UNIVERSITY OF KWAZULU-NATAL

Service quality and customer satisfaction in a government funded low-income rental housing project in Pietermaritzburg

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2021

Declaration

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Abstract

Increasing the value customers derive from services contributes to increasing perceived service quality. Perceived good service quality is key to establishing a competitive edge.

There is not enough research aimed at the understanding of Service quality in the residential rental industry, especially in buildings that cater for the low-income market. This study aimed at determining residents' perceptions on the service quality performance of the government-funded low-income project in Pietermaritzburg, South Africa, in which they reside. The objectives aimed at determining residents' perception using the dimensions of service quality identified in the SERVQUAL model, these are tangibles, assurance, responsiveness, reliability, and empathy.

The study was exploratory in nature and made use of a quantitative research approach. A questionnaire was utilised to collect the primary data, 228 respondents participated in the study. The importance of each dimension relative to total service quality was determined, using ordinal regression analysis.

The data was analysed using SPSS to provide descriptive and inferential statistics. The study revealed that the tangibles dimension contributes the most to service quality perceptions, follo**w**ed by the reliability dimension and the assurance dimension. Service quality is not the only determinant of customer satisfaction in the public rental sector, there are, by attempting to improve, performance on the five dimensions of service quality in the low-income rental housing project in Pietermaritzburg, management will be able to improve residents' perception of their service offering. Interventions should prioritize the responsiveness and empathy dimensions of service quality where most improvements are, needed.

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Chapter 1

1.1 Introduction

Today's service providers face increased competitive pressure from both domestic and international service providers to provide high quality services. Increasing the value customers derive from services contributes to increasing perceived service quality. Perceived good service quality is key to establishing a competitive edge. This applies not only to private sector entities, for whom perceived bad service quality could result in decreased profitability and potentially business closure, but also to organisations in the public sector for whom administrative leadership and service quality are determinants to a country's competitive edge over other countries. Measuring customer perceptions of service therefore becomes critical to establishing a competitive edge.

South Africa's first democratic election held in "1994 brought with it expectations of equitable services across racial, gender, socio-political and geographic boundaries, together with the fair and just delivery of services, access to basic services, and the hope that all citizens would have freedom and dignity" (Moletsane, *et al.,* 2014,p.1). Fiscal, political, social and economic transformations that were taking place at the time mandated the government to relook at the way it delivered services. The review process culminated in the 1997 White Paper on the Transformation of the Public Service (Batho Pele White Paper), which envisages a public sector that is guided by an ethos of and commitment to providing excellent quality service to all South Africans.

The SERVQUAL model defines good to excellent quality of service as service characterised by high levels of reliability, responsiveness, assurance, empathy and tangible evidence (Ghotbabadi, *et al*., 2012).

In public housing, quality service provision goes beyond the provision of good quality serviced houses and apartment buildings, which are understood to be tangible measures. Good support services and other intangible services, such as reliability, responsiveness, assurance, and empathy, also contribute to the value derived by customers. In 2009, the then president of South Africa, Jacob Zuma, changed the name of the department responsible for the provision of public housing from the Department of Housing to the Department of Human Settlements. This change demonstrated that public housing is more than simply building a roofed house. Rather, public housing forms part of the provision of sustainable and integrated human settlements where people can work, pray, play and have access to amenities required for their day-to-day

living. It therefore becomes important to understand customer perceptions of current services offered in order to understand where meaningful contributions to quality services can be made. This research will attempt to investigate residents' perceptions of the quality of services offered by the South African government or their agents, using public low- to middle-income rental housing services as a point of reference. The research will achieve this through use of the SERVQUAL model. This model measures perceptions of services received with the aim of discovering strengths and weaknesses hoping that knowing these will guide the government in ways to improve quality services.

1.2 Background of the Study

According to the KwaZulu Natal Provincial Citizens' Charter (2015-2020), the province of KwaZulu-Natal is committed to service excellence. There currently exists an increased emphasis in providing customer-focused public services that align to the 11 service delivery or Batho Pele ('People First') principles of "consultation, service standards, access, courtesy, information, openness and courtesy, redress (dealing with complaints), value for money, encouraging innovation and rewarding excellence, service delivery impact, and leadership and strategic direction" (KZNDHS Service Commitment, 2021, p.1-4).

However, despite the emphasis on Batho Pele, the common thought is that the public sector has many service challenges, such as corruption, excessive bureaucracy, political interference, poor work ethics, laziness and nepotism. While it is clear that service standards do exist for those in the public sector to follow, SERVQUAL investigates service quality, through stated service dimensions, as perceived by customers. It assumes that the service offered to customers and the customer perception of that service should overlap, as previous experiences of a service influence current perceptions of the service. In other words, thoughts of a flawed public sector service suggest previous flawed service experiences by customers and those around them. SERVQUAL assists in identifying weaknesses in perceived service quality, with the aim of proposing interventions to mitigate these.

It is important for government to be effectively improving service quality to understand what customer perceptions are, so that they can plan to address them, and reduce customer dissatisfaction that may lead to disruption of services.

An important task for the Department of Human Settlements is to ensure the realisation of Chapter 8 of the National Development Plan 2030 (NDP), which "sets out the plan for transforming human settlements, setting out five spatial principles for human settlement

development: spatial justice; spatial sustainability; spatial resilience; spatial quality and spatial efficiency" (KZN Department of Human Settlement, 2021, p.12). "An important tool for the delivery of affordable housing is social housing, which gives medium density, affordable rental housing to low and middle-income households" (SA Government : about SA housing, 2019). "The social housing programme is mainly financed by the restructuring capital grant, which is trenched from the Housing development Finance programme to be administered by the Social Housing Regulatory Authority (SHRA)" (SA Government : about SA housing, 2019).

This study selected a social housing project in Pietermaritzburg, hereafter referred to as Project X. The study makes use of the SERVQUAL model in an attempt to determine the Project X residents' perceptions of service quality in public rental services. Knowing this might help government focus interventions aimed at improving service quality.

1.3 Research Problem

"Everyone has the right to have access to adequate housing. The State must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right" (Department of Justice and Constitutional Development, 1996, p.1255).

The provision of housing in South Africa is not only about the provision of shelter; there is also an intangible element to it, demonstrated in the presence of the word "adequate". The Constitution mandates the State to, within its means, determine what adequate housing will be provided, which may differ from what the beneficiaries perceive as adequate. Thus, customer perceptions might reveal services that they deem to be low or sub-standard quality. It therefore becomes important to measure perceived service quality because not doing so might result in the State not being aware of low perceived service quality, despite it conforming to legislative and other measures. Perceived poor quality service might lead to customer dissatisfaction, which adds to the problem of disillusionment with the services provided. Disillusionment ultimately might result in the public seeking an outlet to voice such disillusionment, with one such outlet might be service delivery protests, of which have increased in recent years in South Africa.

1.4 Research Questions

The research questions are as follows:

- How do residents perceive the tangibility of services provided at the social housing project?

- How do residents perceive the assurance of quality services, they receive from agents of the social housing programme?
- How do residents perceive Project X management's responsiveness to their service needs?
- How do residents perceive Project X's reliability in providing low-income rental housing services to them.
- How do residents perceive the empathy they experience when dealing with employees and agents of the social housing programme?

1.5 Research objectives

The objectives of the study are as follows:

- To ascertain residents' perceptions of the tangible facilities of the social housing project.
- To ascertain residents' perceptions of the assurance of quality services they are, given by agents of the social housing programme.
- To determine residents' perceptions of the responsiveness they observe from Project X management in response to their service needs.
- To determine residents perceptions of the reliability of Project X in providing low-income rental housing services.
- To determine if residents perceive Project X management to be empathetic to their housing needs.

1.6 Importance of the Study

The significance of the study is as follows:

1) The study can provide institutions and academia with a practical example of the use and application of the SERVQUAL model. This practical application can guide future research.

2) The study might also help policy makers in public housing to draft policy and adopt recommendations that improve service quality and reduce disillusionment.

3) The study might help beneficiaries in future projects feel that their thoughts are heard, thereby improving community participation in projects.

4) The research could direct institutions involved in the public housing sector, like municipalities, government departments and NGOs, to develop and implement strategies that best improve services.

1.7 Justification of the Study

There are three main reasons for doing the study. They are as follows:

First, the study attempts to contribute to the understanding of perceived service quality experienced by a typical low- to middle-income rental resident, concerning public housing services offered to them. This knowledge will assist service providers to determine if residents perceive the service provided differently. It will also assist in ascertaining which dimensions are considered weaker than others. Knowing this will assist in ascertaining the efficacy of services provided, and focus government efforts on service delivery improvements that are anticipated to result in greater satisfaction.

Secondly, the study seeks to understand what low- to middle-income rental residents feel about the quality of the public housing services offered or provided to them. This understanding informs service providers of the flaws customers perceive in the current services provided and whether scope exists for improvement in service provision.

Thirdly, it assesses the aspects of services that have the greatest significance to customers in the low- to middle-income rental services sector. It might be that no matter how good or bad a quality dimension is, that dimension does not have a significant impact on overall service quality. In such situations, the service provider has to use different markers, such as their own service standards and ethics, to determine the acceptable level of quality service provided.

1.8 Research methodology

This research will make use of a quantitative research approach; in the form of a case study, the case of a part government funded (Under the Social housing programme) settlement in Pietermaritzburg named project X for the sake of this research. This research will make use of an existing model to test resident perceptions. The guidelines and objectives on the use of this model are known, and result in data that can be measured quantitatively.

The information will comprise of perceptions of residents of project X, obtained with the use of a survey questionnaire administered to residents. The twenty-two statements detailed in the SERVQUAL model inform the questions in the questionnaire. Answering the 22 questions addresses each of the five factors of the SERVQUAL model. When analysing the results,

responses will be coded and consolidated to form the overall score for each factor. The total factor scores and overall score will, together with other descriptive statistics be analysed.

The quantitative strategy employed in this research is survey research, within a case study and will make use of a survey questionnaire for data collection. When collecting the data the fieldworker will access each household, strict COVID 19 regulations, will be always observed, these include wearing of face masks, adherence to hygiene and social distancing protocols.

The survey was chosen because the research will be an analysis of a point in time. It will investigate what residents' perceptions of the quality of the services they receive is at a point in time. The analysis will be retrospective because at the point of analysis, the data collected will be historical in nature. This report plans to investigate how much residents feel could be done today in order to achieve the objective of improved future service quality, if anything.

1.9 Target population

The population targeted in this study are all the households currently residing in village 1 of project X residential complex. The target population size was 553.

1.10 Sampling

Blumberg et *al.* (2014, p.183) describes the sampling frame, as the list of components derived from the target population, "from which the sample is chosen" (Blumberg, et al., 2014). In the research, the sampling frame will be equal to each adult household representative living in village 1 of project X is able to legally contract. Blumberg et *al*. (2014, p. 183) defines a sample unit of analysis as "units or objects that are being researched" (Blumberg, et al., 2014). It is the basic level of the sample frame. The sample unit in this research will be a representative from a household who leases a unit in project X residential complex.

The research will make use of a non-probability method. The participants in the research will not have a known non-zero probability of selection. The design used in this research will be, convenience sampling. This type of design was chosen because it suited the timeframe allocated to collection of information for the research. The timeframe allocated for the collection of data on all the questionnaires will be a period of one month. The research will be exploratory in nature in that its intention is to explain and understand behaviour, as well as to predict interventions, which might assist with identified problems.

1.10.1 Sample size calculation

The research sample, will be made up of the people participating in the survey, they will not necessarily have the same level of education, be of the same gender or age. Since the research is descriptive quantitative research, the researcher will have to consider representatively when selecting the sample size. According to Sakuran and Bougie (2016, p.241). Cochran's Sample Size formula was used as follows to determine sample size:

$$n_0 = \frac{Z^2 pq}{e^2} = 384$$

Where n0 or Cochran's sample size recommendation is calculated with, e is the desired level of precision (i.e. the margin of error) of 5%, p is the (estimated) proportion of the population which has the attribute in question 50%, q is 1 – p, while Z was the value corresponding with the 95% confidence interval and given to be 1.96.

Given that the **total population used in this study** of 553 is smaller than the total population size of households in Pietermaritzburg the modified Cochran formula for sample size calculation in smaller populations is used **to calculate the sample size** in this study. **Tabulated as follows:**

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} = 226$$

Here n0 is Cochran's sample size recommendation, N is the population size of this study, and n is the new, adjusted sample size.

The formula was obtained from Taherdoost (2017, p.237) The researcher calculated that for the research to be fully representative of the population 226 questioners needed to be completed. The researcher therefore decided to administer 250 questionnaires.

1.11 Data and data analysis

Data for the study will be derived from primary sources. Leedy and Ormrod (2010) describe primary data as "data that originates directly from the source of analysis; it is not necessarily the truth, but is nearest to the facts" (Leedy & Ormrod, 2010). The data collection tool will be a questionnaire, which will be, administered to household residents of in the project X

settlement to obtain information on perceptions of service quality. The questionnaire will mostly consist of questions on a five-point scale, which respondents will respond to.

Administration of the questionnaire will involve the researcher or assistant physically, individually administering the research questionnaire to conveniently located households within of the project X settlement. All the questionnaire tools will be numbered before conducting the survey. Questionnaires will be administered everyday by the researcher and the assistant over a period of a month. When all questionnaires have been filled in, the researcher will electronically record, and analyse all questionnaire responses on SPSS 27.

The researcher will make use of frequency distribution tables and bar charts to tabulate and present the data. Some of the answers from the questionnaire will be, coded in the five-point scale and others recoded into yes or no depending on the question.

1.12 Limitations of the Study

- The study is exploratory in nature, however the findings cannot be generalised as they only apply to one low- to medium-income residential project.
- A large number of neutral responses were observed. This might be because the project is newly built or the respondent had not lived in the complex long enough to have an opinion on the dimension in question. Neutral responses for dimensions such as empathy, reliability and tangibles might mean that the respondent has not interacted with management, or because the complex is still new it is still in good condition.

It is for the reasons above that the findings, conclusions, and recommendations should be taken to be those belonging only to Village 1 of Project X and not extrapolated to be understood and used to reflect the entire complex or of other complexes within the Pietermaritzburg area. They could, however, provide some insight into future research on a broader basis.

1.13 Conclusion

This research is made up of six chapters. This chapter introduced the research topic, background, research problem, research questions, objectives, limitations and an overview of the study. The five chapters that follow contribute increased understanding of the study.

Chapter two presents literature on the topic that the study explores, it looks at concepts, models, measures and theories that pertain to service quality and customer satisfaction. It does this through a review of previous studies, books, journal articles and internet articles.

Chapter three details the research methodology used to answer the research objectives and research questions of the study. The chapter, identified the population as well as the sample discussing what it was and how it was drawn. Data collection and collation strategies, ethical, validity, and reliability issues are also discussed. It concludes with an explanation of how the data was analysed and what were the limitations of the study.

Chapter four presents the findings of the research, which is displayed visually in the form of tables and bar graphs. It is accompanied by a descriptive analysis of the demographic questions in the questionnaire, which is followed by the presentation of findings as they relate to the five service quality dimensions detailed in SERVQUAL. Lastly, the chapter ends with inferential analysis of the overall results.

Chapter five presents theoretical discussions of the findings presented in chapter four. The discussion chapter is presented as per the research objectives, thus the structure of the chapter begins with the first objective and systematically progresses to the fifth. Relevant literature pertaining to the objectives, how the findings fit the literature, and the theoretical framework are discussed to allow conclusions to be drawn regarding the objective.

The final chapter, chapter six presents the conclusions to the objectives of the study and also offers recommendations from the study.

Chapter 2

Literature Review

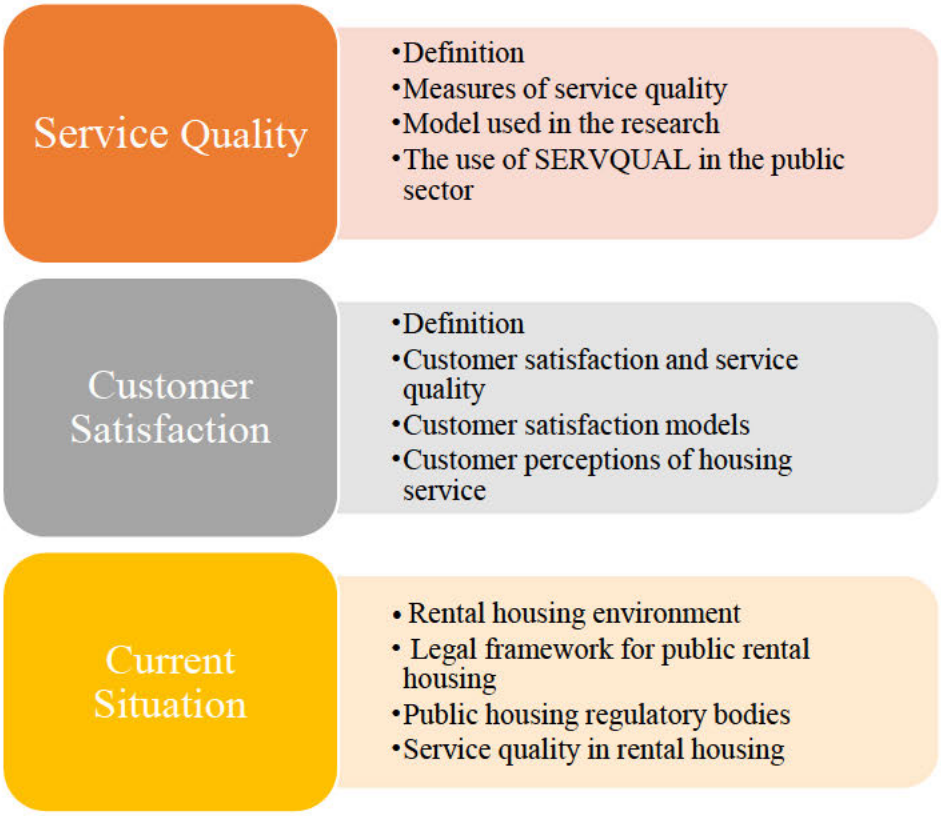
2.1 Introduction

This literature review draws from various studies, journals and articles to review theoretical views, measures and models pertaining to service quality and customer satisfaction. It provides an integrated framework for service quality and customer satisfaction.

A reflective review of the problem in context suggested a number of research constructs.

Chapter 1 identified a number of theoretical constructs, which are service quality and customer satisfaction. The first and second section of this chapter will investigate these constructs. The third section will look at the current public, rental housing environment in South Africa.

Figure 1: Illustration of Chapter 2 layout



2.2 Service Quality

Theresia and Bangun (2017, p.1) define service quality as "the gap between customers' expectations of the service and real delivery of a service".

According to Pakurar, *et al.* (2019, p.1) "Quality of service can be understood as a comprehensive customer evaluation of a particular service and the extent to which it meets their expectations and provides satisfaction".

Fan *et al.* (2017, p.1) quote professor Christian Grönroos (1982, p.12) (Gronroos, 1982) referring to service quality as a "subjective construct that depended on contrasting customers' expectations of the quality of a service (for example, the expected service quality) with their perceptions of the actual quality of the service (perceived service quality)".

According to Parasuraman *et al.* (1998, p.15), "Service quality can be defined as the ability of the organisation to meet or exceed customer expectations".

The four definitions above are united in the belief that service quality, as a customer's subjective measure of services received, is a comprehensive comparison between services received and services expected by customers. They conclude that the key role players in service quality are service providers that provide the service and customers that receive services. They highlight that customers have service expectations and current services either meet, exceed or do not meet customer expectations. In addition, to the four definitions, Pakurar, *et al*. (2019, p.8) highlight that service quality contributes to customer satisfaction.

2.2.1 Measures of Service Quality

A key feature drawn from the definitions above is that service quality is a comparison that results in customers concluding on the difference between service expectation and received services. With the knowledge of such conclusions, Ghotbadadi *et al.* (2012, p.6) contend, "Empowers administrators to perceive quality issues and upgrade the quality of services to meet expectations and achieve customer satisfaction".

What also comes out distinctively is that service quality is subjective to each customer. This makes measuring service quality challenging, and opens up a platform for different measures, and schools of thought in the measurement of service quality. Jain and Gupta (2004, p.25) state that "an ideal measure of service quality is one that not only is psychometrically sound but is also diagnostically robust enough to provide insights to the managers of corrective actions in the case of quality shortfalls".

Karan and Singh (2016, p.472), state that there are presently two primary schools of thought on service quality literature and its measurement, the Nordic School and the North American school. Karin and Singh (2016, p.477) further point out that research on the area of service

quality is ongoing and that there are other models and measures, which do not form part of the primary schools of thought. Ghotbadadi, *et al*. (2012, p.2) further add that service quality perception has only been studied in the last three decades.

