interval error bars are depicted in Figure 4.22.

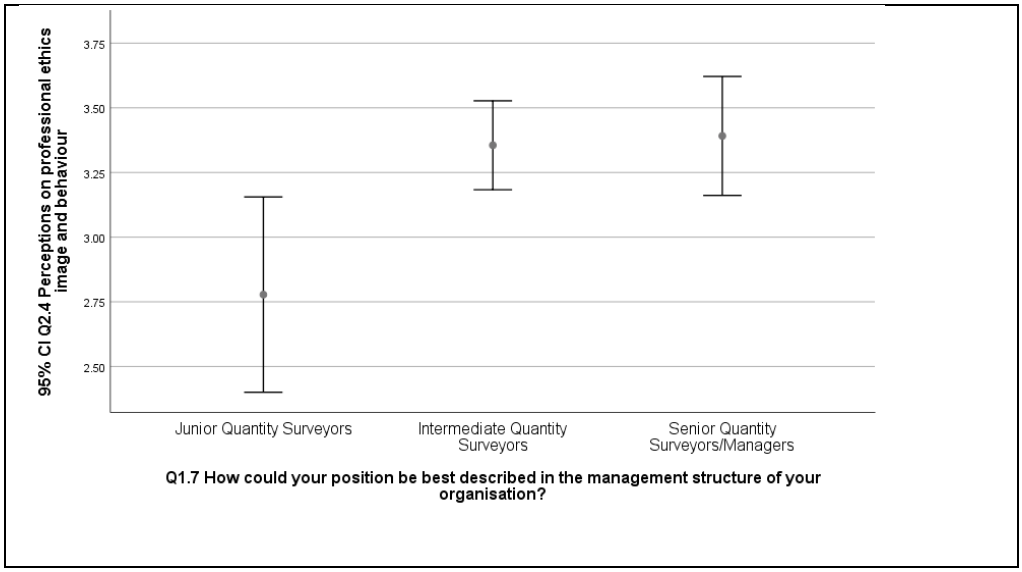

Figure 4.22: Confidence interval error bars for perceptions on professional ethics image and behaviour by position

All means were close to three indicating that the respondents were in agreement. However, the senior quantity surveyors/managers agreed more on issues on 'perceptions on professional ethics codes ability to enhance image of profession and behaviour of surveyors'.

4.7.3.5 'Position' and perception of codes' ability to meet the needs of the profession.

The ANOVA F test results showed that the variable Perceptions on professional ethics codes' ability to meet needs of the profession showed a statistical significance difference across the three groups $(F(2,48) = 6.605, p = .003)$. A large effect size of $\eta = .22$, was obtained and thus about 22% of the variation in Perceptions on professional ethics codes' ability to meet needs of the profession was accounted for by position. The Tukey HSD post hoc test resulted in two homogeneous groups.

Table 4.22: Tukey HSD homogeneous groups for perceptions on professional ethics codes' ability to meet needs of the profession by position

	Q1.7 How could your position be best described in the management structure of your organisation?	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,b]	Junior Quantity Surveyors	9	3.0000	
	Intermediate Quantity Surveyors	19	3.0789	
	Senior Quantity Surveyors/Managers	23		3.4565

The average response for the senior quantity surveyors/managers $(M = 3.46, SD = .37)$ was significantly different from the average response for junior quantity surveyors $(M = 3.00, SD = .35)$ and intermediate quantity surveyors $(M = 3.08, SD = .45)$. The confidence interval error bars are depicted in Figure 4.23.