The discussion below briefly looks at the schools of thought, and some of the most used service quality measures:

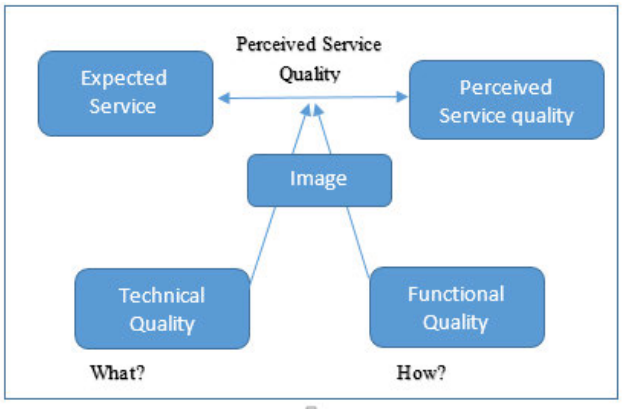
2.2.1.1 The Nordic School

The main contributor to the Nordic School of thought is Christian Grönroos, who in 1982 and in 1984 developed the Grönroos model, (Kiran and Singh, 2016, p.272; Ghotbadadi, *et al.*, 2015, p.271). Christian Grönroos believed that by matching customers' perceived quality with customers' expected quality the measure of service quality is achieved. The gap between customers' perceived quality and their expected quality needs to be as small as possible. Grönroos believed that the contributor to the size of the gap is the image of the product or service, and that there are two contributors to the image of the product or service, namely technical quality and functional quality (Ghotbabadi *et al*., 2015, p.271). In 1994, Rust and Olivier attempted to improve on the Grönroos model by adding a third component, a service element to the contributors of image of a product. However, this model was not sufficiently tested, therefore support for it is not extensive (Ghotbabadi *et al.*, 2015, p.271).

Below is an illustration of the Grönroos model and the three-dimensional component quality model:

Figure 2: The Nordic School models

Grönroos model



Three component model

2.2.1.2 The North American School

This school of thought is said to be more popular than the Nordic School (Kiran and Singh, 2016, p.473); Ghotbabadi *et al.*, 2015, p.280). Several models are found under this school of thought with the dominant being the SERVQUAL model by Parasuram, Zeithaml, and Berry initially developed in 1985 refined in 1998, 1991, 1993 and 1994 (Kiran and Singh, 2016, p.473).

Four of the leading models found under the North American school are, detailed below.

Initial SERVQUAL Model

The model proposes five dimensions that are collectively used to measure customer perceptions and customers' expectations of service performance. The model concludes that both customers' expectations and perceptions of a service determine customers' perceived service quality. Ali and Yaseen (2000, p.3) state that according to this model a high overall difference between customer perceptions and overall customers' expectations of service performance results in increasing the service quality gap (Ali and Yaseen, 2000, p.3).

The model does not prescribe possible reasons for customer perceptions and expectations of service performance. As a result, it may be adaptable to a wide array of industries and services, and forms the backbone to many subsequent service quality models (Harmse, 2012, p.69). Harmse (2012) states that this has been the most widely used and tested method of determining customers' perceptions of service quality, also mentioning "It has been widely cited in the marketing and retailing literature and its use in industry has also been widespread" (Harmse, 2012, p.69).

The model's five dimensions are listed as follows:

Tangibles - "Physical facilities, equipment and appearance of personnel" (Olanrele, 2014, p.149). These are visible representatives of the service. The implication of this factor, for service quality, is that the appearance of personnel, equipment, places of contact, and pamphlets that are associated with the service, must be appealing to the customer in order to positively contribute to customers' perceptions and expectations of a service. Segheir and Nathan (2013, p.5) state that the appearance of a facility can indicate quality to customers.

Ali and Yaseen (2000, p.6) state that in countries such as Egypt and Malaysia, public sector customers' average gap score for tangibles is high in comparison to the other factors, with it being the highest in Egypt and the second highest in Malaysia. According to Ali and Yaseen

(2000, p.6), Mauritius surprisingly has the lowest average gap score for tangibles concerning the other four factors.

Iyakal and Celebi (2016, p.6) rate tangibles as the highest average gap score in Northern Cyprus. In evaluating service quality in a public facility in South Africa, Nwobodo *et. al.* (2019, p.55) also found tangibles to have the highest average gap score for tangibles in comparison to the other factors. It would seem that in Egypt, Malaysia, Northern Cyprus and the South African facility, customers do not see the public sector as having attractive personnel, staff or material.

Reliability – "The ability to perform the promised service dependably and accurately" (Olanrele, 2014, p149). "The services ability to fulfil all promises made to customers makes the service reliable" (Berndt, 2009, p.2). Sagheir and Nathan (2013, p.4) and Berndt (2009, p.2) state that reliability has been repeatedly found to be an important factor in customer satisfaction. Average gap scores amongst the five factors is the mean score of a factor compared to others. A high score for a factor, Ali and Yaseen (2000, p.9) state, results from significant gaps between expectations and experienced service.

Ali and Yaseen (2000, p.9) state that in countries such as Malaysia and Mauritius, public sector customers' average gap score for reliability is the highest in comparison to the other factors, with it being the second highest in Egypt. Iyakal and Celebi (2016, p.8) rate reliability as the third average gap score in Northern Cyprus. It would seem that in most of these countries, customers do not see the public sector as reliable.

Responsiveness – "Willingness to help customers and provide prompt service" (Olanrele, 2014, p.149). Prompt service speaks to the length of time that customers have to wait to receive help. The understanding of what prompt service time is varies from customer to customer and from industry to industry. This is sometimes influenced by previous experience, the complexity of performing the service, industry standards, general knowledge of the service, and other factors. This factor also speaks to the communication between the customer and service provider, and results in customers constantly being aware of their service progress. Average gap scores amongst the five factors is the mean score of a factor compared to others. A high score for a factor, Ali and Yaseen (2000, p.8) state that results from large gaps between expectations and experienced service for that factor.

Ali and Yaseen (2000, p.8) state that in countries such as Malaysia and Mauritius, public sector customers' average gap score for responsiveness is the second highest in comparison to the

other factors, with it being the lowest in Egypt. Ali and Yassin (2000, p.9) attribute this low score in Egypt to automated systems, which make it easier to respond to customers. These may differ from countries still to some extent using manual systems. Iyakal and Celebi (2016, p.9) also rate responsiveness as the second highest average gap score in the public service of Northern Cyprus. It would seem that in most of these countries, customers do not see the public sector as responsive.

Assurance – "Competence, courtesy and credibility" (Olanrele, 2014, p.149). The implication of this factor is that higher trust and confidence levels amongst customers towards an organisation positively affect perceptions of service quality in the organisation. Andeleeb and Conway (2006, p.8) state that in industries with higher risks and uncertain outcomes, this factor becomes very important to customers. An example of this is the health sector, where a customer is deciding which surgeon to use for an operation. Average gap scores amongst the five factors is the mean score of a factor compared to others. A low score for a factor, Ali and Yaseen (2000, p.9) state results from small gaps between expectations and experienced service for that factor.

Ali and Yaseen (2000, p.8) state that in countries such as Egypt, Malaysia and Mauritius, public sector customers' average gap score for assurance is low in comparison to the other factors, rating on average fourth and fifth. It would seem that in most of these countries, customers are, assured of a good service, or the expectation is not much different from what the service actually is.

Empathy – "Access, communication, understanding the customer" (Olanrele 2014, p.149). The implication of this factor is that the more customers feel that the service provider empathises with them, the more likely they are to incorporate customer needs into their services and thus provide services that meet customer needs. According to Andeleeb and Conway (2006, p.8), empathy increases service quality in industries where customer and client relationships are more important for the survival of the company than in industries where "transactions marketing" is emphasized. The public sector in different countries also rate empathy differently.

Ali and Yaseen (2000, p.8) state that in countries such as Malaysia and Egypt, public sector customers' average gap score for empathy rates fourth of the five factors, whereas Mauritius, scores it as the second lowest score. Iyakal and Celebi (2016, p.8) also rate empathy as the lowest average gap score in Northern Cyprus. The high score, Ali and Yaseen (2000, p.9) state,

results from big gaps between expectations and experienced service, this they say is because of lack of interest by the employees to have clients' comfort at heart, because of lack of training given to public sector employees.

SERVQUAL Gap Model

The gap model adds to the initial SERVQUAL model detailed above by adding four additional gaps to the one in the initial SERVQUAL model, altogether highlighting five common gaps thought to exist between customer expectations and services provided.

They both define and measure perceived service quality from the perspective of the customer, and, in the same way, as the SERVQUAL measurement tool comprising of 22 questions for expectations and 22 questions for perceptions, totalling 44 questions, or an adaptation thereof, to collect information. However, the gap model uses the initial customer-based service quality findings to identify organisational performance gaps; weaknesses that the organisation can improve on to contribute to an increase in perceived service quality. This model therefore focusses on identification of possible organisational interventions that aim to improve perceived service quality. It also acknowledges the presence of other non-organisational influences of customer expected service, such as word of mouth, past experiences and personal needs. The implication is that the most important gap is the fifth gap, and that closing the four gaps contributes to closing the fifth gap.

The gap model measures service quality in many service types by identifying gaps. The hope is that knowing the gaps will direct the service provider on the best way to address these differences or gaps, in an effort to improve perceived service quality and satisfaction by the customer.

These gaps are, listed below:

"**Gap 1:** The difference between customers' expectations and managements perceptions of the customers' expectations" (Ghotbabadi *et al.*, 2015, p.272). Where this gap exists, management perceptions of a service might differ from customer expectations of the service. This lack of common understanding may affect the quality of services provided to customers. Bitner, *et al.*, (2014, p.206) describe three ways to close this gap, namely:

1. "Listening to customers through customer research and employee communication.
2. Building relationships by understanding and meeting customer needs over time.
3. Knowing and acting on what customers expect when they experience a service failure".

"**Gap 2:** The difference between management perceptions of customers' expectation and service specifications" (Ghotbabadi *et al.,* 2015, p.272). Where this gap exists an organisation has service standards in place, however they might be different from what customers expect they might be, based on internal operations. This mismatch in standards might cause service quality that is unacceptable to the customers. Bitner *et al*. (2014, p.209) describe three ways to close this gap, namely:

1. "The employment of new well-defined service development and innovation practices, - (services research and development).
2. Understanding the total customer experience through service blue printing.
3. Measuring service operations through customer defined rather than company defined standards".

"**Gap 3:** The difference between service quality specifications and service provided" (Ghotbabadi *et al.,* 2015, p.272). This gap reflects a deficiency in the performance of employees. A company might have clearly defined standards informed by the customers, but there are no guarantees that employees will follow these standards. Lack of consistently applied service standards might cause service quality that is unacceptable to customers. Bitner *et al.* (2014, p.211) describe three ways to close the service performance gap, namely:

1. "The alignment of human resource practices (hiring, training, support systems, and rewards) around delivery service excellence.
2. Define customers' roles and help them understand and perform effectively.
3. Integration of technology, effectively and appropriately to aid service performance".

"**Gap 4:** The difference between service provided and external communication to the customers" (Ghotbabadi *et al*., 2015, p.272). This gap refers to the gap between what is communicated about a service to customers and the actual service provided to customers. Parasuraman (1988) cites an instance where companies promise a certain standard of performance only to have the customer not experience this standard when interacting with the company. Bitner *et al*. (2014, p.124) describe three ways to close the communication gap, namely:

1. "The employment of integrated services marketing, communication strategies around everything and everyone that sends a message or signal to the customer.
2. Manage customer expectations effectively throughout the experience.

3. Develop mechanisms for internal communication to avoid over promising and ensure successful delivery".

"**Gap 5:** The difference between customers' expectation and customers' perception of the service" (Ghotbabadi *et al.*, 2015, p.272). This gap refers to the gap between what is expected of a service and what is experienced. For example, a customer interacting with the Department of Home Affairs expects that if they arrive early, they will finish early; this may or may not be the case depending on other internal factors. This mismatch in expectation and experience might cause service quality that is unacceptable to the customers. According to Bitner *et al*. (2014, p.203), this gap often referred to as the 'customer gap' is the heart of the gap model, and resulted in the development of the five dimensions of service quality, identified in the SERVQUAL model, This was confirmed by Ghotbabadi *et al.*, (2015, p 272) stated that "this Gap depends on all four gaps associated with service quality delivered on the marketer side".

Johnson (2017, p.21) quotes Nyandoro (2012, p.37) as adding that, "for service quality to be managed effectively it is vital to manage the proceeding four gaps that exist between expectations and perceptions on the part of management and employees. Only then can gap 5 be tightened successfully".

Criticisms of SERVQUAL

- **Measurement of SERVQUAL**

Ramseook-Munhurrun *et al.* (2010, p.53) contend that measuring expectations is unnecessary. The criticism of SERVQUAL here is that the five dimensions identified in the SERVQUAL model, are hard to inspect statistically, mostly because they have a subjective element to them, for example that of expectations (Hamse, 2012, p.80). Buttle (2014, p.19-20) quotes Teas (1993a) who states that customers interpret expectations in various ways and lists the following as such interpretations:

"Service attribute importance. Customers may respond by rating the expectations statements according to the importance of each. (2) Forecasted performance. Customers may respond by using the scale to predict the performance they would expect. (3) Ideal performance. The optimal performance: what performance 'can be'. (4) Deserved performance. The performance level customers, in the light of their investments, feel performance should be. (5) Equitable performance. The level of performance customers feel they ought to receive given a perceived

set of costs. (6) Minimum tolerable performance. What performance 'must be'." Buttle (2014, p.19-20).

Buttle (2014, p.16) also contends that the number of dimensions are industry-specific, with some industries having more than the five dimensions while others have less, and others having dimensions that are not included in the five SERVQUAL dimensions. Buttle (2014, p.19) further states that "there is a high degree of inter-correlation between the five dimensions" (Buttle, 2014, p.19).

Cronin and Taylor have since developed their own performance measures in the SERVQUAL model (Ramseook-Munhurrun *et al.* (2010, p.48) that does not include measurement of the five SERVQUAL dimensions. Buttle (2014, p.10) claim that SERVQUAL fails to draw on established economic, statistical and psychological theory, and that it is based on the disconfirmation model, used in customer satisfaction theory, which largely is subjective.

Buttle (2014) also claims that the five-point Likert scale, "a widely used survey response format formulated by Likert (1932) that employs a five-point response for each item" (Lam *et al.*, 2010, p.3), is flawed in that it is a measurement that is relative not absolute (Buttle, 2014 p.22). In other words, the same scores are relative to other similar services or companies and may not be compared amongst services or companies that are different. Buttle (2014) also states that when filling out scores, a customer's 2.5 and another's 3.4 are averaged to 3 whereas these scores are not the same (Buttle, 2014, p.22).

- **Length and Sequence of Survey**

In line with the view that measuring expectations is unnecessary, it is the view that the actual SERVQUAL instrument, that of 44 questions and comprising of 22 questions on expectations and the same 22 questions on perceptions, is too long and repetitive (Hamse, 2012, p 80). Buttle (2014, p.23) states that there should instead be a way of combining the expectations part of the questionnaire with the perceptions part. Buttle (2014, p.23) quotes Clow and Vorhies (1993) as suggesting that the expectations part of the questionnaire should be filled in before the actual service is experienced. Adding that expectations might be influenced by how the service was experienced giving the example that often customers who had a negative experience with the service tend to over inflate their expectations after experiencing the service, and this creates a larger gap.

In defending the model, Parasuraman (1988) states that "it may be necessary to reword or modify some of the items in the model, however the model is applicable to a wide range of industries" Buttle (2014, p.15). Nyandoro (2012) is of the opinion that it might appear that the five dimensions of SERVQUAL are interrelated and overlap, this feature actually supports the overall cohesiveness of the tool.

Despite these criticisms, Carrillat *et al.*, (2007, p.485) state that the SERVQUAL model is extensively researched and proven to be a valid predictor of overall service quality, and that all the models under the North American school of thought have SERVQUAL as a base model.

SERVPERF

The second model is an adaptation of the service quality gap model called the SERVPERF model. In 1992, Cronin and Taylor developed the SERVPERF model, which introduces a performance only based measure for service quality (Ghotbabadi *et al*., 2012, p.4), indicating that overall service quality is only a function of actual performance of the service. This means that the actual service expectation is equal to previous actual performance of the service. The SERVPERF model, like the SERVQUAL gap model, measures the five factors as detailed in the initial SERVQUAL model (Baffour-Awuah, 2018, p.93).

In as far as customer satisfaction is concerned, Carrillat *et al.*, (2007, p.485) acknowledge that literature is not in consensus in identifying the areas that managers should focus on to improve customer satisfaction.

Carrillat *et al.* (2007, p.485) state that despite discussions regarding the superiority of SERVPERF over SERVQUAL, their meta-analysis has proven that "both SERVPERF and SERVQUAL are equally valid predictors of overall service quality". In their study, Carrillat *et al.* (2007, p.485) find SERVPERF to be a good instrument to support managers in taking decisions that improve customer satisfaction based on both satisfaction attributes and service quality. Furthermore, their research in the public service, indicates that on all but one of the service quality factors (tangibles), customer satisfaction and satisfaction attributes are positively correlated. In their study based on services in the automotive electrical maintenance service industry, Baffour-Awuah (2018, p.99) found that improving overall service quality is likely to improve customer satisfaction.

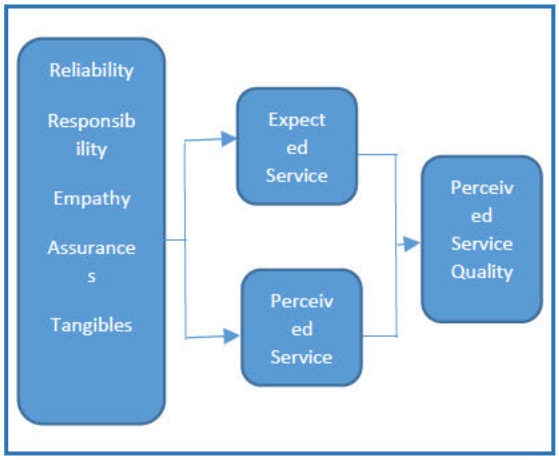
Multilevel Model

The third model is the multilevel model, which Badholkar, Thorpe and Rentz developed in 1996 (Kiran and Singh, 2016, p.475). The third model is also an adaptation of the SERVQUAL model. The difference between the multilevel model and the SERVQUAL model is that below three of the five SERVQUAL dimensions, of service quality is an extra layer of dimensions. Below each of the three SERVQUAL are two further dimensions attached. The multilevel model therefore has three levels to Service quality, the first level, has a primary dimension level and a sub dimensions level (Ghotbabadi *et al.,* 2014, p.5) . The multilevel model was used to evaluate service quality in a retail store, and found that the model does not generalise for different areas, and the proposal put forward was that it also consider some factors such as environment and price (Ghotbabadi *et al.,* 2014, p.5). Another finding was that the model lacked identifying attributes that define the sub-dimensions (Ghotbabadi *et al.,* 2014, p.5).

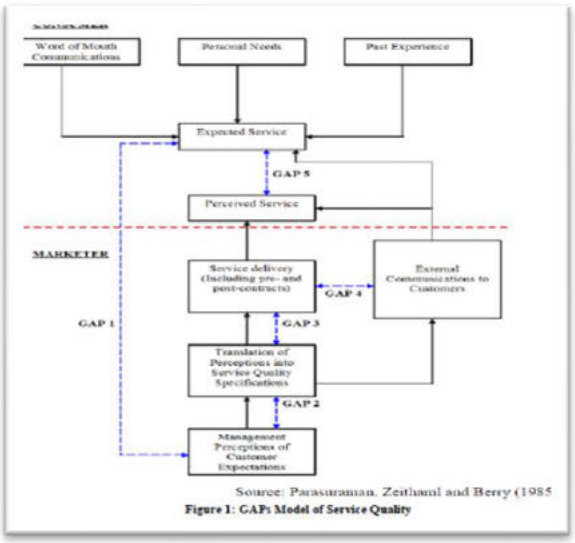
An illustration of the four models under the North American school of thought follows:

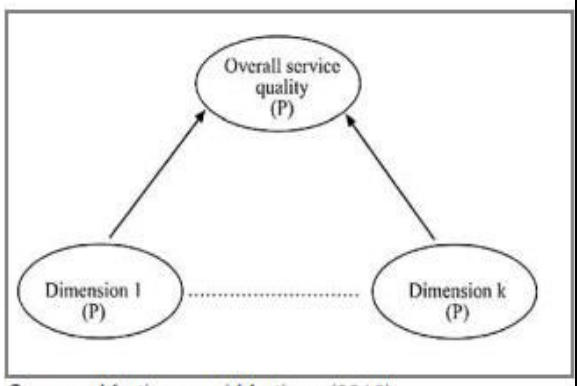
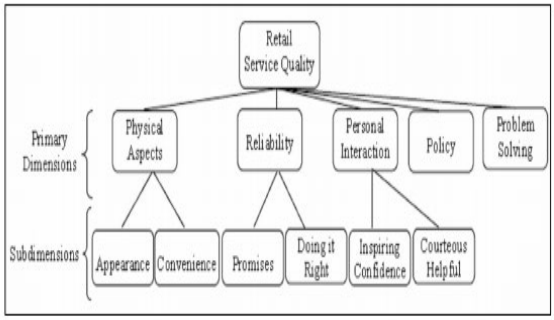
Figure 3: The North American School models

Initial SERVQUAL Model



Gap Model



SERVQUAL Model	*Multilevel Model*
 *Source : Martinez and Martinez (2010).*	 Figure 3: The Multilevel model by Dabholkar et al., (1996)

Comparisons of Four Models under the North American School

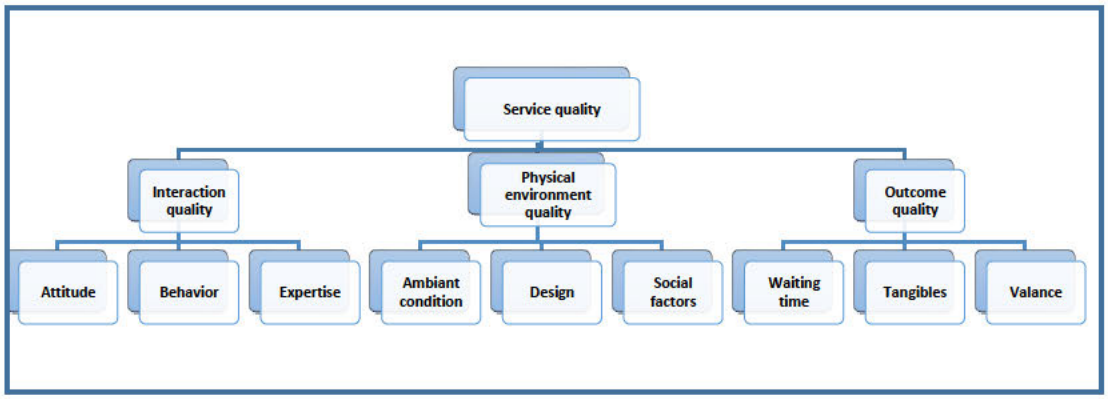
Each of the models detailed above are modifications of the initial SERVQUAL model. The gap model is a refinement of the initial SERVQUAL model and is developed by the same authors Parasuram, Zeithaml, and Berry. The gap model adds four additional gaps to the service quality gap identified in the initial SERVQUAL model, adding a management intervention aspect, different from the customer only aspect identified in the initial SERVQUAL model. The management aspect is also identified in the multilevel model. However, because of its complexity, the multilevel model applies mostly in the retail sector, whereas SERVQUAL and SERVQUAL are better measures outside the retail sector. SERVQUAL only measures the performance aspect of the SERVQUAL model, and it therefore addresses the criticism of the length and sequence of the SERVQUAL survey without losing its validity. Furthermore, it also addresses the difficulty in measuring the expectations part of the SERVQUAL model, which it does by not measuring expectations on the assumption that current expectations are influenced by past performance. According to Ghotbabadi *et al.*, (2015, p.280) "researchers in recent years emphasize that measuring the perceptions of a service provided are enough and more useful instead of comparing the expectations and perceptions of consumers on the services provided".