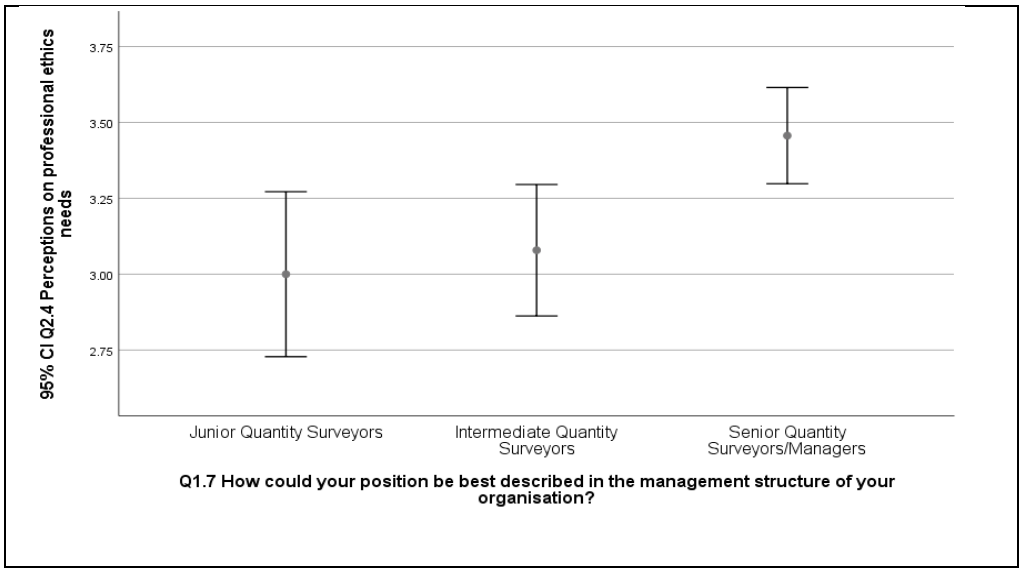

Figure 4.23: Confidence interval error bars for perceptions on professional ethics codes' ability to meet needs of the profession by position

Looking at Figure 4.23, the level of agreement increases with the level of position. The senior quantity surveyors/managers were more in agreement on issues on perceptions on professional ethics codes' ability to meet needs of the profession.

4.7.3.6 'Position' and ethical codes' need for upgrade.

The ANOVA tests results for perceptions on professional ethics codes' need for update showed a statistically significant difference across the three groups of position ($F(2,48) = 4.864\,, p = .012$). A large effect size of .17 was obtained. Thus 17% of the variation in perceptions on professional ethics codes' need for update was being accounted for by position. Post hoc comparisons using Tukey HSD resulted in two homogeneous groups as shown in Table 4.23.

Table 4.23: Tukey HSD homogeneous groups for perceptions on professional ethics codes' need for update by position

	Q1.7 How could your position be best described in the management structure of your organisation?	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,b]	Junior Quantity Surveyors	9	2.9889	
	Intermediate Quantity Surveyors	19	3.2158	3.2158
	Senior Quantity Surveyors/Managers	23		3.3348

The average response for junior quantity surveyors $(M = 2.99\, SD = .22)$ was significantly lower than the average response for senior quantity surveyors/managers $(M = 3.33, SD = .30)$. The confidence interval error bars are shown in Figure 4.24.

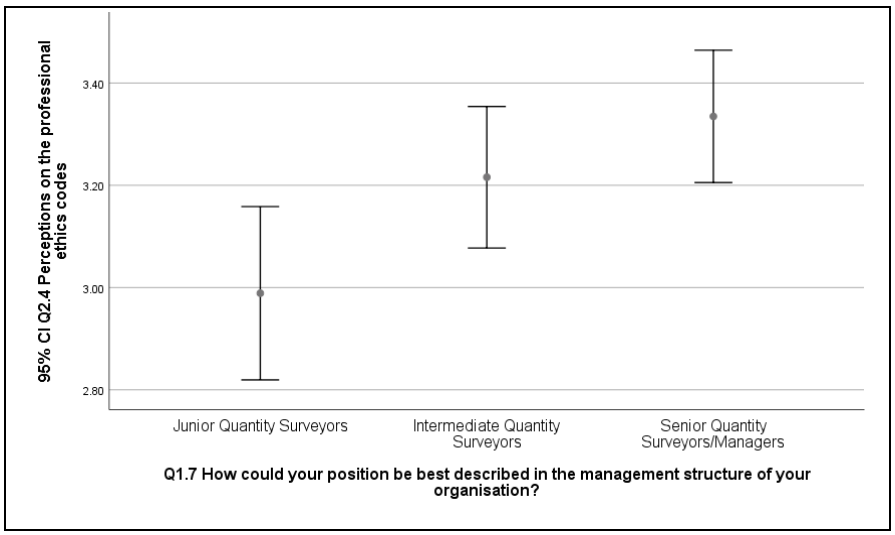

Figure 4.24: Confidence interval error bars for perceptions on professional ethics codes' need for update by position

Looking at Figure 4.24, the level of agreement increases with the level of position. The senior quantity surveyors/managers were more in agreement on issues on perceptions on professional ethics codes' need for update.

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4.8 Summary

In this chapter, results were presented making use of descriptive and inferential statistics. The collected data was summarized before analyzing it using independent t-tests and univariate analysis of variances (ANOVA). In the following chapter, the results are discussed as well as referring to relevant literature on the subject matter for comparison purposes. Also addressed in the coming chapter is the answering of the research questions through giving feedback to the study objectives or aims.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.0 Introduction

In the preceding chapter, results were presented making use of descriptive and inferential statistics. In this chapter, the results are discussed, as well as referring to relevant literature on the subject matter for comparison purposes. Also addressed in this chapter are the answers to the research questions presented through giving feedback to the objectives or aims of the study.

The main research objective of this study was to assess the ethical perceptions of quantity surveyors at the firm in terms of their prioritisation of self-interests versus interests of other stakeholders, who in this study include the public, clients and employers, amongst others. The study had three objectives, firstly to ascertain quantity surveyors' ethical perceptions at the firm in terms of order of prioritisation of stakeholder interests versus self-interest; secondly to establish strategies that could be implemented at the firm in order to bridge ethical gaps, if any are established to exist; and lastly, to find ways in which public trust could be restored to the quantity surveying profession on ethical matters beginning from an organisational level.

The results show the perception trends on various ethics-related issues at the firm. The results also reveal where the firm is aligning with existing literature as far as expected norms with regards to ethical matters are concerned, as well as revealing likely areas where more attention may be required for the company to safeguard its image on ethical matters. Also flowing from the results and literature are possible actions that the firm could implement to address the possible areas which could need to be attended to bridge any likely ethical gaps within the firm; and below is a brief discussion based on key results.

5.1 Objective 1: Order of prioritisation of stakeholder interests.

The literature clearly highlights that quantity surveying services, like any other profession, are called upon by clients due to public's demand of services or needs (Ho Man-Fong and Ng Chi-Wai, 2010). It is therefore imperative and of very high priority that the needs of the public are met at every stage during delivery of any project. During the delivery of such projects, many various parties or stakeholders do play a part in ensuring that the required services are delivered, and it is of importance by a quantity surveying firm, to ensure that there is harmony as far as interests of all the involved parties are concerned (Cunningham, 2011).

In their studies that were conducted in Hong Kong, Fan et al. (2010), noted that there was an emerging trend where quantity surveyors' perception on importance of taking into account interests of the public when resolving ethical matters were diminishing (especially the more junior quantity surveyors). The juniors were beginning to prioritise self-interests before interests of both clients and the public. This trend was noted by various authors as potentially detrimental to the image of the profession by the public who are some of the main stakeholders of the construction industry. From a South African perspective, previous studies by the likes of Bowen et al. (2007), Sohail (2008), Othman (2012) and Oosthuizen (2013), amongst others also point out on the importance of ethics in construction, including mentioning outcries by the public on matters on which they perceive there is lack of transparency. Hence, like any other key stakeholders, the importance of public interests can not be overemphasised.

Based on the descriptive statistics from this study; overall, about 35.3% of the quantity surveyors were sceptical and perceived that ethical standards are declining in the profession, whilst the other 64.7% maintained optimism that ethical standards were not declining. The respondents further ranked, as was shown in Table 4.3, what they perceived was the order of importance of various stakeholders when making ethical decisions; and the descriptive statistics show the overall perceived order as follows: (1) clients, (2) employer / company, (3) public, (4) superiors, (5) themselves, (6) family and (7) colleagues.

On the above matter, the results from the current study on perception on declining ethical standards differ from those from Fan et al. (2010) in their studies conducted in Hong Kong where they discovered the following overall perceived order of importance of stakeholders when making ethical decisions: employer (1), self (2), client (3), superiors (4), family (5), colleagues (6) and public (7).