2.2.1.3 A Combination of the Nordic and the North American Schools

In 2001, Brady and Crinin developed the Hierarchical Model, which is a combination of both the Nordic and the North American schools of thought. Brady and Crinin "improved on SERVQUAL by specifying what needed to be reliable, responsible, empathic, assured and tangible" (Ghotbabadi *et al.*, 2014, p.5). Brady and Crinin also evaluated customer perception

based on three primary level dimensions, namely interaction quality (functional quality), physical environment quality, and outcome quality (technical quality) (Ghotbabadi *et al*., 2014, p.5). The model proposes that service quality comprises of a collective of the three primary level dimensions, each of which has three sub-dimensions that collectively form the perception of that primary level dimension (Kiran and Singh, 2016, p.476). Because of its multilevel nature, it also incorporates the multilevel service quality model (Kiran and Singh, 2016, p.476).

Figure 4: A combination of the Nordic and American models



2.2.2 Model Used in this Research

According to Ghotbabadi *et al.,* (2015, p.280), the North American school models have in recent years received popularity and considerable research has been, and continues to be, done on them, while the Nordic school of thought has not been as extensively researched. Therefore, this research made use of a model from the North American school of thought.

This research measured service quality and its effects on customer satisfaction using the SERVQUAL model. Jain and Gupta (2004, p.25) state that various "Empirical studies evaluating validity, reliability and methodological soundness of service quality scales clearly point to the superiority of the SERVQUAL scale". Basto *et al.,* (2014, p.264) verifies this.

Basto *et al.* (2014, p.278) state that SERVQUAL is also "a good instrument to support managers in taking decisions regarding present settings" in a public service setting. It therefore was selected for this research because of its empirical soundness and its ability to provide managers the insights to make corrective actions in the case of quality shortfalls.

The SERVPERF model has a measurement instrument, which comprises of twenty-two questions it is shorter than the SERVQUAL instrument, facilitating more participants in the research. Fragoso and Espinoza (2017, p.1300) quote Salomi *et al.,* (2005) as "stressing that SERVPERF is more convenient than SERVQUAL since the clients that are evaluated with this

model lose less time, given that they do not have to reflect regarding their expectations, which is what happens with SERVQUAL (making it become rather tedious), thus, the SERVPERF measuring instrument is more practical" (Fragoso and Espinoza, 2017, p.1300). Together several of the questions in both the SERVQUAL and the SERVPERF tools measure, each of the five dimensions mentioned in the initial SERVQUAL model. When analysed together, the responses for all dimensions give an overall service quality score.

The research will interpret the five SERVQUAL dimensions as follows:

- Tangibles – The cleanliness and appearance of the housing complex.
- Reliability – The ability of the department to perform maintenance services.
- Responsiveness – The ability of the department to provide prompt service.
- Assurance – The knowledge and courtesy of departmental employees, or their representatives, and their ability to inspire trust and confidence.
- Empathy – Complex managements' communication with residents and their ability to understand customers.

2.3 The Use of SERVQUAL in the Public Sector

The public sector's core mandate is the provision of services to the public. The public sector is a service provider to the public, their customers. The role that services play in the public sector cannot be underestimated (RSA Service Charter, PSCBC, 2013, p.1-10). Section 26 of the South African Constitution states: "Everyone has the right to have access to adequate housing. The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right" (Department of Justice and Constitutional Development, 1996, p.1255). The inclusion of the word "adequate" to this right adds a subjective element to the right, in that it opens up the question of who determines what adequate housing is; is it the state or the beneficiary of a house?

According to Gowan *et al*., (2001, p.275), "service provision in the public sector is complex because it not only caters for needs that are expressed by customers it also attempts to deal with needs that are not expressed, setting priorities, and publicly justifying and accounting for what was done". According to Leach (2018, p.154), "The Batho Pele White Paper specified that the 'service standards' specified therein have to cover customers' main requirements, e.g. accessibility of services, response times, turnaround times, accuracy, courtesy, the provision of information, and dealing with complaints (Republic of South Africa, 1997)". Leach (2018, p.154) concludes that the "'service standards' as set out in the White Paper correspond to

service quality dimensions as specified by Zeithaml *et al*. (1990, p.25)". The literature therefore concludes that SERVQUAL analysis may be used in the public sector.

2.4 Customer Satisfaction

Hansemark and Albinson (2004, p.40) state that "satisfaction is an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive, regarding the fulfilment of some needs, goals or desire".

Dinyati (2015, p.79) quotes Kotler and Keller (2006) as stating that "customer satisfaction is ones feeling of happiness or upset as a result of a comparison between the performance of a product and his/her expectation".

Four aspects of the above definitions stand out, first, customer satisfaction is an attitude towards a service provider, second, it is an emotional reaction, or feeling, third, it is a reaction to the difference between what customers anticipate and what they receive, fourth, It has to do with the fulfilment of some needs, goals or desires (Dinyati, 2015; Hansemark and Albinson, 2004).

2.4.1 Customer Satisfaction and Service Quality

The definitions of customer satisfaction and service quality as summarised in the table below, reveal that although the concepts are different, there are also some similarities.

Table 1: Customer satisfaction vs service quality

Customer Satisfaction	**Service Quality**
Customer satisfaction is an attitude towards a service provider.	Service quality is the extent to which a firm, organisation or service provider provides quality services.
Customer satisfaction is an emotional reaction.	Service quality is a measure.
Customer satisfaction is a reaction to the difference between what customers anticipate and what they receive.	Service quality fills the gap between customer services and customer perception of service that should be delivered by the organisation
Customer satisfaction has to do with the fulfilment of some needs, goals or desires.	Service quality exists to meet the purpose of customers.

A common element of both definitions is that both are judgements about services obtained by the customer.

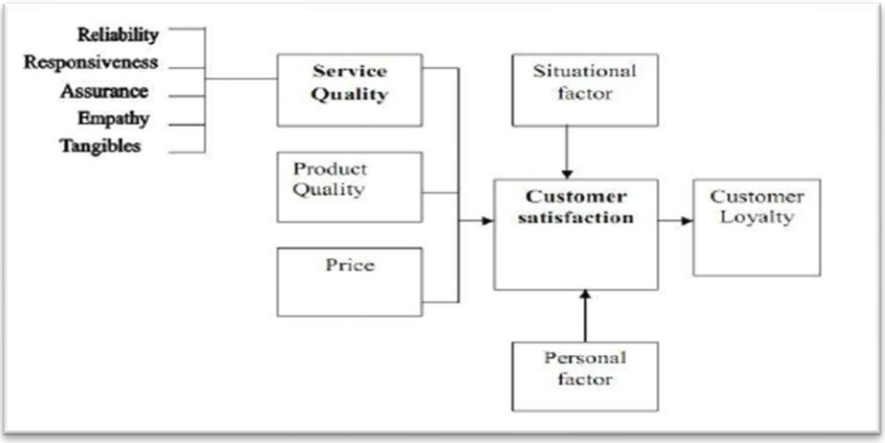
Customer satisfaction is subjective because it is an emotional reaction, while service quality is a measure, both come after a service of a particular quality, amongst other factors, has been experienced. Current thinking is that a combination of factors influence customer satisfaction and that service quality is one of them. It is also thought that customer satisfaction leads to loyalty (Devkota and Dahal, 2016, p.57). To customer satisfaction there always exists the unpredictability of human emotion. Ma *et al*., (2017) add that it is possible for a customer to perceive a service to be of good quality, but not be satisfied with it, because there are other influencers, to customer satisfaction; however, research shows that more often than not service quality has a positive influence on customer satisfaction (Devkota and Dahal, 2016, p.57).

Service quality on the other hand as a measure, has factors that when measured and combined result in either a quality service or a service that lacks quality. Service quality therefore is often objective. The different dimensions of service quality contribute differently to overall service quality, and overall service quality contributes to customer satisfaction.

The different dimensions of service quality, through their effect on overall service quality, contribute differently to customer satisfaction. It is for this reason that the research will not measure customer satisfaction as a whole, but rather identify the factors of service quality that contribute the most to customer satisfaction. The research will also identify those factors that can be improved in an effort to improve service qualities effect on customer satisfaction.

This suggests that no matter how many internal service quality measures a service complies with, if the customer is not satisfied with the service, then the service is not satisfactory and the service provider must work towards improving customer satisfaction. It is therefore important to know which elements of the service are deemed less satisfactory than others in order for management to set strategies aimed at improvement. Seigher and Nathan (2013, p.5) agree, and state that understanding customer perceptions is crucial to rendering an excellent service.

Figure 5: Customer perceptions of quality and customer satisfaction



Source: Devkota and Dahal (2016, p.16)

According to Devkota and Dahal (2016, p.16), Figure 5, quoted from Wilson, *et al.*, (2012) "displays the relationship between service quality and customer satisfaction which leads to customer loyalty". The diagram highlights that although service quality is determined by the five factors contained in the initial SERVQUAL model, customer satisfaction is more comprehensive and is influenced by factors such as product quality, price, other situational factors, personal factors and service quality, depending on the industry under examination. All the factors are stand-alone determinants of customer satisfaction; for example, price may be high or low without affecting service quality.

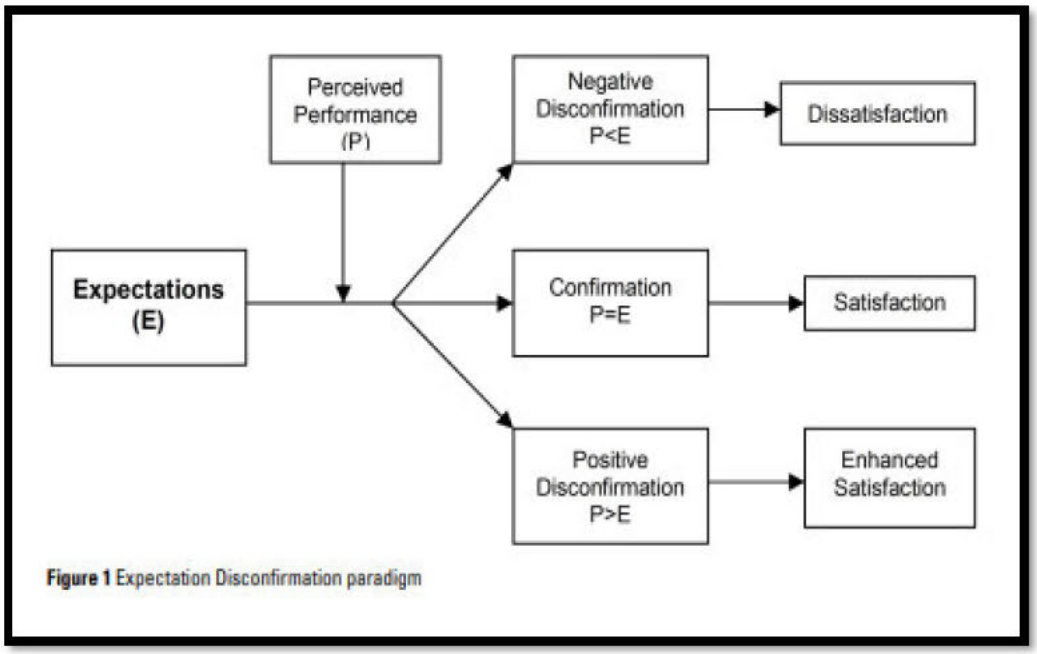
In the case of low-income property rentals, factors such as product quality and price are not applicable. Product quality is not applicable since public property rental is a service offered to the public, and price is not applicable since the price is given and only a homogeneous segment of the population, low to middle-income individuals are, accommodated in the social housing programme. Devkota and Dahal (2016, p.15) state that most scholars state that there is a positive relationship between service quality, customer satisfaction, and customer loyalty. Determining the correlation of the individual service quality dimensions to overall service quality determines the individual service quality dimensions that contribute the most customer satisfaction through service quality. This also informs management which dimensions management could work on improving.

2.4.2 Customer Satisfaction Models

- **Disconfirmation and Expectation Model** – "The basic disconfirmation paradigm (sometimes referred to as the expectancy-disconfirmation paradigm) is a process model

explaining customer satisfaction and dissatisfaction as a function of three key antecedent dimensions, namely: the level of prior expectations, the level of perceived product (service) performance, and the degree to which expectations are positively or negatively discontinued during the consumption experience" (Patterson, 1993, p.30). The diagram below is a graphical illustration of the model.

Figure 6: The basic disconfirmation and expectation model



Source: Bordia, et al., (2006, p.4)

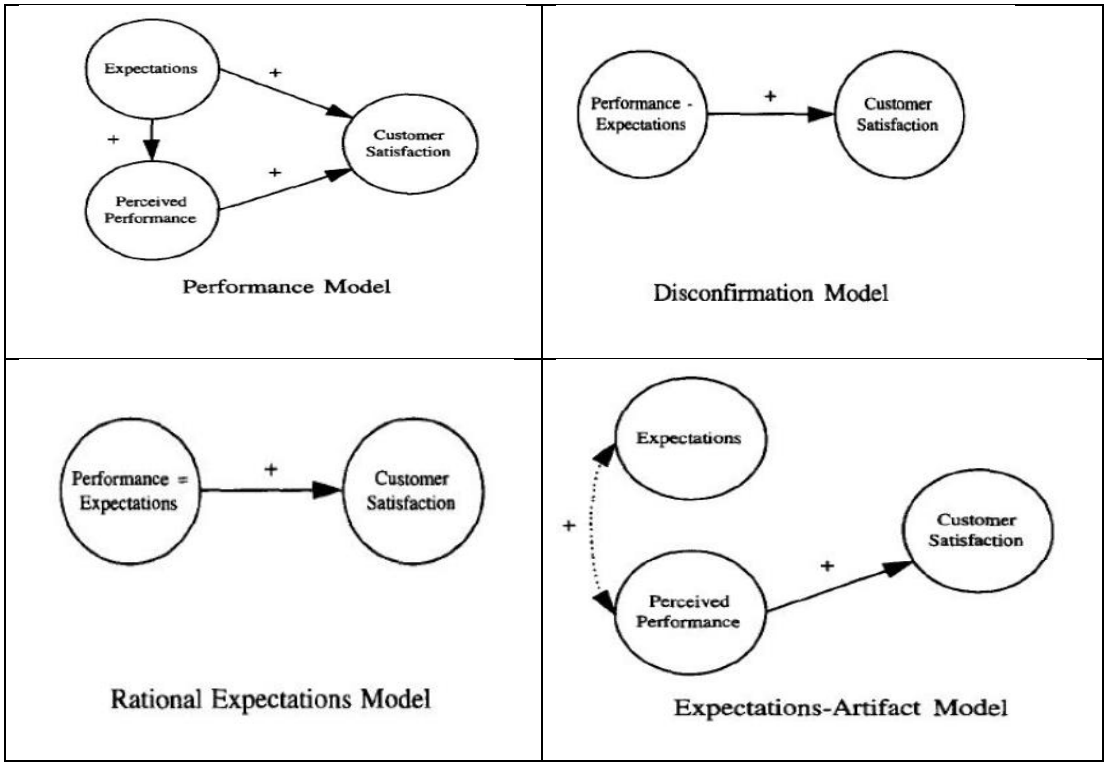
According to the basic disconfirmation paradigm illustrated above, "customers form expectations based on experience with the service, product or brand, through word of mouth, marketing communications, and other marketing activities"(Bordia, et al., 2006, p.4). Various product or service attributes form perceived performance. The difference between expectations and perceived performance results in either negative disconfirmation, confirmation or positive disconfirmation. Positive disconfirmation leads to enhanced satisfaction, negative disconfirmation leads to dissatisfaction, and confirmation leads to satisfaction (Bordia, *et al*., 2006).

- **Performance Model** – Customer satisfaction is measured by the difference between the customer's view on performance relative to expectation. The customer's view on performance is a factor of the price of the product or service relative to the perceived quality of the product or service (Gunning, 2000, p.24). This model assumes that price is an

additional consideration when service quality is considered, for example, service is good relative to how much it costs.

- **Rational Expectations Model** – Customer satisfaction occurs when the actual performance meets the needs of the mean of all customers in the market (Gunning, 2000, p.25). This theory assumes that an individual customer might have unrealistically high expectations or might as a result of lack of knowledge have expectations that are too low. However, the average expectations of the entire market will determine customer satisfaction (Gunning, 2000, p.25). In the context of rental services, the presumption is that on average, what the rental market expects from rental services is what is provided.
- **Expectations Artefact Model** – Customer expectations do not have a bearing on customer satisfaction, which implies that customer satisfaction determines expectations, and that to increase customer satisfaction, performance alone should be increased (Gunning, 2000, p.26). This model indicates that customers know very little about services in this industry; in fact, they know so little that they do not have expectations. An example of such a case is provided by Johnson *et al.,* (1996, p.11), that suggest that this is possible for complex, heterogeneous and infrequently used services.

Figure 7: Customer satisfaction models



Source: Johnson, et al., (1996, p.7)

The service quality model chosen for this research, SERVQUAL assumes that actual service perceptions are influenced by service expectations. This means that the service quality customers perceive is judged on what they expect it to be. What they expect it to be is based on previous perceptions, and therefore, previous expectations and current perceptions of the service are equal. This is in line with the rational expectations model of customer satisfaction detailed above.

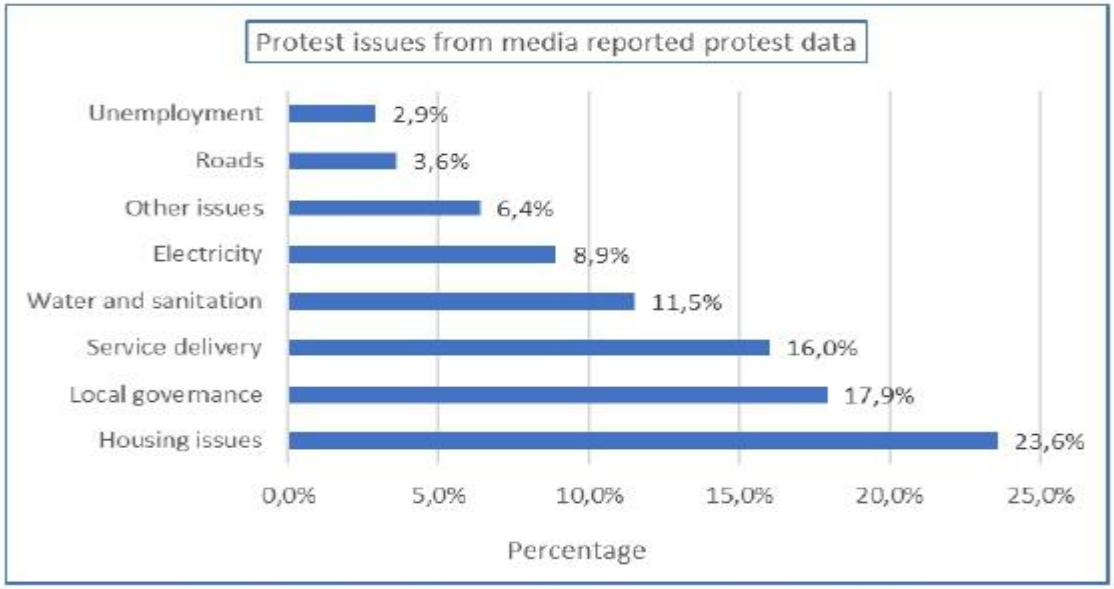
Devkota and Dahal (2016, p.16) state that service quality has a positive effect on customer satisfaction. The customer satisfaction model chosen in this research is an adaptation of the rational expectations model because like the rational expectations model, service quality is determined by service performance, which is equal to service expectations. Unlike the rational expectations model that assumes service quality alone leads to customer satisfaction, the model used in this research views customer satisfaction to be in line with the model quoted by Devkota and Dahal (2016, p.16). That assumes it to be more comprehensive, and influenced by factors such as other situational, service quality and personal factors. Therefore, the scope of this research covered the influence of service quality on customer satisfaction.