In essence, the results from this study, unlike the findings of Fan et al (2010), reveal that local quantity surveyors proclaim to prioritise interests of the public (3) above self-interests (5). Literature points out that different societies' ethical inclinations and values may slightly differ and are shaped by various national and societal values (Edwards and Pottinger, 2010). However, despite the different geographic positions, both Ho Man-Fong and Ng Chi-Wai (2010), who are Asian authors; and Bowen et al. (2007), who are local authors; as well as international bodies working across various regions like RICS (2019), agree that key stakeholders such as the public and clients are pivotal and crucial to the success of the profession regardless of geographical location. In summary, all the above authors, who are from different geographical locations, agree that meeting or satisfying the interests of the general public (as well as those of clients) is important, both for the success of individual firm and for the good of the profession. It is therefore worth acknowledging as plausible the fact that the firm's quantity surveyors overall prioritise both public and client interests before self-interests.

However, as Cunningham (2011) and Strong (2016) point out, though it is good to appreciate some of the good that an individual firm may seem to be accomplishing on ethical matters; at the end, it is the 'sceptics' that need to be paid attention to most as far as ethics are concerned. Addressing on points of disapproval is a key element to ensuring that a company stays afloat, since the outside world spent more time focussing on the areas which need improvement rather than the good, and generally masses are always looking for ways in which excellence may be achieved by the professionals (RICS, 2017). With ethical behaviour being equated to bottom-line profits (Edwards et al., 2009), as well as highly praised for creating competitive advantages (Edwards et al., 2009), it is therefore imperative that the firm should focus on finding why even 35.3% of their employees still point to

declining ethical standards besides the company having put other efforts to ensure they prioritise such key stakeholders as clients and the public.

The firm has got 41.2% quantity surveyors who are not affiliated to professional bodies or associations, whilst the other 58.8% are affiliated. Results from the study revealed that non-member quantity surveyors were more sceptical on the declining ethical standards as compared to the affiliated members. The results from independent t-tests Figure 4.2 also show that non-members of associations placed the public as of lower importance (ranking public close to '5') in making ethical decisions as compared to their professional member counterparts (who ranked public close to '2'). The fact that non-members placed less importance on ensuring public interests are met was previously highlighted by Greenway (2002) and RICS (2017) could cause in the long run some detrimental damage to image or reputation of quantity surveying firms and the profession.

The Independent t-tests also revealed that non-members were less likely to read ethical reading material as compared to members of associations. In addition, non-members perceived the ethics reading materials were of less importance when resolving ethical issues. This is contrary to various authorities, who aver that codes are a common way of communicating an organisation's ethical expectations (Cunningham, 2011), and set the minimum expected behaviour (Pottinger and Edwards, 2011), as well as forms the centre of the profession's core values (Copeland, 2015). The codes are also known to provide a common flow and uniformity (Edwards et al., 2009), as well as inspire behaviour that fortify the profession's goodwill (Strong, 2016), and should be at the core of the organisation's culture.

A further look into the results from the univariate analysis of variance (ANOVA) further enlighten on nuances within the quantity surveyor groupings when analysed by 'level of education', 'position in the organisation' and 'years of experience.'

After analysing the data by 'level of education', it was found, as was shown in Figure 4.2, that the surveyors who had advanced themselves towards a

Masters/Honours Degree would regard their interests as of less importance (fifth) when faced with ethical dilemmas. In contrast, surveyors with diplomas/students were ranking themselves as of more priority (third) when faced with ethical dilemmas requiring them to consider other stakeholder interests. The results to an extend also resemble what Fan et al (2010) found with regards to how more educated surveyors were considerate to both clients' and public's interests.

When the data was analysed by 'position', as was shown in Figure 4.19, the junior quantity surveyors ranked 'themselves' close to 'third', whilst the senior quantity surveyors placed themselves close to 'fifth' when faced with an ethical dilemmas requiring them to prioritise various stakeholder interests. Probably, it is also likely that the results for 'level of education' almost resembled those of 'position' since most of the senior quantity surveyors, who were climbing within the managerial ranks, were holding either an Honours or Master's degree.

Another significant and interesting trend that was found when conducting ANOVA based on 'years of experience' included that of surveyors with more than 10 years' experience ranking public interests close to second (1.93), whilst the more junior surveyors (with less than 5 years' experience) ranked interests of the public close to 'five' (4.78). Again, the same trend was almost similar to Fan et al's (2010) findings where surveyors who have more experience viewed their own interests at the end and only after interests of key stakeholders like clients and public; whilst less experienced ones thought of themselves before the public and clients, which again is a cause of concern.