2.5 Customer Perceptions of Housing Service

In 2020, Corruption Watch (2020, p.9) proclaimed local government, which also provides public housing, as the third most corrupt type of organisation in the country (corruption watch, 2020). There is therefore a general perception of corruption within the public sector, especially concerning housing service delivery, and a general perceived corruption of local government, which also supplies affordable rental services amongst its service offerings. These general perceptions contribute to preconceived general dissatisfaction amongst residents. Masiya *et al.*, (2019, p.20) conclude that "citizens of all race groups are extremely infuriated with public housing". They further add that according to their respondents dissatisfaction with public services, this is as a result of both unsatisfactory quality of services and inadequate quantity of services (Masiya *et al.*, 2019).

According to Ajayi and de Vries (2019, p.25), service delivery protests have in recent years grown in number, with the diagram below depicting the most common services protested over.

Figure 8: Protest issues from media reported protest data



Source: Ajayi and de Vries (2019, p.26)

The figure by Ajayi and de Vries (2019, p.26) depicted above shows that most of the media reported protest issues relate to public housing and local government related issues, a sentiment also shared by Lategan (2012). One of the services offered by the South African public housing sector is low- and middle-income rental housing services, which is what the current research focuses on. The section that follows provides a background of the low- and middle-income rental housing environment in South Africa.

2.5.1 Service Quality in Government Rental Housing

"The need to deliver quality service in rental property is imperative to retain tenants as services are the criteria upon which clients, customers, and users of real estate products and services differentiate one organization from another" (Baharum *et al.*, 2009, p.163). "A recurring problem is that tenants' needs and dissatisfactions are discovered too late, as and when a tenant announces he will not be renewing the lease". In recent years, attempts to measure tenant satisfaction before it is too late have been carried out.

Various modifications of SERVQUAL have been developed to provide a diagnostic and disciplined methodological approach to measuring service quality in rental housing services. "Other dimensions used in various models include credibility, security, competence, accessibility, communication, understanding, courtesy, consulting, offering, clout, geographics and price in addition to, or as variants of, SERVQUAL's five dimensions" (Westbrook and Peterson, 1998, p.52).

2.6 Conclusion

This chapter reviewed the literature written on the constructs developed in the first chapter, exploring pertinent topics around each construct. It outlined and tackled three dominant aspects, namely service quality, customer satisfaction, and the current situation. It concluded that the research would make use of the SERVQUAL model and an adaptation of the rational model to measure service quality and its effect on customer satisfaction. Both the constructs can and will be measured using an adaptation of the 22 questions contained in the SERQUAL instrument. The 22 questions measure the five SERVQUAL dimensions according to perceptions as detailed in the SERVQUAL model, which make it possible to comment on the extent to which the dimensions contribute to customer satisfaction. Upon closing this chapter, it is assumed that service quality affects customer satisfaction positively, which is the rationale for it being the key area researched on this report. The following chapter will deal with the research methodology.

Chapter 3

Research Design and Methodology

3.1 Introduction

This chapter details the research methodology used to fulfil the research objectives and research questions of the study. In this chapter, the aims and objectives of the research are followed by details of the population as well as what and how the sample was drawn. Data collection and collation strategies, ethical, validity, and reliability issues are also discussed. It concludes with an explanation of how the data was analysed and what were the limitations of the research.

3.2 Research Approaches / Paradigms

Leedy and Ormrod (2015) describe research approaches as consisting of similar processes that identify a research problem, review literature, and collect and analyse data. Furthermore, they describe the research approach as one that examines a situation as it is, adding that it is not necessarily intended to determine cause and effect relationships.

This research made use of a scientific, quantitative research approach, which Daniel (2016) describes as one that places emphasis on numbers and figures in the accumulation and investigation of information. Leedy and Ormrod (2015, p.15) state that the purpose of using a quantitative research approach is, "To explain and predict, to confirm and validate, and to test theory". This research served a combination of two purposes, namely to test theory, SERVQUAL, and to explain and predict resident perceptions of service quality, in an effort to predict future interventions that might work to improve service quality in the housing complex. Daniel (2016) goes on to mention that the use of this approach makes generalisations possible and that in conducting the research, clear guidelines and objectives must be used which make it possible to replicate the results at a future date.

Sekuran and Bougie (2016, p.18) describe a scientific approach to research as one that "tends to be more objective than subjective, and is characterised by having a definitive aim, good theoretical base, sound methodical design, is testable, replicability, precision and confidence, objectivity, generalisability and parsimony". In addition this research followed the scientific approach as it is systematic and logical, aspects that are envisioned to save time while providing more of an understanding of the data collected.

Sekuran and Bougie (2016, p.18) further mention that there are alternative approaches to research. The first being the positivism approach, which "uses deductive reasoning to put

forward theories that can be tested by means of a fixed predetermined research design and objective measures" (Sekuran and Bougie, 2016, p.28). This approach did not work well for this research as its conclusions were based on information that is subjective to the target population as opposed to factual to them. Constructionism, Sekuran and Bougie (2016), "believes that people's views of the world result from the context in which they take place" and "the research methods of constructionist researchers are often qualitative in nature" (Sekuran and Bougie, 2016, p.29), in the context of this research, it therefore was not the best approach when analysing quantitative data. According to critical realism, "research is inherently biased, and we need to triangulate across multiple flawed and erroneous methods, observations to get a better idea of what is happening around us" (Sekaran and Bougie, 2016, p.29). The last approach according to Sekuran and Bougie (2016, p.29) is pragmatism, which considers that "different perspectives, ideas, theories help us get a perspective of what is happening in the world". The limitations of time to complete this research and the volume of data collected resulted in the critical realism and pragmatism approaches not being selected for this research.

This research made use of a scientific, quantitative approach, namely an existing model on service quality, SERVQUAL, to determine resident perceptions; no new theory was developed. The guidelines and objectives on the use of this model were known and result in data that can be measured quantitatively. The findings can be used to understand present behaviour and therefore predict what future action is likely to produce improvement.

3.3 Research Design

Blumberg *et al*., (2014, p.152) define a research design as "constituting the blueprint for the collection, measurement and analysis of data that is designed to answer research questions". Sekuran and Bougie (2016, p.96) state that in order to come up with an effective research design, "the researcher needs to consider the following: the appropriate research strategy, extent of researcher interference, study setting, unit of analysis, and time horizon". They list the various research strategies as follows:

- Experiment, which is where the researcher manipulates the independent variable to study the effect on the dependable variable (Sekuran and Bougie, 2016, p.97).
- Survey research which is, "a system for collecting information from, or about people to describe, compare or explain their knowledge, attitudes and behaviour" (Sekuran and Bougie, 2016, p.97).

- Observation case study, which "involves an empirical investigation of a phenomenon within its real life context using multiple methods of data collection" (Sekuran and Bougie, 2016, p.98).
- Grounded theory, which is a "systematic set of procedures to develop an inductively derived theory from the research, action research, as theory aimed at effecting planned changes" (Sekaran and Bougie, 2016, p.98).
- Mixed methods, which are different combinations of the above research strategies (Leedy and Ormrod, 2015, p.329).

Some of the strategies listed above are applicable to quantitative research designs, while others are better suited to qualitative research designs.

In this research, the strategy used for analysis was a survey distributed in Project X, which was the case study. A case study was used because the research sought information on the real life place of residence of the respondents, who all resided within the targeted site of this case study. The research was descriptive in nature because it used descriptive statistics to convey people's views. A survey was best suited for the research because according to Sakaran and Bougie (2016, p.97) "a survey is best suited to describe, compare, or explain knowledge, attitudes and behaviour of people".

Using the SERVQUAL model, the survey sought to test the levels of satisfaction to the dissatisfaction of residents to the quality of services that they receive. The research investigated residents' perceptions of the quality of services they received at a point in time, and the dimensions that contributed the greatest to overall service quality. The analysis was retrospective because at the point of analysis the data collected was historical in nature. It is difficult to predict by how much the quality of services will need to improve to meet future satisfaction. Many variables affect future service satisfaction, and this report attempts to propose which dimensions of service quality if any, should be adjusted in order to improve current service quality and its impact on customer satisfaction. Implementing these proposed recommendations is expected to improve service quality and contribute positively to future customer satisfaction.

It is also important to note that the time for collecting the data was allocated as a period of a month. Referring to the research strategies listed above in relation to this research, grounded theory was not suitable because no theory was being developed. There was no manipulation of dependent and independent variables, therefore an experiment was not suitable. What was

ultimately suitable for this research was, a case study, because the research sought information on the real life place of residence of the respondents, who all resided within the targeted site of this case study.

3.4 Objectives

Objectives of the study were as follows:

- To ascertain residents' perceptions of the tangible facilities of the social housing project.
- To ascertain residents' perceptions of the assurance of quality services they are, given by agents of the social housing programme.
- To determine residents' perceptions of the responsiveness they observe from Project X management in response to their service needs.
- To determine residents perceptions of the reliability of Project X in providing low-income rental housing services.
- To determine if residents perceive Project X management to be empathetic to their housing needs.

3.5 Target Population

Sekaran and Bougie (2016, p.236) define a population as "the whole group of individuals, occasions, or things of interest that the researcher wishes to research". The population targeted in this study are all the households currently living in Project X residential complex.

The population that was targeted in this study were all the households currently residing in Village 1 of Project X residential complex. The number of households was equal to the number of units since only one household is allocated a housing unit; therefore, the target population size was 553**.**

3.6 The Sampling Frame

The sampling frame, according to Blumberg *et al.,* (2014, p.183), is the list of components derived from the target population, "from which the sample is chosen". In the research, the sampling frame was equal to the entire target population of Project X as detailed above. In other words, it was each household representative living in Village 1 of Project X and the selected representative was able to legally contract. The total sampling frame for the research was representatives of each household who were able to legally contract.

3.7 Sample Unit

Blumberg *et al.*, (2014, p.180) defines a sample unit of analysis as "units or objects that are being researched". In other words, it is the basic level of the sample frame. The sample unit in this research was a representative from a household who leases a unit in Village 1 of Project X residential complex that is able to legally contract.

3.8 Study Site

The research site was a government-subsidised, low- to -middle income rental housing project in Pietermaritzburg named Project X for the sake of this research.

3.9 Sampling Method

"Blumberg *et al.* (2014) identifies two different sampling methods, namely probability (random) and non-probability (non-random). They explain that "Random selection is a controlled procedure that guarantees that each component of the population has a known non-zero chance of selection, in non-random selection, each component of the population is not given a known non-zero chance of being selected" (Blumberg *et al.*, 2014, p.184).

According to Sekuran and Bougie (2016, p.241), one of the major determinants of the sampling method chosen is the need for representivity in the study. This research will make use of a non-probability method, and the participants in the research will not have a known non-zero probability of selection.

Sekuran and Bougie (2016, p.247) detail four sampling designs under the non-probability (non-random) sampling method. The designs are convenience sampling, which "refers to the collection of information from members of the population who are conveniently available to produce it"(Sekaran and Bougie, 2016, p 247). Purposive sampling, "refers to the collection of information from specific target groups" (Sekaran and Bougie, 2016, p.248). Judgement sampling refers to "the selection of subjects who are most advantageously, positioned to provide the information required" (Sekaran and Bougie, 2016, p.248). Quota sampling is "a second type of purposive sampling, which ensures that certain groups are adequately represented in the study through the assignment of a quota" (Sekaran and Bougie, 2016, p.248).

The design used in this research was convenience sampling. This type of design was chosen because it suited the timeframe allocated to collection of information for the research. The timeframe allocated for the collection of data on all the questionnaires will be a period of one month. The research will be exploratory in nature in that its intention is to explain and

understand behaviour, as well as to predict interventions, which might assist with identified problems.

3.10 Sampling and Sample Size

The research sample, was made up of the people participating in the survey, who may not necessarily have the same level of education, be of the same gender or age. Blumberg *et al.*, (2014) state how big a sample is dependent on the researchers need for precision, and the variety in the sample parameters. Taherdoost (2017, p.237) states that although the argument that findings from a larger sample size are less likely to contain bias, it does hold that "larger sample sizes reduce sampling error, but at a decreasing rate", because of diminishing returns. Since this was descriptive quantitative research, the researcher had to consider representivity when selecting the sample size. According to Sakuran and Bougie (2016, p.241), the following factors affect the choice of the sample size: "research objectives, degree of accuracy wanted (the confidence interval), acceptable risk in predicting the level of exactness (the confidence interval), amount of inconstancy in the population itself, expense and time requirements, and at times the size of the population" (Sekaran and Bougie, 2016, p.241). Cochran's Sample Size formula will be used to calculate the sample size as follows (Taherdoost, 2017):

$$n_0 = \frac{Z^2 pq}{e^2} = 384$$

Where *n0* or Cochran's sample size recommendation is calculated with, *e* is the desired level of precision (i.e. the margin of error) of 5%, *p* is the (estimated) proportion of the population, which has the attribute in question 50%, *q* is 1 – p, while *Z* is the value corresponding with the 95% confidence interval and given to be 1.96.

Given that the **total population used in this study** of 553 is smaller than the total population size of households in Pietermaritzburg, the city where the case study is located, the modified Cochran formula for sample size calculation in smaller populations is used **to calculate the sample size** in this study**:**

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} = 226$$

Here *n0* is Cochran's sample size recommendation, *N* is the population size of this study, and *n* is the new, adjusted sample size.

The formula was obtained from Taherdoost (2017, p.237). The researcher calculated that for the research to be fully representative of the population, 226 questionnaires needed to be complete. The researcher therefore decided to administer 250 questionnaires.

Table 2: Table showing population and sample of study

Location	Population	Percentage	Sample
Village 1	**553**	100%	226

3.11 Reliability and Validity

3.11.1 Reliability

Leedy and Ormrod (2010, p.93) "report reliable data as data that is consistent in the patterns and dynamics they reflect". To overcome some of the disadvantages of having multiple people administer the questionnaire in this research, extensive care was taken to train the administrators on the research questionnaire.

Leedy and Ormrod (2010, p.29) "report reliable data as data that is consistent in the patterns and dynamics they reflect". To overcome some of the disadvantages of having multiple assistants administer the questionnaire in this research, a significant amount of care was taken to train the assistants in administering research questions in order to increase the reliability of findings.

Sekaran and Bougie (2016, p.223) describe reliability as a measure of consistency across and stability. In the research, reliability was determined because the questionnaire used was based on the SERVQUAL measuring tool, SERVQUAL being a model that is extensively researched and proven to be a valid predictor of overall service quality, Carrillat *et al.,* (2007, p.485). It therefore did not reflect bias, and the elements in the questionnaire did not measure differently over time and against the various elements of the questionnaire.

Sekaran and Bougie (2016, p.224) refer to stability as the ability of a measure to remain the same over time. Perceptions are not expected to remain constant over time because changes in different environmental factors affect people's perceptions over time. Management, as one factor, is expected to use current perceptions to influence future perceptions differently. Sekaran and Bougie (2016, p.224) also state that another measure of reliability is test–retest

reliability, which refers to the ability of an instrument to produce results that are similar when measured amongst the same population at a similar timeframe. The test-retest coefficient, which was also used in this research, and the higher the coefficient is, the greater the reliability.

Sekaran and Bougie (2016, p.224) state that measuring internal consistency is measuring "how well the two items that measure a concept hang together in a set". Sekaran and Bougie (2016) further mentioned that Cronbach's alpha coefficient is the most used measure of correlation amongst items on a set, stating that the higher the coefficient the higher the internal consistency reliability (Sekaran & Bougie, 2016). This test was analysed in the research as a measure of reliability.

3.11.2 Validity

Leedy and Ormrod (2010, p.92) describe, "Valid data as data that is reasonably accurate with regards to the characteristics and dynamics of the entities or situation being studied". Careful sampling increased validity in this study.

Sekaran and Bougie (2016) state that there are three measures of validity: content validity, criterion-related validity, and construct validity. Content validity "is a measure of how well the dimensions and elements of a concept have been delineated" (Sekaran and Bougie, 2016, p.223). With face validity, which Sekaran and Bougie (2016, p.223) describe as occurring when experts validate that the instrument measures what it is supposed to measure, being the basic and minimum index of content validity, this determines if the tools really do measure the concept it is, intended to measure. Wong *et al.,* (2012) state that the SERVQUAL questionnaire has been studied extensively and proven to have good content validity.

Criterion validity exists "when the measure differentiates individuals on a criterion it is expected to predict. This can be done by establishing concurrent or predictive validity" (Sekaran and Bougie, 2016, p.223). Wong *et al.,* (2012) state that this can be done by testing if the Pearson's correlation coefficient between the dimensions in two similar separate studies correlate. The Pearson's correlation coefficient in a similar study was compared with that from this study to determine the strength of association.

Construct validity, according to Sekaran and Bougie (2016, p.223), "testifies as to how well the results obtained from the use of the measure fit the theories around which it is designed, this is described through convergent and discriminant validity".

"Convergent reliability can also be established when there is a high degree of correlation between different sources responding to the same measure" (Sekaran and Bougie, 2016, p.223). This was established in the research through the various correlation tests which were performed.

3.12 Data

Leedy and Ormrod (2010, p.88) define data as "snippets of information that a specific circumstance provides to an observer, adding that research is only a practical way to deal with an issue only when supported by data". Data for the study was derived from primary sources. Leedy and Ormrod (2010, p.89) "characterize data into Primary data and Secondary data dependent on the separation it is from reality".

3.12.1 Primary Data

Leedy and Ormrod (2010, p.89) describe primary data as "data that originates directly from the source of analysis; it is not necessarily the truth, but is nearest to the facts". A structured data collection method in the form of a survey using a questionnaire was used to collect the primary data. The questionnaire was administered to residents of the Project X settlement to obtain information on satisfaction and perceptions of service quality. The questionnaire consisted of questions on a five-point scale, which respondents were required to fill in.

3.13 Pretesting or Pilot Study

According to Van Teijlin (2017, p.601) a pilot study is "conducted in the same way, but on a smaller scale than the main or full-scale study". According to Van Teijlin (2014, p.1) "one of the advantages of conducting a pilot study is that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated".

Before data collection, the researcher conducted a pilot study amongst four residents to ensure a common understanding of the questions in the questionnaire. The pre-test also served as a way of testing the time it took to complete the questionnaire, and gave the researcher a chance to note any misunderstood terms in the questionnaire, thus reducing possible bias when the questionnaire was administered. The pilot study was aimed at equipping the researcher with ways to successfully administer the questionnaire. Answers to these pre-test questionnaire forms did not form part of those in the full study.

3.14 Data Collection Instruments (Questionnaire)

Sekaran and Bougie (2016, p.111) describe three approaches to primary data collection, namely observation, interviews, and questionnaires.

This study made use of the data collection approach entailing self-administered questionnaires to test service quality and customer satisfaction levels within the complex. The rationale for this selection was that a large volume of quantitative data was required. Self-administration was selected, as opposed to e-mail or other electronic means, because the questionnaire sought opinions of households, some of which do not have access to electronic means like e-mail. Self-administering the questionnaire was also advantageous because respondents could easily seek clarity from the administrator of the questionnaire should they so require.

The questionnaire was made up of two sections. The first section (Section A) tested the demographic information of participants; the second section (Section B) tested perceptions of service quality experienced. The two sections comprised of close-ended questions, which Sekaran and Bougie (2016, p.146) explain "help the researcher to code information easily for subsequent analysis".

In this research, the SERVQUAL questionnaire was incorporated in Section B and consisted of 20 questions. The 20 questions were divided up into the five dimensions of the SERVQUAL model: Tangibles, Assurance, Responsiveness, Reliability and Empathy.

Section B of the questionnaire comprised of between three and four questions per factor. Furthermore, Section B also comprised of questions answered on a Likert scale and for this research, a scale of one to five was used, with 1 representing the customer felt that the mentioned element of service is either experienced or perceived to be "Very Good", and the score of 5 was the highest score, representing that the customer felt that the mentioned element of service was either experienced or perceived to be "Very Bad". The alternatives in each question according to Sekaran and Bougie (2016, p.150) "helped the researcher to be able to make quick decisions by choosing between the alternatives given to them".

3.15 Data Collection

Data collection involved physical self-administration of the questionnaire to residents of Project X settlement, which the researcher did with the aid of research assistants. All the questionnaire tools were numbered before conducting the survey. Questionnaires were administered everyday by the researcher over a period of one month. The participants'

responses were filled out on the questionnaires and later the researcher electronically recorded all the questionnaire data on SPSS.

The researcher believes that the way the questionnaire was administered focused the survey as only questions pertaining to the survey were asked. The questions were also to only be responded to by the participants in the way stipulated. The question and answer style was useful in propelling participants to express their responses quickly and concisely, guided by the questionnaire.