The same trend as above was seen when analysing by 'position' where senior surveyors ranked personal interests at close to sixth (6.07), whilst junior surveyors ranked personal interests close to third (3.47). Again, like earlier studies that were done in Asia in 2010 (Fan et al, 2010), the results from the current study revealed that the junior surveyors placed much priority on themselves rather than other important stakeholders such as the clients and the public.

In addition, the ANOVA reveal that senior quantity surveyors were slightly more optimistic (as compared to juniors) that the current ethical codes within their

industry help to instil good image to the profession, as well as to instil good behaviour to the surveyors. The seniors were also more optimistic (3.5) that the existing ethical codes meet the needs of the surveying profession, as compared to the junior quantity surveyors (2.9). Worth noting also was how willing the senior quantity surveyors were in ensuring that the codes of ethics are constantly updated or upgraded with changing time.

Having mentioned above the results from the descriptive statistics, independent t-tests and ANOVAs with regards to the company's prioritisation of stakeholder interests as well as perceptions on declining standards and usefulness of current ethics-related codes and standards; below shall be discussed strategies that may need to be put in place to ensure any ethical gaps within the firm are addressed. Also discussed below is the importance of making right decisions with regards to prioritisation of key stakeholders' interests and the fruits attached to such correct prioritisation.

5.2 Objective 2: Strategies to bridge ethical gaps.

Having identified above the quantity surveyor ethical perceptions at the firm, below are some of the strategies that the company could implement to bridge any ethical gaps.

Since literature is clear on the importance of ethical codes as far as fostering an ethically inclined organizational culture, the firm should enforce or make sure all their employees are 'in the flow' with regards to their understanding of setting the right priorities when faced with ethical dilemmas; as well as being up to pace in ensuring their employees comprehend the importance of ethical codes of conduct.

With the results revealing that those in managerial positions or more senior within the firm having better understanding of importance of key stakeholders' interests, like clients and the public, the results are resembling the literature where it states that an ethical culture is always better channeled from the top downwards. The company's leadership, as explained by Edwards et al. (2009), should lead by

instilling within the firm an organizational culture that propels the whole team to move in unison with an aim to preserve the team's welfare as far as ethical matters are concerned (RICS, 2017). The top management should walk the talk, and supervise, as well as coach, the lower level employees by example on ethical matters (Copeland, 2015). If this is implemented, the firm's less experienced quantity surveyors would quickly learn from the more experienced surveyors on the importance of setting right priorities of other stakeholders when faced with ethical dilemmas.

The firm could put in place measures to encourage career growth of its employees since the results show some correlations between level of learning and the level of appreciation of importance of codes of ethics and standards. This is also supported by Edwards (2011) who states that indoctrination of morals is accelerated and strengthened through schooling, hence the more the employees advance in their quantity surveying courses, the more likely they will learn on ethics provided the curricula covers the subject (which most local curricula currently do). In addition, the firm could also put in place an 'in-house learnership' programme in which the management will channel or impart the in-house knowledge gathered thus far to the incoming new employees who just finished or are still in the process of finishing foundational courses in quantity surveying.

Hofstede (2003) and Edwards (2011) point out that ethical culture can be indoctrinated and shared, hence, knowledge management and knowledge sharing on ethical matters is crucial. RICS (2019) and Cunningham (2011) also state the need for carefully tailored codes of conduct, which should be availed and upgraded when need be; and the company as a small-to-medium-scale quantity surveying firm can tailor some ethical standards commensurate with their company size and operations. The firm should also ensure that their company codes of conduct are readily accessible and are indeed being read by all the employees (Teo, 2012), since results from the current study, like also findings from previous studies, revealed a small proportion that was not even reading any ethics-related material.

As Fan et al (2010) and Copeland (2015) puts it across, market orientation should be central to all activities, with the clients and public consumer needs and expectations properly known by the whole team, plus instilling an attitude to do business ethically at the centre. As Plimmer (2009) puts it across, professional ethics are rooted from the culture, norms and values which are encountered or lived on a day-to-day basis even in the marketplace, hence, an ethical work environment can be cultivated and natured.