3.16 Ethical Considerations

Blumberg *et al.,* (2014, p.121) state that "research must be designed so a respondent does not suffer any physical harm, discomfort, pain, embarrassment or loss of privacy". They further state that the researcher possesses another ethical responsibility, for example that of the safety of the researcher and the assistants (Blumberg *et al.,* 2014, p.130).

Ethics around the research design were evaluated by the University of KwaZulu-Natal's Research Unit, who through issuing of the ethical clearance letter, signalled approval to continue with the research.

3.18 Analysis of the Data

Once the survey was completed, the completed questionnaires were numbered, collated, and documented on SPSS. Each of the possible answers in the questionnaire tool were, assigned a number code which assisted in the analysis. Cross tabulations were drawn to compare gender, age, and the amount of time the respondent has lived in the complex. The data from the survey was analysed, using descriptive statistics on SPSS 27. In the form of frequencies whose output was displayed in frequency bar graphs, which showed residents overall responses to questions that informed the five dimensions of service quality. Inferential statistics determined relationships between the five dimensions, as well as between the five dimensions and service quality and lastly between the determinants of each dimension and the overall dimension. Regression and correlation were determined and analysed for this purpose. The following table was used to interpret and determine the nature of the relationships inferred by correlation scores:

Table 3: Interpreting the correction coefficient

Size of Correlation	Interpretation	Nature of relationship
+- 1	"Perfect correlation: as one variable increases, the other variable tends to also increase (if positive) or decrease (if negative)" (Patrick Schober, 2018, p.1764).	Perfect relationship
+-.50 - +-1	Strong positive/negative correlation	Strong relationship
+-.30 - +- .49	low positive/negative correlation	Weak relationship
Above or below 0.0 - +- .29	Small positive/negative correlation	Relationship so small as to be negligible
0.0	"No correlation: as one variable increases, the other variable does not increase at all (if positive) or decrease (if negative)" (Patrick Schober, 2018, p.1764).	No relationship

The lowest and highest dimension correlation scores were identified and briefly discussed. The dimension with the lowest correlation score was seen as having the biggest service weakness that needed to be addressed.

The overall score for correlation service quality score was identified and analysed in a similar manner as the individual factor scores were. An analysis of the overall score displayed whether overall service quality had a positive impact on customer satisfaction or not. The individual dimension scores revealed which dimension would benefit from management intervention aimed at improving service quality and ultimately customer satisfaction.

The report displayed analysis of data on tables' bar charts and graphs. Additional dimension customer comments were written in under the relevant sections.

3.19 Limitations of the Study

- The study is exploratory in nature; however the findings cannot be generalised as they only apply to one low- to medium-income residential project.
- A large number of neutral responses were observed. This might be because the project is newly built, or the respondent had not lived in the complex long enough to have an opinion

on the dimension in question. Neutral responses for dimensions such as empathy, reliability and tangibles might mean that the respondent has not interacted with management, or because the complex is still new it is still in good condition.

It is for the reasons above that the findings, conclusions, and recommendations should be taken to be those belonging only to Village 1 of Project X and not extrapolated to be understood and used to reflect the entire complex or of other complexes within the Pietermaritzburg area. They could, however, provide some insight into future research on a broader basis.

3.20 Conclusion

This chapter showed that the quantitative research methodology used to answer the research objectives and research questions of the study was appropriate to measure service quality. The modified SERVQUAL questionnaire used as a tool to collect data was deemed acceptable to produce reliable and valid conclusions. The data collection and collation strategies were ethical and appropriate. The sampling strategies used to draw a sample from the population were discussed and the representative sample size was calculated. The following chapter will present findings from the research.

CHAPTER 4: FINDINGS

4.1 Introduction

This chapter presents the research findings, which are displayed visually in the form of tables and bar graphs. It is accompanied by a descriptive analysis of the demographic questions in the questionnaire, which is followed by the presentation of findings as they relate to the five service quality dimensions detailed in SERVQUAL as well as inferential measures reflecting same. Lastly, the chapter ends with inferential analysis of the overall results.

4.2 Response rate

Three hundred questionnaires were administered. 228 questionnaires were completed, which means the response rate was 76%.

Table 4: Responses according to years spent in the settlement

	Less than 1 year	**More than 1 year**	**Total**
Project X Resident	78	150	228
Total	**78 (34%)**	**150 (66%)**	**228 (100%)**

Seventy-eight respondents had lived in the complex for less than a year while 150 respondents had lived in the housing complex for more than one year. This was the largest category of respondents.

4.3 Gender and age

The table below clarifies the gender and age distribution of the respondents who participated in the study.

Table 5: Gender and age of respondents

	18- 35yrs	**36-59yrs**	**60 and Above**	**Total**
Male	50	59	3	112 (49%)
Female	57	55	4	116 (51%)
Other	0	0	0	0
Total	**107 (47%)**	**114 (50%)**	**7 (3%)**	**228 (100%)**

Regarding age, the largest single group of respondents were between 36 and 59 years old. Regarding gender, there were more female respondents than male respondents.

4.4 Objective 1

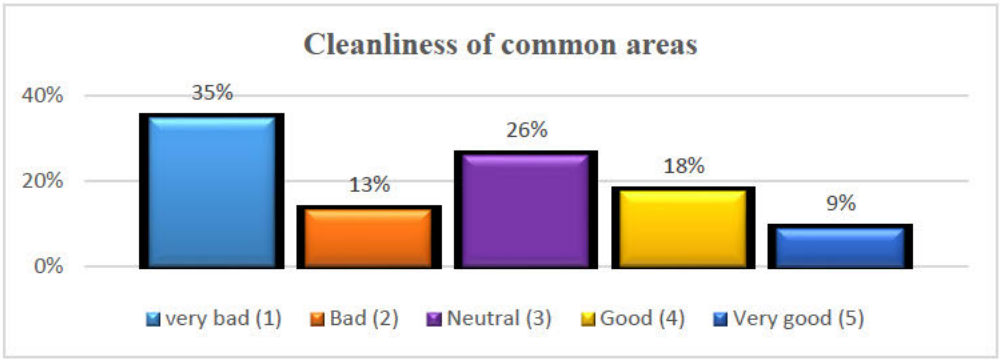
To ascertain residents' perceptions of the tangible facilities of the social housing project.

4.4.1 Descriptive Measures

- **Cleanliness of common areas in the complex?**

Figure 4.1 shows the breakdown of respondents' perceptions and satisfaction with the cleanliness and appearance of the housing complex.

Figure 4.1: Cleanliness of common areas

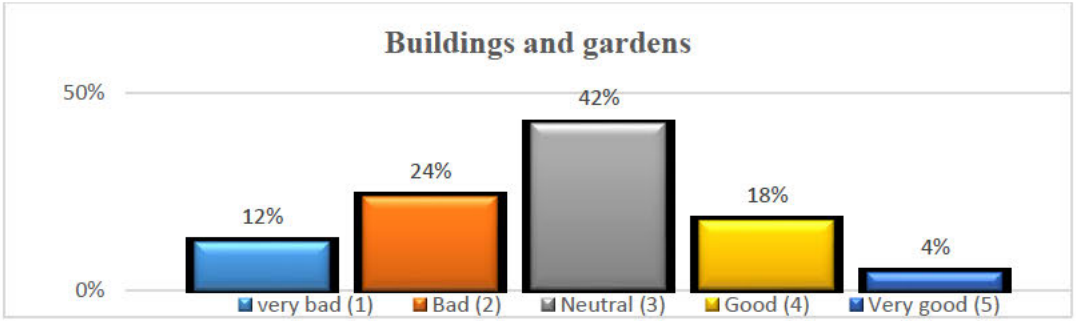


The findings in Figure 4.1 revealed that most respondents perceived the housing complex's cleanliness as 'very bad' (35%), 26% were neutral, and 18% regarded cleanliness in common areas as good.

- **State of the buildings and gardens?**

Figure 4.2 shows the breakdown of respondents' perceptions and satisfaction with the state of the buildings and gardens in the housing complex.

Figure 4.2: Buildings and gardens

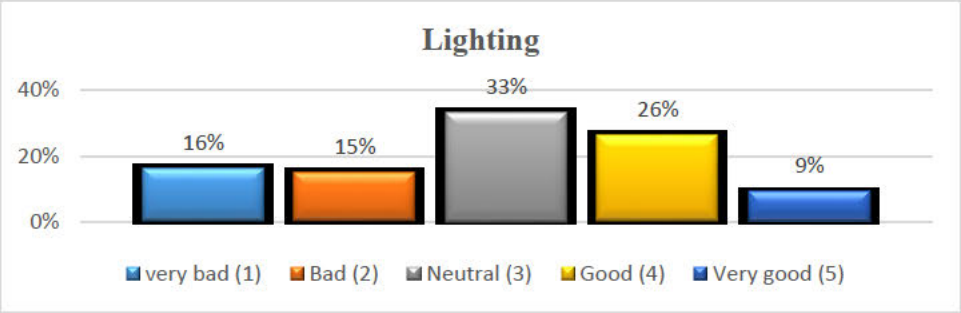


The findings in Figure 4.2 revealed that most respondents (42%) were neutral in terms of the state of the buildings and gardens in the housing complex. These were followed by those who were not happy with the state of the buildings and gardens in the housing complex (24%), and only 18% regarded the state of the buildings in the housing complex as good.

- **State of the lighting in the common areas**

Figure 4.3 shows the breakdown of respondents' perceptions and satisfaction with the lighting in the common areas.

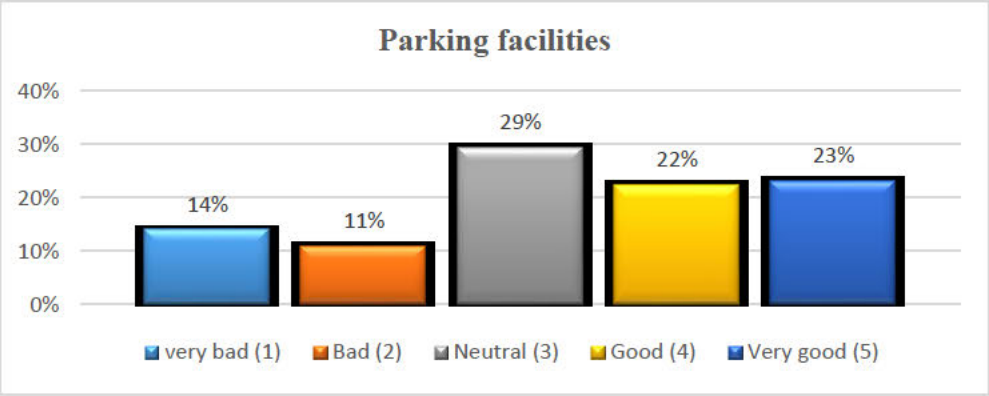
Figure 4.3: Lighting in common areas



The findings in Figure 4.3 revealed that the majority of respondents were neutral in terms of the state of lighting in the housing complex, while 26% regarded the lighting as good, and 16% regarded it as being very bad.

- **Parking facilities within the complex**

Figure 4.4 shows the breakdown of respondents' perceptions and satisfaction with the parking facilities within the complex. *Figure 4.4: Parking facilities*

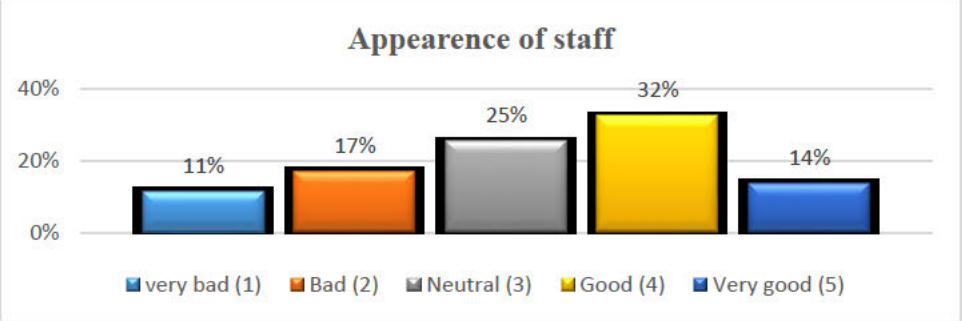


The findings in Figure 4.4 revealed that the majority of respondents (29%) were neutral in terms of the state parking in the housing complex, while 23% of the respondents regarded the state of the parking in the complex as very good, and 22% rated it as good.

- **Appearance of staff**

Figure 4.5 shows the breakdown of respondents' perceptions and satisfaction with the appearance of staff that work and service the complex.

Figure 4.5: Appearance of staff



The findings in Figure 4.5 revealed that the majority of respondents rated the appearance of staff in the housing complex as good (32%), while 25% were neutral in terms of the appearance of staff, and 17% rated the appearance of staff as being bad.

4.4.2 Inferential measures

- **Correlation analysis**

Spearman's correlation was run to test the strength of the relationship between each of the elements that tested for the tangibles dimension. Two elements were tested at a time, and the closer to 1 the correlation coefficient was, the stronger the relationship between the elements. When analysing the strength of the relationship the following assumptions were made based on the results:

Table 6: Interpreting the correction coefficient

Size of Correlation	Interpretation	Nature of relationship
+- 1	"Perfect correlation: as one variable increases, the other variable tends to also increase (if positive) or decrease (if negative)" (Patrick Schober, 2018, p.1764).	Perfect relationship
+-.50 - +-.1	Strong positive/negative correlation	Strong relationship
+-.30 - +- .49	low positive/negative correlation	Weak relationship
Above or below 0.0 - +- .29	Small positive/negative correlation	Relationship so small as to be negligible
0.0	"No correlation: as one variable increases, the other variable does not increase at all (if positive) or decrease (if negative)" (Patrick Schober, 2018, p.1764).	No relationship

When an element's result was found to be less than 0.05 % or 0.05, when analysing the Sig (2-tailed) results, that element was found to be statistically significant.

Table 7: Spearman's correlation table tangibles dimension

Correlations

			Clean common arears	Buildings and Gardens	Lighting	Parking	appearance of staff	Tangibles
Spearman's rho	Clean Common arrears	Correlation Coefficient	1.000	.369**	.407**	.425**	-0.010	.748**
		Sig. (2-tailed)	-	0.000	0,000	0.000	0.877	0.000
		N	228	228	228	228	228	228
	Buildings and Gardens	Correlation Coefficient	.369**	1.000	.225**	.262**	.182**	.610**
		Sig. (2-tailed)	0.000	-	0.001	0.000	0.006	0.000

		N	228	228	228	228	228	228
	Lighting	Correlation Coefficient	.407**	.225**	1.000	.178**	.264**	.652**
		Sig. (2-tailed)	0.000	0.001	-	0.007	0.000	0.000
		N	228	228	228	228	228	228
	Parking	Correlation Coefficient	.425**	.262**	.178**	1.000	0.000	.628**
		Sig. (2-tailed)	0.000	0.000	0.007	-	0.997	0.000
		N	228	228	228	228	228	228
	Appearance of staff	Correlation Coefficient	-0.010	.182**	.264**	0.000	1.000	.403**
		Sig. (2-tailed)	0.877	0.006	0.000	0.997	-	0.000
		N	228	228	228	228	228	228
	Tangible	Correlation Coefficient	.748	.610*	.652**	.628**	.403**	1.000
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	-
		N	228	228	228	228	228	228
**. Correlation is significant at the 0.01 level (2-tailed).								

The table reveals a low positive correlation and weak relationship between the element, *clean common areas* and those of, *buildings and gardens, lighting* and *parking*, meaning that an improvement in the cleanliness of common arears is likely to result in a very low improvement in how residents perceive buildings and gardens, lighting and parking in Project X. The only element with a negative relationship to *clean common areas* was the *appearance of staff*, and the strength of the negative relationship was negligible, meaning that an improvement in the perception of cleanliness of common arears is likely to result in a negligible decrease in residents' perception of appearance of staff in Project X. *Buildings and gardens, lighting* and *parking are* all statistically significant at the 0.05 significant level, as $p<0.05$.

A very low positive correlation and weak relationship between the element, *buildings and grounds* and *appearance of staff, lighting* and *parking*, and a low positive correlation and weak

relationship between, *buildings and grounds* and *clean common areas*, was observed, therefore an improvement in the perception of *buildings and grounds* is likely to result in a very low increase in residents' perception of appearance of staff *lighting* and *parking* in Project X, It is also likely to result in a low increase in residents' perception of *clean common areas* within the project. All the elements are significant at the 0.05 significant level as p>0.05.

A low positive correlation and weak relationship between the element, *lighting* and *clean common areas* was observed , suggesting that an improvement in lighting is likely to result in a low improvement in how residents perceive cleanliness of common arears in Project X. A*ppearance of staff, buildings and grounds* and *parking* displayed a very low positive strength or that an improvement in the lighting is likely to result in a very low improvement in how residents perceive appearance of staff, buildings and grounds and parking in Project X. All the elements are significant at the 0.05 significant level as p>0.05. A low positive correlation and weak relationship between the element, *parking* and *clean common areas* was observed , therefore an improvement in the parking is likely to result in a low improvement in how residents perceive cleanliness of common arears in Project X .

A very low positive correlation and weak relationship between the element, *parking* and *buildings and grounds* as well as *lighting* was observed or an improvement in the parking is likely to result in a very low improvement to buildings and grounds as well as lighting.

However a zero (0.000) correlation was recorded for parking and the appearance of staff, meaning they are not related at all, or a movement in the way one is perceived will not result in a movement in the perception of the other. *Appearance of staff* is also the only element which is not statistically significant at the 0.05 significant level because p>0.05.

A very low positive correlation and weak relationship between the appearance of staff and two elements, buildings, and grounds as well as lighting was observed, suggesting that an improvement in the appearance of staff is likely to result in a very low improvement in how residents perceive buildings and grounds as well as the lighting in Project X. A zero (0.000) correlation and no relationship was recorded for appearance of staff and parking, meaning the two elements were not related, or a movement in the way one is perceived will not result in a movement in the perception of the other. A small negative correlation and negligible relationship was observed between the appearance of staff and clean common areas, or an improvement in the appearance of staff is likely to result in a small decrease in residents' perception of cleanliness of common areas in Project X. A strong positive correlation and a

strong relationship between tangibles and, clean common areas, buildings and grounds and lighting was observed while a low positive correlation and weak relationship between tangibles and appearance of staff was observed, suggesting that an improvement in the tangibles within Project X is likely to result in a very strong improvement in how residents perceive cleanliness of common areas, buildings and grounds as well as lighting. The element with the highest correlation to the tangibles dimension, or whose perception, by tenants, is more likely to improve the most as a result of an the improvement in the tangibles dimension, is clean common areas, followed by lighting, parking, buildings and gardens, and lastly the appearance of staff.

4.5 Objective 2

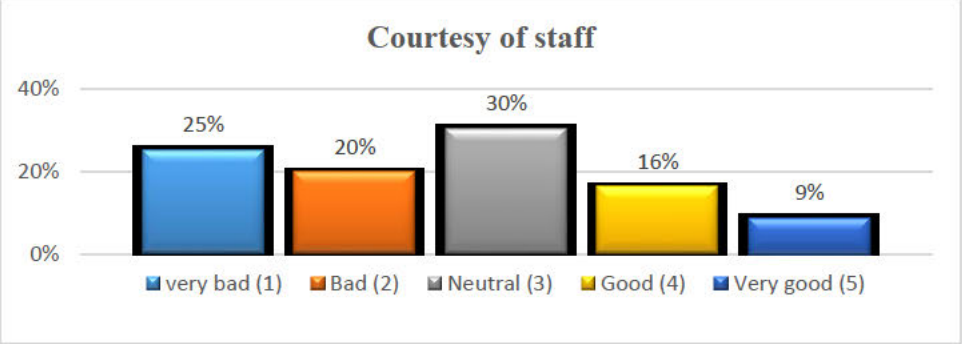
To ascertain residents' perceptions of the assurance of quality services they are, given by agents of the social housing programme.

4.5.1 Descriptive measures

- **Courtesy of technical and management staff**

Figure 4.6 shows the breakdown of respondents' perceptions and satisfaction with the courtesy of technical and management staff in the housing complex.

Figure 4.6: Courtesy of staff

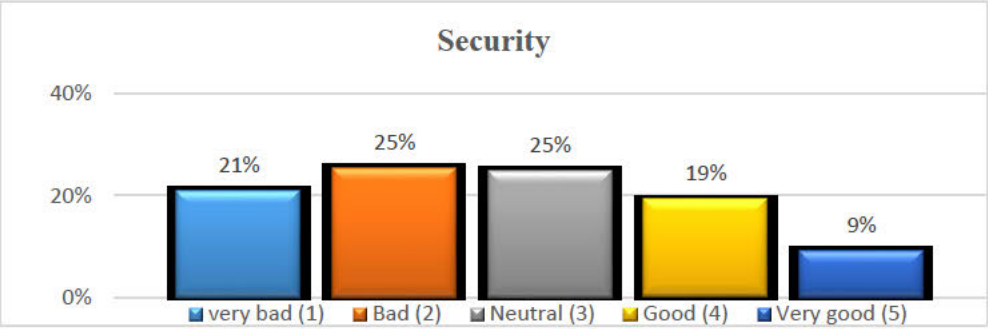


The findings in Figure 4.6 revealed that the majority of the respondents (30%) were neutral in terms of the courtesy of the staff within Project X, while 25% of the respondents regarded the courtesy of the staff in Project X as very bad. Only 9% of the respondents regarded the courtesy of the staff in Project X as very good.