Since the results clearly show that non-members are more likely to take public and client interests as of less importance, the company should also put in place measures to ensure all their employees are affiliated to some professional body or association, and thus encouraging placement of ethics at the centre (Teo, 2010). As Centre (2017) emphasizes, individual values, employer values and values of professional bodies of knowledge should first come to a point of congruency and harmonious interaction in order to ensure ethical choices of highest quality are applied in a given scenario by an employee. The firm should also provide incentives to ensure their team attends to external continuous professional development courses on ethics (RICS, 2019), as well as conducting internal seminars on ethics on planned intervals.

Teams should be led by affiliated members of associations, who will then help to instill the ethical values that are imparted to them through the quantity surveying institutions back to their colleagues. Where an organization can manage to showcase and foster such ethical values with public and client interests at the core (Greenway, 2002), it will also begin to attract ethically inclined and trustworthy employees (Pottinger and Edwards, 2011).

With results revealing a small proportion that doubted the benefits of codes of conduct or ethical standards in enhancing the image of the profession, the firm should conscientise its employees on how ethics generates value to the consumers with much emphasis on public benefit (Edwards and Pottinger, 2010), which in turn helps the company from not entrapping themselves in scenarios that are detrimental to their reputation (Greenway, 2002; Galbreath, 2006). It should also be explained to the employees how working ethically is attractive to the

clients and public, who in turn will become loyal to the brand (Kidder, 2017), as well as inspire behaviour that fortify the profession's goodwill (Strong, 2016). Awareness must be made on how the codes help to tell the public what the profession stands for (strong, 2016), as well as providing guidance when facing an ethical dilemma (RICS, 2019; Centre, 2017).

5.3 Objective 3 : Ways in which public trust could be restored.

Results from the study, as well as the literature, clearly show that ethics are focal point to the image of the firm to the outside world; hence fostering an ethical culture is therefore paramount to ensuring that the company or organization's reputation is enviable by the public.

The firm should ensure that ethical values flow from the company's mission and vision statements. The whole company should be fully aware of the company's mission and vision, including ensuring market orientation is at the center of all activities done by the firm. Employees should be fully aware of their client and consumer needs including knowing all the needs of the parties affected by or involved in the delivery of the firm's projects.

The management and employees should be brand ambassadors of the company with an ethical culture at the centre. Whenever the employees lead in projects, they should exemplify ethically inclined workmen and walk-the-talk as far as ethics are concerned. As Cunningham (2011) and Centre (2017) state, authenticity and trustworthiness charms or woos the outside world, as well as portraying an ideal firm or image which is worth doing business with (Manuel, 2017). Through doing business the right way, laws of attraction will start to operate as more clients and the public would be seeing the company as transparent and honest.

All sceptics' concerns should be addressed (Strong, 2016) and the company should have clear claims or queries handling procedures (RICS, 2019), which should be accessible by its clients as well as any affected members of the public.

The firm should also ensure that screening for ethical conduct is done during recruitment processes, and should strive to portray an authentic image of an ethically-inclined service provider, which in turn could help it to always attract ethically inclined talent (Edwards, 2011).

5.4 Summary

In this chapter, the researcher discussed the research results making use of descriptive and inferential statistics, as well as addressing the research objectives or aims making use of relevant literature on the subject matter. In the coming chapter, the study is concluded including drawing up recommendations and highlighting likely areas for future study to shape further on the subject under study.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

In the preceding chapter, results and results were discussed making reference to relevant literature on the subject matter. In this chapter, the study is concluded including drawing up recommendations and highlighting likely areas for future study to shape further on the subject under study.

6.2 Summary of Results

The main research objective of this study was to assess the ethical perceptions of quantity surveyors at the firm in terms of their prioritisation of self-interests versus interests of other stakeholders, who in this study include the public, clients and employers, amongst others. The study had three objectives, firstly to ascertain quantity surveyors' ethical perceptions at the firm in terms of order of prioritisation of stakeholder interests versus self-interests, secondly to establish strategies that could be implemented at the firm in order to bridge ethical gaps, if any are established to exist and lastly to find ways in which public trust could be restored to the quantity surveying profession on ethical matters beginning from an organisational level.