- **The security of the housing complex (safety)**

Figure 4.7 shows the breakdown of respondents' perceptions and satisfaction with the security in the housing complex.

Figure 4.7: Security of the housing complex

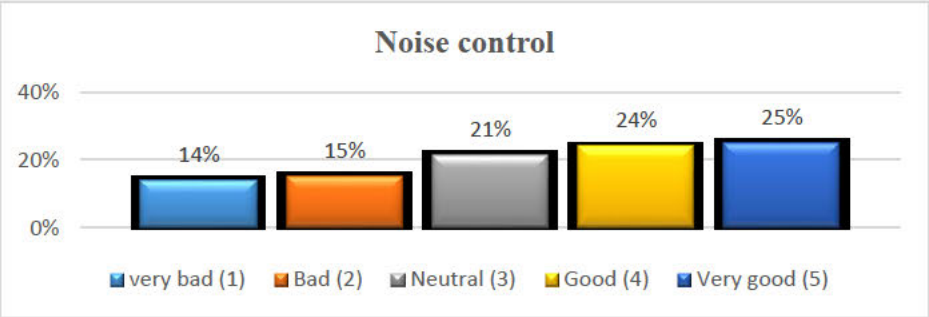


The findings in Figure 4.7 revealed that the majority of the respondents (25%) were either neutral or rated the security in Project X as bad, while 21% rated the security as being very bad.

- **Noise control**

Figure 4.8 shows the breakdown of respondents' perceptions and satisfaction with the noise in the housing complex.

Figure 4.8: Noise control



The findings in Figure 4.8 revealed that the majority of the respondents (25%) rated the noise control in Project X as being very good, 24% of the respondents regarded the noise control in Project X as being good and 21% were neutral about the noise control within the complex.

4.5.2 Inferential measures

- **Correlation analysis**

Spearman's correlation was run to test the strength of the relationship between each of the elements that tested for the assurance dimension. Two elements were tested at a time, and the closer to 1 the correlation coefficient was, the stronger the relationship between the elements

was found to be. When an element's result was found to be less than 0.05 % or 0.05, when analysing the Sig (2-tailed) results, that element was found to be statistically significant.

Table 8: Spearman's correlation table assurance dimension

Correlations						
			Courtesy	Security	Noise	Assurance
Spearman's rho	Courtesy	Correlation Coefficient	1,000	.276**	.310**	.715**
		Sig. (2-tailed)	-	0.000	0.000	0.000
		N	228	228	228	228
	Security	Correlation Coefficient	.276**	1,000	.251**	.676**
		Sig. (2-tailed)	0.000	-	0.000	0.000
		N	228	228	228	228
	Noise	Correlation Coefficient	.310**	.251**	1.000	.739**
		Sig. (2-tailed)	0.000	0.000	-	0.000
		N	228	228	228	228
	Assurance	Correlation Coefficient	.715**	.676**	.739**	1.000
		Sig. (2-tailed)	0.000	0.000	0.000	-
		N	228	228	228	228

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

The table reveals a low positive correlation and weak relationship between the element, *courtesy* and *noise*, as well as between *courtesy* and *security,* meaning that an improvement in the courtesy of staff employed in project X is likely to result in a low improvement in how residents perceive the noise levels and the security within Project X. *Noise*, *security and assurance are* all statistically significant at the 0.05 significant level, as $p<0.05$.

A low positive correlation and weak relationship between the element, *security* and all the other elements, *courtesy* and *noise* was observed, implying that an improvement in the security in project X is likely to result in a low improvement in how residents perceive the courtesy of staff employed within the housing complex and the noise within Project X. However, all are not statistically significant at the 0.05 significant level, as $p<0.05$. A low positive correlation and weak relationship between the element noise and two of the other elements, *courtesy* and *security* was observed, implying that an improvement in the noise levels in project X is likely to result in a low improvement in how residents perceive the courtesy of staff employed within the housing complex and the security within Project X. *Courtesy, security and assurance are all* are statistically significant at the 0.05 significant level, as their ps'are less than 0.05.

A strong positive correlation and strong relationship between *assurance* and *security* as well as between *assurance* and *courtesy*, and *assurance* and *noise control* was observed, meaning that an improvement in the assurance of quality services given tenants at project X is likely to result in a strong improvement in how residents perceive the courtesy of staff employed within the housing complex, the noise and security within Project X. S*ecurity, courtesy*, and *noise control* were statistically significant at the 0.05 significant level as $p<0.05$. The element with the strongest correlation, or whose perception, by tenants, is more likely to improve the most as a result in the improvement of the assurance of quality service given to tenants is *noise control*, followed by *courtesy*, and lastly *security*.

4.6 Objective 3

To determine residents' perceptions of the responsiveness they observe from Project X management in response to their service needs.

4.6.1 Descriptive measures

- **Prompt attention to faults**

Figure 4.9 shows the breakdown of respondents' perceptions and satisfaction with the speed in which faults are attended to in the housing complex.

Figure 4.9: Prompt attention to faults

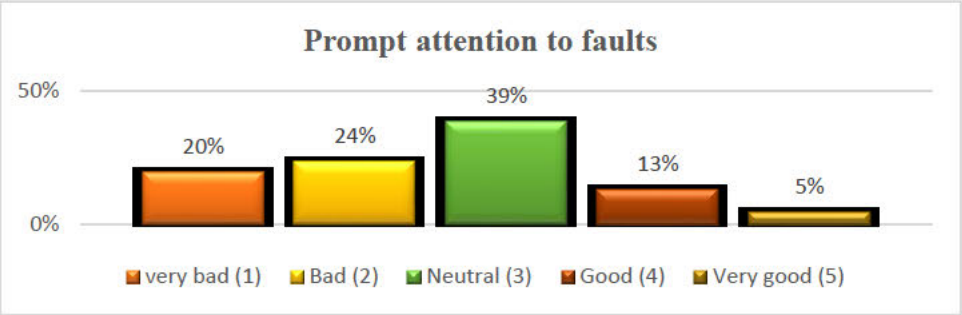


Figure 4.9 revealed that the majority of respondents (39%) were neutral in terms of prompt attention to faults in the housing complex, and 24% of the respondents regarded prompt attention to faults in Project X as bad. Whilst 20% regarded prompt attention to faults as being very bad.

- **Frequency of building maintenance**

Figure 4.10 shows the breakdown of respondents' perceptions and satisfaction with the frequency in which maintenance work occurs in the housing complex.

Figure 4.10: Frequency of building maintenance

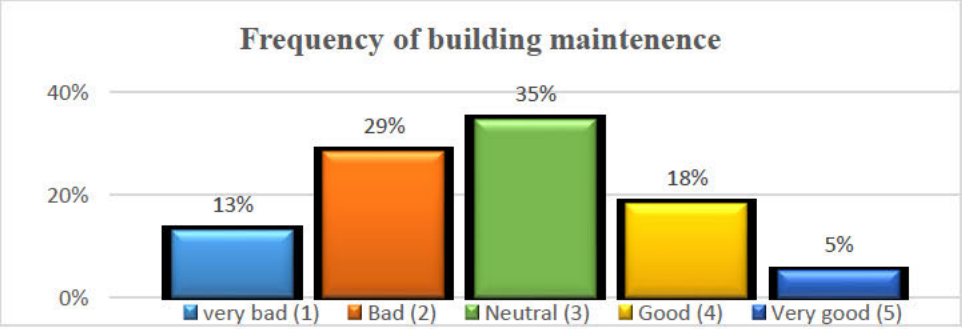


Figure 4.10 revealed that most respondents (35%) were neutral in terms of their perception of building maintenance in the housing complex, and 29% of the respondents regarded the frequency of building maintenance in Project X as bad. Whilst 18% viewed the frequency of building maintenance as good.

- **Willingness to help of employees**

Figure 4.11 shows the breakdown of respondents' perceptions and satisfaction with the willingness displayed by staff servicing the complex to assist residents.

Figure 4.11: Willingness of employees to help

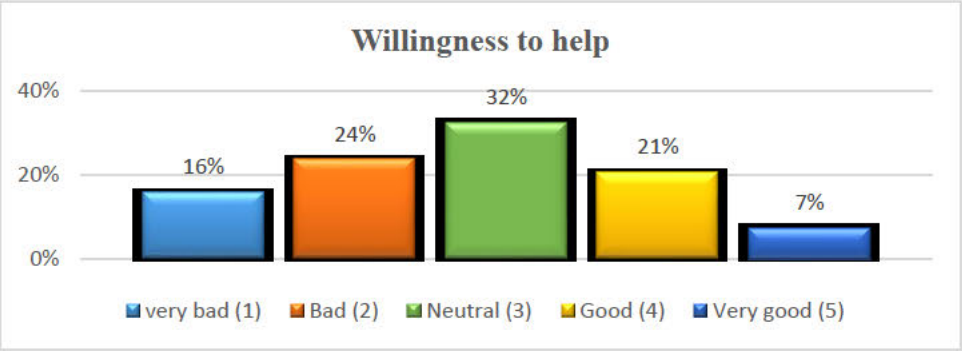


Figure 4.11 revealed that the majority of respondents (32%) were neutral in terms of their perception of the willingness of employees to help within the housing complex, and 24% of the respondents regarded the willingness of employees to help in Project X as bad. Whilst 21% regarded the willingness of employees to help as good.

4.6.2 Inferential measures

- **Correlation analysis**

Spearman's correlation was run to test the strength of the relationship between each of the elements that tested for the responsiveness dimension. Two elements were tested at a time and the closer to 1 the correlation coefficient was, the stronger the relationship between the elements was deemed to be. When an element's result was found to be less than 0.05 % or 0.05, when analysing the Sig (2-tailed) results, that element was found to be statistically significant.

Table 9: Spearman's correlation table responsiveness dimension

Correlations						
			Prompt Attention to Faults	Frequent building maintenance	Willing to help	Responsiveness
Spearman's rho	Prompt Attention to Faults	Correlation Coefficient	1.000	.262**	.205**	.706**
		Sig. (2-tailed)	-	0.000	0.002	0.000
		N	228	228	228	228
		Correlation Coefficient	.262**	1,000	.137*	.647*

	Frequent building maintenance	Sig. (2-tailed)	0.000	-	0.,038	0.000
		N	228	228	228	228
	Willing to help	Correlation Coefficient	.205**	.137*	1.000	.647*
		Sig. (2-tailed)	0.002	0.038	-	0.000
		N	228	228	228	228
	Responsiveness	Correlation Coefficient	.706**	.647*	.647*	1.000
		Sig. (2-tailed)	0.000	0.000	0.000	-
		N	228	228	228	228

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

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

The table above reveals a low positive correlation and weak relationship between the element, *prompt attention to faults* and those of frequent *building maintenance*, and *willingness to help*. Implying that an improvement in the promptness of attending to faults in project X is likely to result in a small improvement in how residents perceive the frequency of building maintenance and the willingness of personnel within the complex to help residents. Both elements' statistical significance results are levels that are less than 0.05, and therefore both the elements are statistically significant at the 0.05, as $p<0.05$.

A low positive correlation and weak relationship between the elements, *frequent building maintenance* and *prompt attention to faults* and *willingness to help* was observed, meaning that an improvement in the frequency of building maintenance in project X is likely to result in a small improvement in how residents perceive the promptness of managements' attention to faults and the willingness of personnel within the complex to help residents.

Both elements *prompt attention to faults* and *willingness to help* were statistically significant at the 0.05 significant level as $p<0.05$.

A low positive correlation and weak relationship between the elements, *willingness to help* and *frequent building maintenance* and *prompt attention to faults* was observed, implying that an improvement in the willingness to help displayed by the staff at project X is likely to result in

a small improvement in how residents perceive the frequency of building maintenance and the prompt attention to faults within the complex.

Both elements', *frequent building maintenance* and *prompt attention to faults*, statistical significance results are levels less than 0.05, and therefore both the elements are statistically significant at the 0.05 significant level, as $p<0.05$.

A strong positive correlation and strong relationship between *responsiveness* and *frequency of building maintenance* as well as between *responsiveness* and *willingness to help* and between *responsiveness* and *prompt attention to faults* was observed, suggesting that an improvement in the responsiveness to resident queries at project X is likely to result in a strong improvement in how residents perceive the frequency of building maintenance, willingness to help of the staff and the promptness of attention to faults within the complex. W*illingness to help, frequent building maintenance* and *prompt attention to faults*, were statistically significant at the 0.05 significant level as $p<0.05$. The element with the strongest correlation to the *responsiveness dimension,* or whose perception, by tenants, is likely to improve the most as a result of an improvement in the responsiveness of staff to queries is, *prompt attention to faults,* followed equally by *frequency of building maintenance* and willingness to help.

4.7 Objective 4

To determine residents perceptions of the reliability of Project X in providing low-income rental housing services.

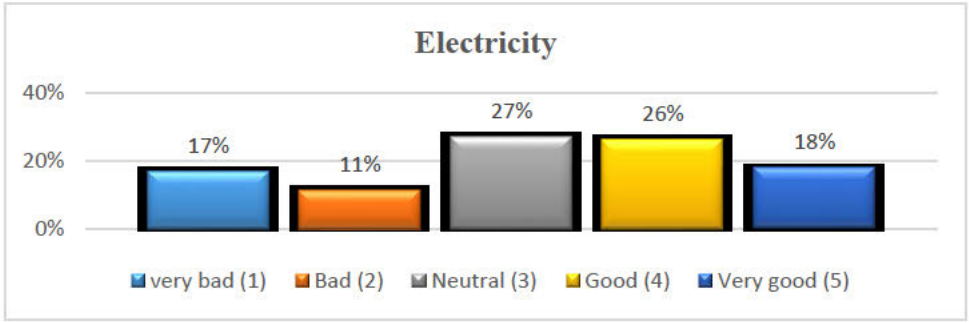
Five questions were posed to respondents to ascertain their perceptions on the reliability of the Department of Human Settlements in providing low-income rental housing services.

4.7.1 Descriptive measures

- **Mechanical and electrical services**

Figure 4.12 shows the breakdown of respondents' perceptions and satisfaction with the mechanical and electrical services in the complex.

Figure 4.12: Mechanical and electrical services



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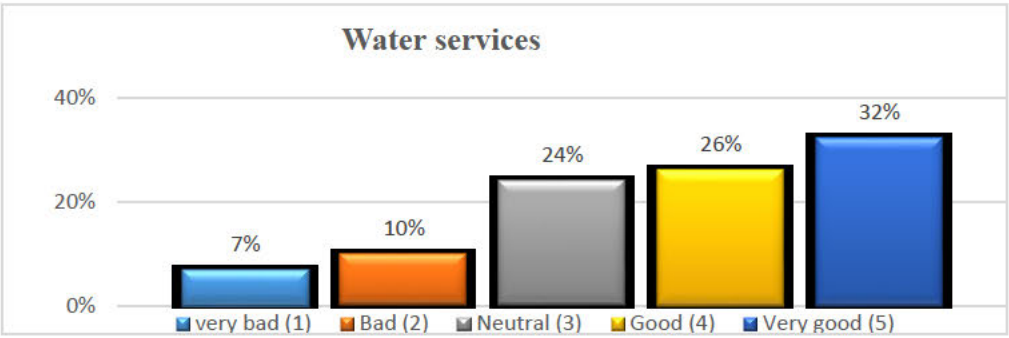
The findings in Figure 4.12 revealed that the majority of respondents (27%) were neutral regarding electricity services within the housing complex, and 26% of the respondents regarded electricity services in Project X as being good. Whilst 18% regarded electricity services as being very good.

- **Water services**

Figure 4.13 shows the breakdown of respondents' perceptions and satisfaction with the water services in the complex.

Figure 4.13: Water services



The findings in Figure 4.13 revealed that most respondents (32%) perceived the water services in the housing complex as being very good, and 26% of the respondents regarded the water services in Project X as being good. Whilst 24% of the respondents were neutral with regards to water services in Project X.

- **Emergency maintenance**

Figure 4.14 shows the breakdown of respondents' perceptions and satisfaction with the emergency maintenance services in the complex.

Figure 4.14: Emergency maintenance services

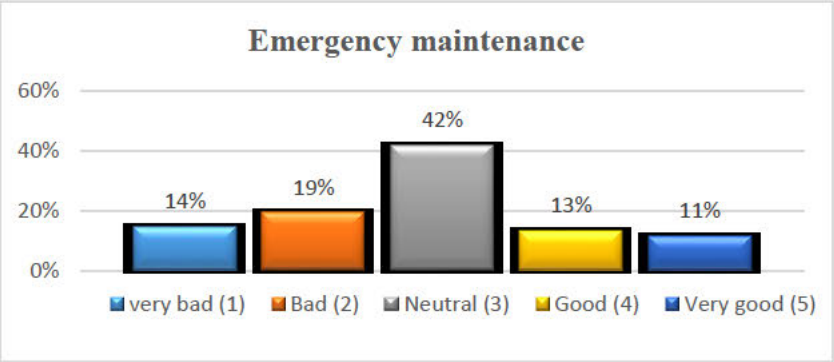
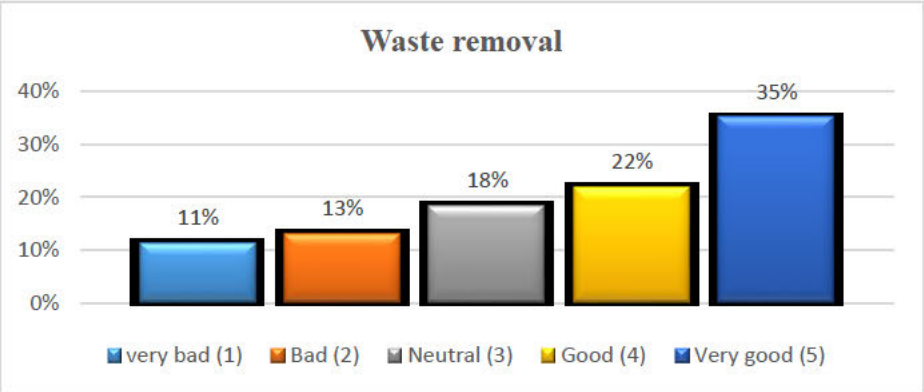


Figure 4.14 revealed that the majority of respondents (42%) were neutral with regards to emergency maintenance services in the housing complex, and 19% of the respondents regarded the emergency maintenance services as bad. Whilst 14% of the respondents rated the emergency maintenance services in Project X as very bad.

- **Waste removal**

The diagram below shows the breakdown of respondents' perceptions and satisfaction with the waste removal services in the complex.

Figure 4.15: Waste removal



The findings in Figure 4.15 revealed that the majority of respondents (35%) perceived the waste removal in the housing complex as being very good, and 22% of the respondents regarded waste removal in Project X as being good. Whilst 18% of the respondents were neutral with regards to waste removal in Project X.

- **Accurate record keeping**

Figure 4.16 shows the breakdown of respondents' perceptions and satisfaction with the record keeping services in the complex.

Figure 4.16: Accurate record keeping

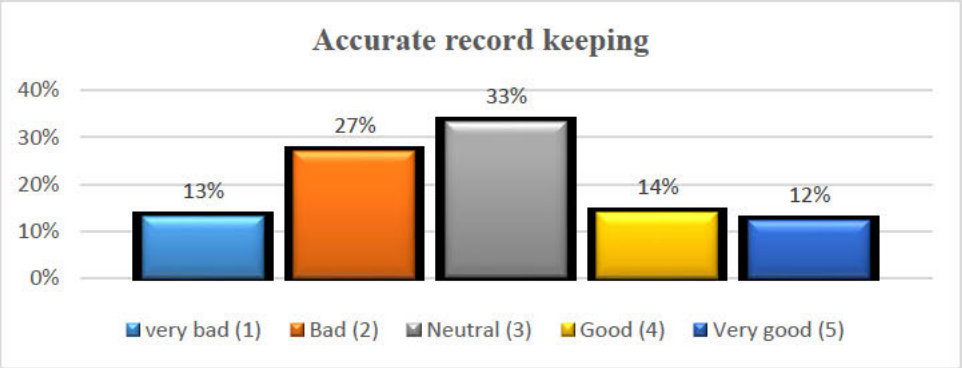


Figure 4.16 revealed that the majority of respondents (33%) were neutral with regards to accurate record keeping by administrators of the housing complex, and 27% of the respondents regarded accurate record keeping by administrators of the housing complex as bad. Whilst 14% of the respondents rated accurate record keeping by administrators of the housing complex as good.

4.7.2 Inferential measures

- **Correlation analysis**

Spearman's correlation was run to test the strength of the relationship between each of the elements that tested for the reliability dimension. Two elements were tested at a time and the closer to 1 the correlation coefficient was, the stronger the relationship between the elements. When an element's result was found to be less than 0.05 % or 0.05, when analysing the Sig (2-tailed) results, that element was found to be statistically significant.