The results as well as the literature show the perception trends on various ethics-related issues at the firm. The results also reveal where the company is doing well with regards to their prioritisation of some of their stakeholders when making ethical decisions, as well as revealing likely areas where there is room for improvement on ethical issues as viewed from the lens of existing literature discussing on the subject. Also evident from the literature and trends are possible actions that the firm could implement to address the possible areas which could need to be attended to bridge any likely ethical gaps within the firm.

Overall, the perceived order of prioritisation of stakeholder interests by quantity surveyors at the firm is as follows: (1) clients, (2) employer/company, (3) public, (4) superiors, (5) themselves, (6) family and (7) colleagues.

It was also discovered that ‘members of associations’, ‘senior surveyors’, ‘more educated surveyors’ and ‘more experienced surveyors’ were generally less self-centred and considered more interests of other key stakeholders like clients and public before their own interests. In addition, the same mentioned groupings were more optimistic on the outlook of the profession and were seeing the benefits attached to current ethics-related codes and standards in terms of restoring good image to the profession, as well as promoting excellence in their day-to-day duties.

‘Non-members’ of professional bodies, ‘juniors’ and ‘less experienced’ surveyors were more self-centred and at many questions considered their interests before those of the public and clients. These were also less optimistic on benefits of current ethics codes and perceived ethical standards as more on the declining side.

Based on results, strategies to address any inherent gaps with regards to ethical matters were proposed and these include enhancing the company’s drive towards market orientation with ethics at the core, fostering an ethical culture, exemplary leadership, in-house knowledge management and sharing on ethical matters, conducting ethics-related coaching and seminars, encouraging membership with profession’s bodies of knowledge, as well as including ethics screening during recruitment.

Restoring public trust in the profession was discussed and was found as related to recreating admirable image and goodwill. It was encouraged to put ethics central and flowing directly from the company’s vision and mission statements. With market orientation at the core, it was also encouraged to be transparent in all dealings, including leading by example and walking-the-talk on ethical matters. When that begins to happen, laws of attraction will start to play as the company attracts ethically-inclined clients, as well as ethically-inclined talent, and will continue to win the public, translating into the company’s competitive advantage.

6.3 Recommendations to the firm and other small-to-medium construction cost consulting firms

With results of the study, as well as the literature, clearly showing that ethics are centre to the image of the firm to the outside world; the company is recommended to foster an ethical culture with ethics issues being championed from top leadership and monitored all the way down through to the bottom. The company should strive to ensure its reputation as far as ethical matters are concerned is not tarnished, and fostering an ethical culture is key to achieve that.

The company should also ensure that ethical values flow from the company's mission and vision statements. The whole company should be fully aware of the company's mission and vision, including ensuring market orientation is at the center of all activities done by the firm. Employees should be fully aware of their client needs including knowing all the needs of the parties affected by or involved in the delivery of the firm's projects.

All sceptics' concerns should be addressed and the company should have clear claims or queries handling procedures, which should be accessible by its clients as well as any affected members of the public.

The company should also ensure that screening for ethical conduct is done during recruitment processes, and should strive to portray an authentic image of an ethically inclined service provider. Ethics codes and standards should be accessible by all employees in the company and measures should be put in place to ensure the material is being read and well comprehended.

6.4 Recommendations for Future Study

Whilst the current study was conducted at a single company with a homogeneous group of quantity surveyors working in the consulting environment, future studies may need to be done including a variety of surveyors working in diverse sectors like contractors and developers across South Africa.

The current study was done on a quantitative basis. A future qualitative study could further provide reasons why some of the respondents where giving their unique answers to some of the questions, including shedding more light on the subject matter.

6.5 Summary

In the study, the researcher managed to establish the quantity surveyors' ethical perceptions in terms of prioritisation of stakeholder interests, including self-interests on ethical matters. It was also established that whilst the firm may be overall prioritising key stakeholder interests like clients and the public as expected based on the literature, they still need to do more within such groupings as non-members and junior level quantity surveyors, in terms of sharing ethics knowledge so they may appreciate and see the full benefits of doing business ethically. Also established in the study is the importance of creating an ethical culture as well as being market oriented, including how this helps in enhancing the company's image as well as attracting ethically-inclined clients and employees.