Table 10: Spearman's correlation table reliability dimension

Correlations								
			Electricity	Water services	Emergency maintenance	Waste removal	Accurate records	Reliability
	Electricity	Correlation Coefficient	1.000	.417**	.176**	.318**	0.053	696**

Spearman's rho		Sig. (2-tailed)	-	0.000	0.008	0.000	0.422	0.000
		N	228	228	228	228	228	228
	Water services	Correlation Coefficient	.417**	.1.000	0.055	.483**	-.154*	651**
		Sig. (2-tailed)	0.000	-	0.410	0.000	0.020	0.000
		N	228	228	228	228	228	228
	Emergency Maintenance	Correlation Coefficient	.176**	0.055	1.000	0.061	.340**	.484**
		Sig. (2-tailed)	0.008	0.410	-	0.363	0.000	0.000
		N	228	228	228	228	228	228
	Waste removal	Correlation Coefficient	.318**	.483**	0.061	1.000	-0.111	.665**
		Sig. (2-tailed)	0.000	0.000	0.363	-	0.095	0.000
		N	228	228	228	228	228	228
	Accurate Records	Correlation Coefficient	0.053	-.154*	.340**	-0.111	1.000	.301**
		Sig. (2-tailed)	0.422	0.020	0.000	0.095	-	0.000
		N	228	228	228	228	228	228
	Reliability	Correlation Coefficient	.696**	.651**	.484**	.665**	.301**	1.000
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	-
		N	228	228	228	228	228	228

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

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

The table above reveals a low positive correlation and weak relationship between the element *electricity* and *water services*, *electricity* and *waste removal* as well as *electricity* and *emergency maintenance*, suggesting that an improvement in the electricity supply in project X is likely to result in a small improvement in how residents perceive the water services, the waste removal and the emergency maintenance within the complex. While *accurate record keeping*, and *electricity* reflect a small positive correlation and negligible positive relationship, improvement in the electricity supply in project X is likely to result in a negligible improvement in how residents perceive the record keeping within the housing complex. Three of the elements, *water services*, *waste removal* and *emergency maintenance*, are statistically significant at the 0.05 significance level, p being below 0.05.

A low positive correlation and weak relationship between the element *water services* and those of *electricity* as well as *water services* and *emergency maintenance* was observed however for accurate record keeping and *water services* a small negative correlation and a relationship of -.154 was observed meaning that an improvement in the water supply in project X is likely to result in a small improvement in how residents perceive the electricity, and the emergency maintenance within the complex. While an improvement in the water supply in project X is likely to result in a small decline in how residents perceive the record keeping within the housing complex. The same was observed between *accurate record keeping* and *waste removal*, suggesting that an improvement in the accuracy with which tenant records are kept in project X is not likely to result in any improvements in how tenants perceive the waste removal within the complex, it might result in a small decline. Two of the five elements are statistically significant at the 0.05 significance level; these are *electricity* and *waste removal*, as $p<0.05$.

A low positive correlation and weak relationship exists between the elements, *emergency maintenance* and *electricity*, meaning that an improvement in emergency maintenance is likely to result in a small improvement in how residents perceive the electricity supply within the complex. A small positive correlation and negligible positive relationship exists between *emergency maintenance* and *waste removal* as well as between *emergency maintenance* and *water services*, or an improvement in emergency maintenance is likely to result in a very small improvement in how Project X residents perceive the waste removal and water services within their complex. *Emergency maintenance* and *accurate record keeping* reflect a low positive correlation and weak relationship, therefore an improvement in emergency maintenance is likely to result in a small improvement in how residents perceive accurate record keeping

within the complex. One of the five elements, *accurate record keeping*, is statistically significant at the 0.05 significance level as $p<0.05$.

A low positive correlation and weak relationship between the element, *waste removal* and *water services*, and well as between *waste removal* and *electricity* is observed. *Waste removal* and *emergency maintenance* show a small positive correlation and a negligible positive relationship, while between *waste removal* and *accurate record keeping* a very low positive correlation and weak relationship can be observed. Meaning that an improvement in waste removal is likely to result in a small improvement in how residents perceive the water services and electricity supply within the complex, and an even smaller improvement in how they perceive accurate record keeping. *Electricity water services* are both statistically significant at the 0.05 significance levels as $p<0.05$.

A small positive correlation and a negligible positive relationship between the elements of *accurate record keeping* and *electricity* was observed, and a very low negative correlation and weak relationship exists between, *accurate records* and *waste removal* as well as between accurate records and *water supply.* A low positive correlation and weak relationship exists between *accurate records* and *emergency maintenance*. Meaning that an improvement in accurate record keeping is likely to result in a very small improvement in how residents perceive emergency maintenance and an even smaller improvement in how they perceive the electricity supply, it is also likely to result in a decline in the perceptions around water supply and waste removal within the complex. *Emergency maintenance water services* were statistically significant at the 0.05 significance as $p<0.05$.

A strong positive correlation and strong relationship was observed between *reliability* and *electricity*, as well as between *reliability* and *water services*, and between *reliability* and *waste removal*. A low positive relationship exists between *reliability* and *emergency maintenance* and between *reliability* and accurate *record keeping*. Therefore an improvement in the reliability of services at project X is likely to result in a strong improvement in how residents perceive the electricity supply, water services, and waste removal, and well as a small improvement in how residents perceive emergency maintenance and record keeping within the complex. Each of the significance levels were statistically significant at the 0.05 significant level as $p<0.05$. The element with the strongest correlation to the *reliability* dimension, or whose perception by tenants, is likely to improve the most as a result of an improvement in the

reliability of services within Project X is *electricity*, followed by *waste removal*, *water services*, *emergency maintenance*, and lastly *accurate record keeping*.

4.8 Objective 5

To determine if residents perceive Project X management to be empathetic to their housing needs.

- **Telecommunication services**

Figure 4.17 shows the breakdown of respondents' perceptions and satisfaction with the service they receive when communicating telephonically with the staff and agents of the housing complex.

Figure 4.17: Telecommunication services

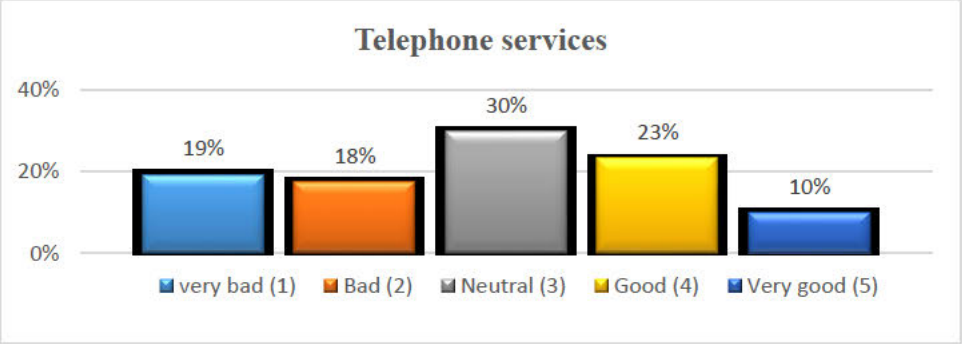


Figure 4.17 revealed that the majority of respondents (30%) were neutral regarding complex administrators' telephone answering services, and 23% of the respondents regarded administrators telephone answering services as being good. Whilst 19% regarded administrators telephone answering services as being very bad.

- **Communication between management and occupants**

Figure 4.18 shows the breakdown of respondents' perceptions and satisfaction with the available communication mechanisms between management and occupants in the housing complex.

Figure 4.18: Communication between management and occupants

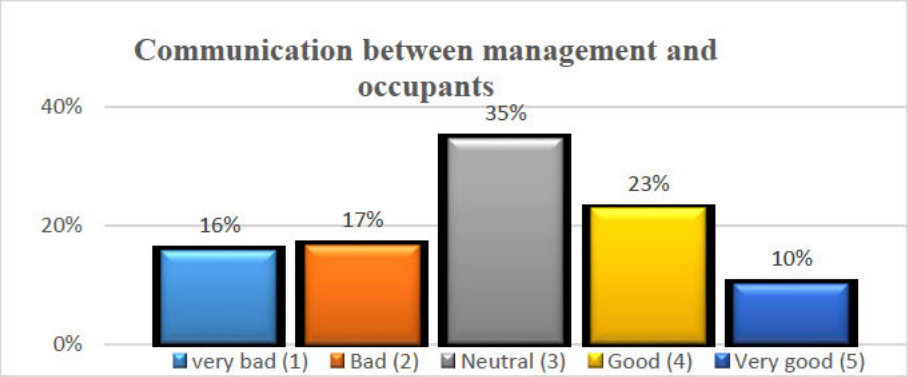
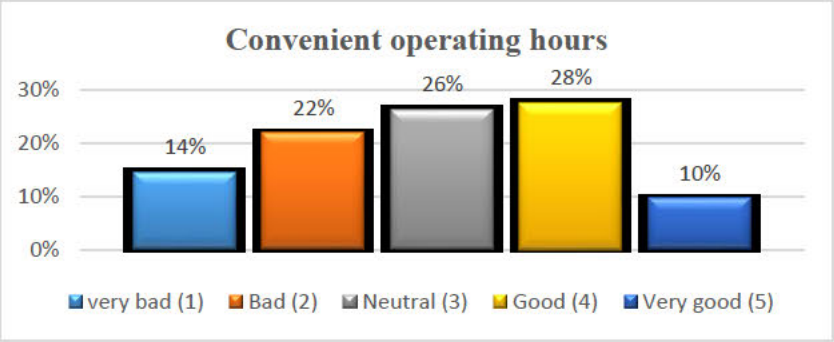


Figure 4.18 revealed that the majority of respondents (35%) were neutral regarding communication between management and occupants' services, and 23% of the respondents regarded communication between management and occupants services as being good. Whilst 17% regarded communication between management and occupants services as being bad.

- **Operating hours convenient to residents**

Figure 4.19 shows the breakdown of respondents' perceptions and satisfaction with the convenience of agents of the housing complex's operating hours.

Figure 4.19: Convenient operating hours

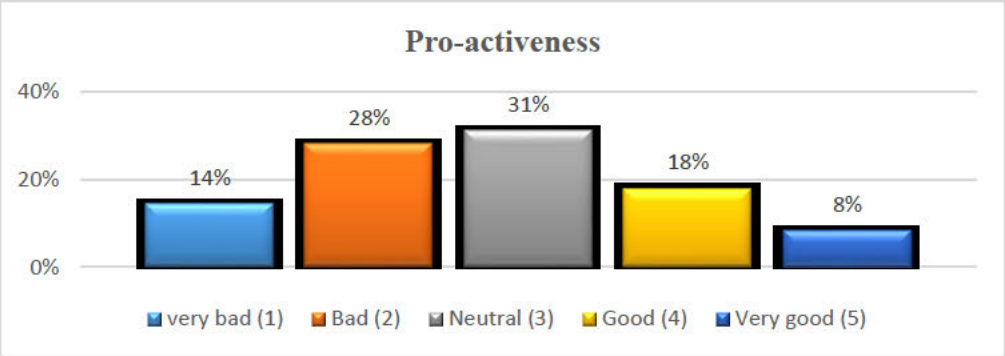


The findings in Figure 4.19 revealed that the majority of respondents (28%) were pleased with the operating hours of the administrators of the housing complex and rated it as good, whereas 26% of the respondents were neutral regarding complex administrations' operating hours. Whilst 22% of the respondents rated the operating hours of complex administrators as good bad.

- **Pro-activeness of agents of the housing complex in doing things without being asked.**

Figure 4.20 shows the breakdown of respondents' perceptions and satisfaction with the proactiveness of agents of the housing complex in doing things without being asked.

Figure 4.20: Pro-activeness in doing things without being asked



The findings in Figure 4.20 revealed that the majority of respondents (31%) were neutral with regards to the pro-activeness shown by administrators of the housing complex, and 28% of the respondents regarded pro-activeness shown by administrators of the housing complex as bad. Whilst 18% of the respondents rated pro-activeness shown by administrators of the housing complex as good.

Spearman's correlation was run to test the strength of the relationship between each of the elements that tested for the reliability dimension. Two elements were tested at a time, and the closer to 1 the correlation coefficient was, the stronger the relationship between the elements.

When an element's result was found to be less than 0.05 % or 0.05, when analysing the Sig (2-tailed) results, that element was found to be statistically significant.

Table 11: Spearman's correlation table empathy dimension

Correlations							
			Telephone	Communication between Management and occupants	Convenient operating hours	Pro-activeness	Empathy
Spearman's rho	Telephone	Correlation Coefficient	1,000	.346**	.150*	-0,089	.628**
		Sig. (2-tailed)	-	0.000	0.023	0.180	0.000
		N	228	228	228	228	228
	Communication between Management and occupants	Correlation Coefficient	.346**	1.000	-0.002	.170*	.639**
		Sig. (2-tailed)	0.000	-	0.971	0.010	0.000
		N	228	228	228	228	228
	Convenient Operating Hours	Correlation Coefficient	.150*	-0,002	1,000	.140*	.548**
		Sig. (2-tailed)	0.023	0.971	-	0.035	0.000
		N	228	228	228	228	228
	Pro-activeness	Correlation Coefficient	-0,089	.170*	.140*	1.000	.457**
		Sig. (2-tailed)	0.180	0.010	0.035	-	0.000
		N	228	228	228	228	228
	Empathy	Correlation Coefficient	.628**	.639**	.548**	.457**	1.000
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	-
		N	228	228	228	228	228

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

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

A very low positive correlation and weak relationship between the element, *telephone services* and those of *communication between management and occupants*, as well as between *telephone services* and *convenient operating hours*, was observed. T*elephone services* and *pro-activeness displayed* a small negative correlation or negligible negative relationship. Two of the three elements are statistically significant at the 0.05 significance level as $p<0.05$; these are *convenient operating hours* and *communication between management and occupants*. Alternatively, it can be said that, an improvement in telephone services at project X is likely to result in a small improvement in how residents perceive communication between management and occupants, and convenient operating hours, it is also likely to result in a decline in the perceptions around pro-activeness within the complex.

A low positive correlation and weak relationship between the element *communication between management and occupants*, and that of *telephone services* as well as between the element *communication between management and occupants* and *pro-activeness* can be observed, however for *convenient operating hours* a small negative correlation, which is a negligible negative, relationship was observed. Two of the three elements are statistically significant at the 0.05 significance level as $p<0.05$; these are *telephone, pro-activeness* . Meaning that an improvement in communication between management and occupants of project X is likely to result in a small improvement in how residents perceive telephone services, and pro-activeness, it is also likely to result in a decline in the perceptions around convenient operating hours within the complex.

A low positive correlation and weak relationship between the element *pro-activeness* and *communication between management and occupants* as well as those of *pro-activeness* and *convenient operating hours* was observed. A small negative correlation, which is a negligible negative relationship, was observed between *pro-activeness* and *telephone services*. Therefore an improvement in pro-activeness of management of project X when dealing with tenant issues is likely to result in a small improvement in how tenants perceive communication between management and themselves, and also improve the perception they might have about operating hours being convenient for them, it is also likely to result in a very small decline in their perceptions around telephone services within the complex.

Two of the three elements are statistically significant at the 0.05 significance level these are *convenient operating hours* and *communication between management and occupants* as $p<0.05$.

A strong positive correlation and strong relationship between *empathy* and *telephone* answering *services*, as well as between *empathy* and *communication between the management and occupants* and between *empathy* and *convenient working hours* exists. While a low positive correlation and weak relationship exists between *empathy* and *pro-activeness*. A significance level was recorded for them all, therefore each of their significance levels were statistically significant at the 0.05 significant levels as $p<0.05$. Therefore an improvement in empathy towards residents at project X is likely to result in a strong improvement in how residents perceive complex staffs' telephone answering services, communication between the management and occupants, and operating hours being convenient for occupants, and also result in a small improvement in how residents perceive staff pro-activeness within the complex.

The element with the strongest correlation to the *empathy* dimension, or whose perception by tenants, is likely to improve the most because of an improvement in the empathy dimension, was *communication between management and occupants*, followed by *telephone answering services*, *convenient operating hours*, and lastly by *pro-activeness*.

4.9 The reliability measure

Table 12 Cronbach alpha

Dimension	**Cronbach's Alpha**	**No of items**	**Cronbach's Alpha based on standardized items**
Overall reliability score	0.820	20	0.819

Sekaran and Bougie (2016), state that the higher the coefficient obtained using Cronbach's alpha measure of reliability, the higher the internal consistency reliability (Sekaran & Bougie, 2016). This test was analysed in the research as a measure of reliability, according to Raykov (1997) (Raykov, 1997) the closer to one the Alpha Coefficient score is the greater reliability. The overall Cronbach's alpha coefficient score for the study was 0.820; the result shows that the measurement scales used in the study are reliable because the result of 0.820 is very close to one.

4.10 Regression analysis

An ordinal regression analysis was performed because the dependent variables, namely each of the five service quality dimensions – tangibles, assurance, reliability, empathy, and responsiveness – as well as overall service quality, in each of the datasets had more than two elements to them and the data from the Likert scale responses was such that it could be placed in an order, with 1 being 'very bad' and 5 being 'very good'. To begin the analysis these elements had to be transformed by determining the mean of the elements, so that the regression analysis spoke to the transformed variables, named tangibles, assurance, responsiveness, reliability, empathy and service quality.

- **Model fitting information**

For the model to fit the analysis, significance level must be statistically significant.

Table 13: Model fitting analysis

Model	-2 log likelihood	Chi-square	df	Sig
Intercept only	1663.939			
Final	0.000	1663.939	5	0.000

The model fits the data very well because the significance level in the table above is statistically significant; it shows that the significance level is less than 0.05.

- **Goodness of fit**

For our model to display goodness of fit significance levels for the Pearson and Deviance Chi-square tests must be statistically not significant.

Table 14: Goodness of fit analysis

	Chi-square	df	Sig
Pearson	936.766	11195	1.000
Deviance	692.721	11195	1.000

The above table shows the Pearson and Deviance Chi-square test results which help to test if the model is a good fit to the data. The results are not significant because the significance levels are above 0.05. It can be concluded that because the data does not fit those tests well, it fits the model used in this research well.

- **Pseudo R-Square**

Nagelkerke analysis gave the percentage change in the dependent variable that resulted from the independent variables.

Table 15: Pseudo R-square analysis

Cox and Snell	0.999
Nagelkerke	1.000
McFadden	1.000

When concentrating on the Nagelkerke, the table above displays that 100% of the change in the dependent variable in our dataset, which is service quality, is as a result of changes in the independent variables, which are tangibles, assurance, responsiveness, reliability and empathy.

- **Test of parallel lines**

The test tests whether the assumption of proportional odds has not been violated. To be violated, the odds of each experimental variable being the same for different outcome variable thresholds must be the same, and the significance levels must be less than 0.05.

Table 16: Test for parallel lines

Model	-2 Log Likelihood	Chi-Square	df	Sig
Null Hypothesis	0.000			
General	0.000	0.000	245	1.000

The significance level in the table above is not statistically significant because the Sig values are greater than 0.05, which means the test for parallel lines assumption of proportional odds has not been violated.

- **Parameter estimates**

The parameter estimates must be statistically significant and display the estimated change of the independent variables caused by a unit increase in the dependent variable.

Table 17: Parameter estimates analysis

	Estimates	Std. Error	Wald	df	Sig	95% Confidence Interval	
						Lower Bound	Upper Bound
Tangibles	3.942	0.316	156.030	1	0.000	3.324	4.561
Assurance	2.302	0.214	116.222	1	0.000	1.884	2.721
Responsiveness	2.197	0.228	93.093	1	0.000	1.751	2.643
Reliability	3.854	0.309	155.826	1	0.000	3.249	4.459
Empathy	3.062	.0267	131.198	1	0.000	2.538	3.586

The table above depicts that there are five independent values, which are the five dimensions of tangibles, assurance, responsiveness, reliability and empathy. All of them are statistically significant as shown by the table where all the Sig values are less than 0.05.

The values under the estimates column depict the estimated change, be it positive or negative, of the independent variables, tangibles, assurance, responsiveness, reliability and empathy caused by a unit increase in the dependent variable service quality. Each of the values under that column are positive, which means that a unit increase in service quality is as a result if positive changes in the variables. This means that as independent values rise there is an increased chance of falling at a higher value on the dependant variable, how much this chance is determined by the estimate. For every one unit increase in service quality there is a 3.942 chance of tangibles being at a higher level of service quality, a 2.302 chance of assurance being at a higher level of service quality, a 2.197 chance of responsiveness being at a higher level, a 3.854 chance of reliability being at a higher level, and a 3.062 chance of empathy being at a higher level of service quality.

4.10 Correlation analysis

Spearman's correlation was run to test the strength of the relationships between each of the five dimensions and service quality. Two elements are tested at a time and the closer to 1 the correlation coefficient is, the stronger the relationship between the elements. When an element's result was found to be less than 0.05 % or 0.05, when analysing the Sig (2-tailed) results, that element was found to be statistically significant.