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APPENDICES

UNIVERSITY OF KWAZULU-NATAL

GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

MBA Research Project
Researcher: Stanley Manyanyi (079 313 6889)
Supervisor: Name Dr Njabulo Khumalo (031 260 8768)
Research Office: Ms P Ximba (031 260 3587)

RESEARCH PROJECT TITLE:

AN ASSESSMENT OF QUANTITY SURVEYORS' ETHICAL PERCEPTIONS IN TERMS OF STAKEHOLDER & SELF-INTERESTS PRIORITISATION.

Questionnaire

Part 1: Biographical Data *(Respondent to tick or comment in provided areas)*

1.1 Respondent's Name (Optional, and to be kept confidential) _____

1.2 What is your sex?

Male	Female

1.3 What is your age?

< 25	26 - 30	31-35	35-40	>41

1.4 Are you a member of any Quantity Surveying professional association / council / body?

Yes	No

If 'Yes' above, name the association, body or council_____

1.5 What is your highest level of formal education? (You can select more than 1 item)

LEVEL OF EDUCATION	**SECTION**	**DISCIPLINE**
Examlpe. Diploma	*X*	*Quantity Surveying*
Primary		
Matric		
Diploma		
Degree		
Honours		
Masters		
Doctorate		

1.6 How long have you practised as a surveying professional?

< 5 yrs	5 – 10 yrs	11 – 15 yrs	16 – 20 yrs	➢ 20 yrs

1.7 How could your position be best described in the management structure of your organization?

Junior	Intermediate	Senior	Manager

Part 2: Opinions about surveyors' professional ethics

2.1 In general, I perceive that ethical standards of the surveying profession have been declining over the past ten years.

Strongly Agree	Agree	Disagree	Strongly Disagree

2.2 I read the following materials or attend any seminars / conferences / courses concerning ethics for surveying professionals (You can tick more than 1 item)

a. Fraud Prevention and Bribery Risk Management	
b. RICS / ASAQS Bye-Law	
c. RICS / ASAQS Regulations	
d. RICS / ASAQS Rules of Conduct for Chartered Surveyors	
e. Corporate Code of Conduct of your company/firm	
f. Course(s) on ethics in colleges/universities etc	
g. CPD courses on ethics	

h. Other related courses, please specify: _____

2.3 I rank the importance of the interests of the following parties when resolving ethical dilemmas in the following order (Please rank from 1 to 7 in descending order of importance)

1. Yourself	
2. Your employer/company	
3. Your clients	
4. Your superior	
5. Your colleagues	
6. Your family	
7. General public	

2.4 My perceptions of the 'Professional Ethics codes or ethics reading material' circulated within my firm or by my professional body are:

	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)
a. I do not read any				
b. Helps surveyors sort out ethical concerns				
c. The material is meaningless since there are no effective methods of enforcing them				
d. Its window dressing; each surveyor acts according to his or her own personal belief				
e. Assists surveyors to resist any pressure to perform unethical acts				
f. Enhances the professional image of surveyors				
g. Can to a large extent address and provide a working guideline for major ethical problems				
h. Generally meets the needs of the surveying profession				
i. Can be used to encourage higher ethical standards in the surveying profession				
j. Must be subject to continuous refinement and updating since ethical behaviour is dynamic in nature				

k. Others, please specify: _____

Thank you for participating. **END**

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UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

26 February 2020

Stanley Manyanyi 212561932
Graduate School of Business & Leadership
Westville Campus

Dear Mr Manyanyi,
Protocol reference number: HSS/2143/017M
Project title: An assessment of Quantity Surveyors' ethical perceptions in terms of Stakeholder versus Self-Interests Prioritisation

Approval Notification – Amendment Application

This letter serves to notify you that your application and request for an amendment received on 26 February 2020 has now been approved as follows:

- Change in title

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form; Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

Best wishes for the successful completion of your research protocol.

Yours faithfully

[redacted]
Dr Shamila Naidoo (Chair)

/ss

cc Supervisor: Dr N Khumalo
cc Academic Leader Research: Dr Emmanuel Mutambara
cc School Administrator: Ms Zarina Bullyraj