Table 18: Spearman's correlation table for all dimensions

Correlations								
			Service quality	Tangible	Assurance	Responsive	Reliable	Empathy
Spearman's rho	Service quality	Correlation Coefficient	1.000	.848**	.745**	.582**	.775**	.655**
		Sig. (2-tailed)	-	0.000	0.000	0.000	0.000	0.000
		N	228	228	228	228	228	228
	Tangible	Correlation Coefficient	.848**	1.000	.564**	.448**	.537**	.452**
		Sig. (2-tailed)	0.000	-	0.000	0.000	0.000	0.000
		N	228	228	228	228	228	228
	Assurance	Correlation Coefficient	.745**	.564**	1.000	.399**	.532**	.320**
		Sig. (2-tailed)	0.000	0.000	-	0.000	0.000	0.000
		N	228	228	228	228	228	228
	Responsive	Correlation Coefficient	.582**	.448**	.399**	1.000	.275**	.301**
		Sig. (2-tailed)	0.000	0.000	0.000	-	0.000	0.000
		N	228	228	228	228	228	228
	Reliable	Correlation Coefficient	.775**	.537**	.532**	.275**	1.000	.425**
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	-	0.000
		N	228	228	228	228	228	228

	Empathy	Correlation Coefficient	.655**	.452**	.320**	.301**	.425**	1.000
		Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	-
		N	228	228	228	228	228	228

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

The table reveals a strong positive correlation and strong relationship between service quality and all the service quality dimensions of *tangibles, assurance, reliability, empathy and responsiveness*. Suggesting that an improvement in service quality at project X is likely to result in a strong improvement in how residents perceive tangibles, assurance, reliability, empathy and responsiveness within the housing complex. The strength of the relationship differs with each dimension, with tangibles and reliability having the highest correlation, and empathy and responsiveness having the lowest. However, all of the above are positively correlated to each other, therefore the changes in perceptions as a result of improvements in each element respectively will be positive. The data was found to be statistically significant at the 0.05 significance level since ps were less than 0.05.

4.11 Conclusions

This chapter displayed findings obtained from the study conducted. The descriptive analysis showed the graphical representation of demographic questions in the questionnaire as well as residents' percentages and experience across all items that make up the five service quality dimensions displayed in frequency graphs. Inferential measures in the form of correlations between the contributary factors to each dimension and the dimension were displayed under the five research objectives of the study. A summary of the correlation findings under each objective displayed the following, for the first objective, the element with the highest correlation to the tangibles dimension was clean common areas, followed by lighting, parking, buildings and gardens, and lastly the appearance of staff. Under the second objective, the element with the strongest correlation to assurance was noise control, followed by courtesy, and lastly security. Under the third objective the element with the strongest correlation to the responsiveness dimension was prompt attention to faults, followed equally by frequency of building maintenance and willingness to help. For the fourth objective, the element with the strongest correlation to the reliability dimension was electricity, followed by waste removal, water services, emergency maintenance, and lastly accurate record keeping. Lastly under the fifth objective, the element with the strongest correlation to the empathy dimension was

communication between management and occupants, followed by telephone answering services, convenient operating hours, and lastly by pro-activeness.

The chapter ends with regression and correlation findings reflecting relationships between the five service quality dimensions detailed in SERVQUAL to each other, as well as relationships between the five service quality dimensions to service quality. This revealed that the relationships between the five service quality dimensions were positively correlated and varied in strength with the weakest relationship observed between the responsiveness dimension and the reliability dimension, and the strongest relationship observed between the tangible dimension and the assurance dimension. The relationships between the five service quality dimensions to service quality also varied in strength, however they all were strong positive relationships. The highest scores and therefore the highest correlation, was between the tangible dimension and service quality, with the lowest correlation being between the responsiveness dimension and service quality.

The results were presented to determine residents' satisfaction and dissatisfaction with the levels of service quality offered by the housing complex.

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter presents theoretical discussions of the findings presented in the previous chapter. This discussion chapter is presented as per the research objectives. Thus, the structure of the chapter begins with the first objective and systematically progresses to the fifth. Relevant literature pertaining to the objectives and the theoretical framework are discussed to allow conclusions to be drawn regarding the objective.

5.2. Discussions per Objective

5.2.1 Objective 1

The first objective was to ascertain residents' perceptions of the tangible facilities of the social housing project.

Thontteh (2014) states that, "physical representatives of a service provide images in a customers' mind, especially new customers, that they often use to assess quality" (Thontteh, 2014, p.42). The results of this study are similar to the conclusion by Pakurar *et al*. (2019), that found the tangibility dimension in the banking sector to be essential to service quality, further concluding that it could be said that there is a significant influence of tangibility to customer satisfaction. This research identified the tangibles dimension as having the highest correlation to service quality, than the other four dimensions; the tangibles dimension therefore contributed the most in every unit increase in service quality. In their study based on various South African townships, Eresia-Eke *et al.,* (2020) agree with the tangibles dimension's importance. They awarded the highest favourable perception score in their study to the tangibles dimension. The tangibles dimension, having the highest correlation to service quality in this research, is also demonstrated in the research conducted by Eresia- Eke *et al*., (2020), where the tangibles dimension also had the highest correlation to service quality in that study. The research demonstrated that, to residents, the top three factors of importance when reviewing quality in terms of tangibles within the housing complex were clean common areas, lighting, and parking. The appearance of the physical buildings and gardens as well as the appearance of the staff although important were not ranked as highly. Appearance of physical buildings and gardens as well as not ranking as appearance of the staff highly might not be ranked highly, in the South African context, because of the housing crisis, especially in urban areas, as mentioned by, Morare (2014). This might lead tenants to value safety, hygiene and convenience over modern and attractive places of residence.

When the tangibles in the housing complex, as one of the five SERVQUAL dimensions were, related to the other four SERVQUAL dimensions being the assurance dimension, the responsiveness dimension, the reliability dimensions and the empathy dimension. The research found the assurance dimension to have the strongest relationship with the tangibles dimension, meaning that residents trusted that complex employees appointed to deal with the tangibles in the complex were competent in doing so. This trust was more than what residents felt about the reliability of the tangibles in the complex, the responsiveness of complex employees appointed to deal with the tangibles, and the empathy that complex employees appointed to deal with the tangibles in the complex displayed towards them.

However the correlation score of 0.564 showed a strong positive correlation and a strong relationship between the assurance and tangibles dimensions. This implies that although residents trusted that complex employees appointed to deal with the tangibles in the complex were competent in doing so, this trust could still improve because the correlation score of 0.564 is less than 1, which would imply perfect correlation and perfect trust. One possible reason for trust being less than perfect could be society's negative perception of a generally defective public sector, namely relating to provisions of tangibles or low-income housing in South Africa as mentioned by, Morare (2014). Zunguzane, *et al.*, (2012) investigated the causes of the perception of low quality in the public sector, and found that there were three major reasons for non-conformance to quality standards in the public housing sector, namely poor workmanship, unskilled labour, and faulty construction.

Another finding was that the reliability dimension had the second strongest relationship with the tangibles dimension, which means that while residents found the tangibles to be somewhat reliable, they were not strongly convinced. The relationship was a strong positive one, but at the strong positive correlation score of 0.537, a score which is not close to the perfect correlation score of 1, there was room for strengthening residents opinions of the reliability of the tangibles in the housing complex. One contributory factor to not being strongly convinced of the dependability of tangibles in the public sector could be, as stated by both Marutlulle (2021) and Lategan (2012), a general perceived municipal maladministration, lack of control, and corruption in the public sector. Ajayi and de Vries (2019, p.26) explain that most of the media reported protest issues in recent years, relate to public housing and local government related issues. Protest action therefore conveys the sentiment that society believes that municipalities and the public sector in general are not able to deliver promised services that

relate housing delivery dependably and accurately. This perception could affect how residents generally feel about services provided by the public sector.

The relationship between the tangibles and empathy dimensions is weak, with a low positive correlation of 0.452, which suggests that the respondents found the tangibles in the complex to be managed in a manner lacking understanding of them as customers. A contributing factor to the residents' response could be, as stated by Marutlulle (2021), the perceived lack of empathy when managing tangibles and the general state of being worn down by people who feel that their general human rights and needs concerning housing are being met with empty promises, resulting in the increased spate of protests in recent years.

Lastly, the relationship between the tangibles and responsiveness dimensions in the study is weak, with a low positive correlation of 0.448. This suggests a belief that those who manage tangibles in the complex are neither willing to help residents, nor provide prompt response to tenants' needs concerning the tangibles in the complex. This aligns with Tomlinson (2015) who maintains that in South Africa, customers do not see the public sector as providing prompt response when it comes to the provision of housing or tangibles. Furthermore, Tomlinson (2015) states that since 1994, more than 3 million housing units (including both subsidised and rental housing) have been delivered to poor and low- income households. "But as at 2015, South Africa had sat with a backlog of 2.1 million units, in 1994 this backlog had been 1.5 million units. The 2.1 million unit backlog figure was based on the number of people with their names on the national housing waiting lists. The deduction made is that although there is delivery in housing, it is concerning that backlog figures had increased" (Tomlinson, 2015, p 2). The increases in backlogs in the provision of housing units alludes to long waiting times for housing and a conclusion that responsiveness with regards to housing or tangibles in the public sector is low. This might influence residents' expectations regarding services related to tangibles in the housing complex.

While the other four dimensions contribute to every unit increase in the positive opinion of the tangibles dimension, there is an element of the total increase in tenants' perception of the tangibles in the housing complex that is based on factors, such as historical knowledge of the quality of low-income housing in South Africa, and perhaps perceptions of the service provider, which in this case is the public sector. Lategan (2012) contends that the public sector in South Africa, and particularly public housing, is often associated with an absence of capacity and coordination, as well as constant corruption.

5.2.2 Objective 2

The second objective was to ascertain residents' perceptions of the assurance of quality services they are, given by Project X management as agents of the social housing program.

Andeleeb and Conway (2006) and Hanefeld, *et. al* (2017) state that in industries with higher risks and uncertain outcomes, the assurance dimension becomes very important to customers. By way of example, they refer to the health sector, where customers were deciding which surgeon to use for an operation.

The assurance dimension in this study has a high correlation to service quality of 0.745, demonstrating a strong relationship to service quality. Despite this, the assurance dimension had the third highest correlation score of the five dimensions when correlating it to service quality. This indicates that the tangibles and reliability dimensions have a higher contribution to service quality, which indicates the importance of the two dimensions above the assurance dimension in the rental housing sector. The order of importance of the dimensions is different from that observed by Andeleeb and Conway (2006) in the public health sector, where the assurance dimension had higher importance, which indicates that the risks and uncertain outcomes are different in the two sectors. In the Jordanian banking sector, Pakurar, *et al.* (2019) found assurance to have a positive and significant effect on customer satisfaction and the highest importance.

In this research, the three questions that contribute to the assurance dimension relate to the courtesy of staff, noise control, and complex security. Noise control had the highest correlation of 0.739 to the assurance dimension, demonstrating a high positive correlation and a strong relationship between the two dimensions. This implies that the respondents trusted the ability of complex employees to deal with noise levels in the complex. This trust was more than what residents felt about complex employees' competency to display courtesy when providing services and to provide adequate security in the complex. The correlation scores showed a high positive score of 0.715 and a strong relationship between the assurance dimension and staff courtesy, and a strong positive score of 0.676, and a strong relationship between the assurance dimension and complex security. The implication was that the trust in complex employees' ability to deal with noise levels in the complex as well as in their courtesy levels was stronger than residents' trust in complex management's ability and competancy to provide security within the complex.

The lowest contributor to every unit increase in the assurance dimension was security with a moderate positive relationship to the assurance dimension. Odubiyi *et al*., (2019) in their research based on rental properties in South Africa state that floor area, the number of bathrooms, and the number of bedrooms often contribute more to the price of rental properties as a measure of value, than security does. Their finding suggests that tenants in residential rental properties place other services higher than they do the security levels within the complex when assessing the value derived from services provided in a complex. Therefore, as in this research, it is expected that security contributes less to the perceived trust of complex management's ability to provide quality services within the complex.

In an effort to ascertain whether any of the other SERVQUAL dimensions of service quality, namely tangibles, empathy, responsiveness and reliability, could contribute to increasing residents' assurance of good service quality, the four SERVQUAL dimensions were contrasted with the fifth dimension, namely assurance. It was found that they could contribute to every unit increase in the assurance dimension, however not strongly so. The assurance dimension had a low correlation (+0.30 - +-0.50) or weak relationship to strong correlation (+0.50 - +-0.99) or strong relationship to each of the other four SERVQUAL dimensions of service quality, these being the tangibles, empathy, responsiveness and reliability dimensions. The assurance dimension had the strongest positive strong correlation of 0.564 and strong relationship with the tangibles dimension, meaning that residents strongly trusted that complex employees appointed to deal with the tangibles in the complex were competent to do so. The reliability dimension has the second strongest positive strong correlation of 0.532 and strong relationship to the assurance dimension, meaning that residents moderately trusted complex employees' ability to fulfil all promises made to them. This trust was slightly less than that felt about complex management's competency to deal with the tangibles in the complex. The third strongest relationship to the assurance dimension was a low positive correlation and a weak relationship with the responsiveness dimension, yielding a low positive correlation of 0.399, which means that residents weakly trusted complex employees' willingness to help and provide prompt service to customers. This trust was less than that felt about complex management's competency to deal with the tangibles in the complex and in their ability to fulfil all promises made to residents. Lastly, the weakest relationship with the assurance dimension was a low positive correlation and a weak relationship with the empathy dimension, yielding a low positive correlation of 0.320. In other words, residents weakly trusted in the avenues of communication available to them to communicate with complex management, and this trust

was less than the trust they had in complex management's willingness to help customers, provide prompt services, their competency to deal with the tangibles in the complex, and in their ability to fulfil all promises made to residents.

One possible reason for trust not being strong could be society's negative perception of public housing, as a result of both unsatisfactory quality of services and inadequate quantity of services, as concluded by Masiya *et al.,* (2019).

Overall, the likelihood of any of the other four dimensions of SERVQUAL, namely tangibles, empathy, responsiveness and reliability, positively increasing the assurance dimension levels amongst residents, was possible but moderate at best. The dimension that had the highest probability of increasing assurance was the tangibles dimension, confirming the assertion put forward by Thontteh (2014) that "physical representatives of a service provide images in a customer's mind, especially new customers, that they often use to assess quality" (Thontteh 2014, p 42).

5.2.3 Objective 3

The third objective was to determine residents' perceptions of the responsiveness they observe from Project X management in response to their service needs.

Respondents rated complex management's willingness to help customers, frequency of building maintenance, and ability to provide prompt service - referred to as the responsiveness dimension - the lowest of all the dimensions. With all three of the questions that measured this dimension, having a majority of respondents respond with a neutral opinion, indicating that residents generally felt that this dimension could benefit the most from improvements. According to Olanrele (2014), the difference in industries ranking of the responsiveness dimension is evidenced by Pakurar *et al*., (2019) that reported that responsiveness was ranked as the third dimension in SERVQUAL, and in their 2019 research about the Jordanian banking sector, where it was ranked behind assurance and reliability, in terms of correlation to customer satisfaction. According to Hanefeld, *et al.,* (2017), the importance of responsiveness in the South African public sector is industry specific, for instance in industries such as the health sector, "responsiveness is a key attribute to quality" (Hanefeld, *et al*., 2017, p368). This differs from the finding in this research that the responsiveness dimension's contribution to quality services is not seen as very important, evidenced by the fact that this dimension has the lowest correlation to service quality and therefore contributes the least in every unit increase in service quality.

A similar finding was evident in the study conducted by Ali and Yaseen (2000) comparing the public sector responsiveness in different countries, and concluding that in countries such as Malaysia and Mauritius, public sector customers' average gap score for responsiveness is the second highest in comparison to the other factors. This implies that the second highest gap between expectations and performance, and therefore responsiveness falls far below the expectation of customers in those countries. Iyakal and Celebi's (2016) study also found responsiveness to have the second highest average gap score in the public service of Northern Cyprus, which consolidates Iyakal and Celebi's (2016) study that responsiveness falls far below customer expectation. In this study, the responsiveness dimension having the lowest correlation to service quality would translate to it contributing the least to service quality, and therefore being the least important of the other SERVQUAL dimensions, namely tangibles, reliability, assurance and empathy, in contributing to service quality.

Ali and Yassin (2000) also note that in a country such as Egypt, public sector customers' average gap score is the lowest for the responsiveness dimension and attribute this low score in Egypt to automated systems, which make it easier to respond to customers. This may differ from other countries who still might, to some extent, be using manual systems, which is also the case in this research, resulting in a delayed response to queries and consequential dissatisfaction with the ability of management in providing prompt service. According to Baharum *et al.,* (2009), "A recurring problem in the rental property market is that tenants' needs, and dissatisfactions are discovered too late, as and when a tenant announces he will not be renewing the lease". Despite it contributing the least to service quality, this dimension still does contribute to some extent to service quality. The apparent dissatisfaction, demonstrated by the low rankings by respondents, could contribute to tenants leaving the complex.

Prompt attention to faults had the highest correlation to the overall responsiveness dimension, while willingness to help and frequency of building maintenance contributed equally to overall responsiveness. Therefore higher value is placed on the question that talks to response time than those that refer to the attitude of staff and pro-actively reducing the need to respond.

Residents felt that questions regarding the attitude of staff and other soft services expressed towards residents, could be improved upon to make the experience of dealing with complex management pleasant. They added, however, that more importantly and ranked higher in the research was the action demonstrated by the response times to resident faults or queries, be they emergency or routine.

Of the other four dimensions of SERVQUAL, namely tangibles, empathy, assurance and reliability, the tangibles dimension has the highest correlation to the responsiveness dimension with a score of 0.448, demonstrating a low correlation and a weak relationship to the responsiveness dimension, and that residents felt that if the tangibles are more frequently well taken care of, the need for attending to faults, frequent building maintenance, and tenant experience with staff who are not willing to help would not be as great.

5.2.4 Objective 4

The fourth objective was to determine residents' perceptions of the reliability of Project X in providing low-income rental housing services.

Respondents rated highly complex management's "ability to perform promised service dependably and accurately" (Olanrele, 2014), or the reliability dimension. Sagheir and Nathan (2013) state that repeatedly reliability has been found to be an important factor in customer satisfaction, which is also agreed upon by Omar *et al.,* (2015) who concludes that "E-commerce customers in Libya argued that 'reliability dimension' has a direct positive effect on perceived service quality". The research by Pakurar *et al.,* (2019) into the Jordanian banking sector also confirms the importance of the reliability dimension through their results, which show that reliability has a positive and significant effect on customer satisfaction. Arlen (2021) agrees with this sentiment, ranking the reliability dimension as the most important service quality dimension that customers care about, stating that a service provider's first and best efforts should be spent making the service reliable.

The findings in this research align with and support the literature above, as evidenced by the fact that the reliability dimension had the second-highest correlation of 0.775 to service quality of all the five service quality dimensions following the tangibles dimension. This implies that its importance in relation to the service quality and customer satisfaction provided by complex managements' is highly rated.

This dimension was measured in this research as the reliability of complex management or their agents, to provide basic services to the housing complex. Two of the five questions designed to test this dimension in the research were predominantly responded to with a response of 'very good'. These were questions around water supply and waste removal services in the complex. One question out of the remaining three questions that were designed to test the reliability dimension, tested mechanical and electrical services within the complex, this question had a majority of respondents respond with a good opinion, the other two questions,

testing accurate record keeping, and emergency maintenance within the complex, had a majority of respondents respond with a bad opinion. The predominant very good and good responses to the two questions relating to water supply and waste removal services and the one relating to mechanical and electrical services mentioned above demonstrate respondents' high perception of the services of water supply, waste removal services, and mechanical and electrical services that are all provided to the complex by the municipality. This perception differs from the general perception of municipal services in South Africa as shared by Ajayi and de Vries (2019) who state that most of the service delivery protest issues in South Africa relate to public housing and local government service-related issues. The predominant bad responses to the two questions mentioned above, demonstrate residents' concerns over the slow speed at which emergency maintenance is carried out by complex management, highlighting perceived long waiting times as a concern. Another concern is accurate record keeping, which sometimes results in complainants having to make two or three complaints before a concern is attended to. This could either be because of the slow pace at which complaints are attended to, pointing to possible capacity constraints, or not being able to quickly check whether a complaint had been attended to, which may indicate the need for new technologies for tracking of complaints. Ali and Yassin (2000) attribute the fast pace at which complaints are attended to in Egypt to be because of better record keeping attributed to automated systems. Accurate record keeping has the least correlation to the reliability dimension, implying that respondents felt that complex management can have accurate records and still not be reliable, however, having accurate records can contribute positively to increasing reliability.

In an effort to ascertain whether any of the other SERVQUAL dimensions could contribute to increasing residents' perceptions of the reliability of Project X in providing low-income rental housing services, the four SERVQUAL dimensions were contrasted to the fifth dimension being the reliabilty dimension. It was found that they could contribute to every unit increase in the reliability dimension, however not strongly so. The reliability dimension had a very low positive correlation (+0.10 - +-0.30) or weak relationship to strong positive correlation (+0.50 - +-0.99) or strong relationship with each of the other four SERVQUAL dimensions of service quality, namely the tangibles, empathy, responsiveness and the assurance dimensions.

The tangibles dimension had the strongest positive correlation of 0.537 with the reliability dimension, which is a significantly positive relationship meaning that residents substantially believed in complex management's ability to perform services related to the tangibles in the housing complex, dependably and accurately. The assurance dimension had the second

strongest positive correlation of 0.532, a strong relationship to the reliability dimension, meaning that residents substantially believed in complex management's ability to perform services dependably and accurately that increased residents trust in them. This belief was slightly less than their belief in complex management's ability to perform services related to the tangibles in the housing complex, dependably and accurately.

The third correlation of 0.425 between the reliability dimension and the empathy dimension demonstrated a low correlation and a weak positive relationship, meaning that the belief of residents in complex management employees' ability to perform services that increased communication with residents and understanding of residents, dependably and accurately, was weak. The third strongest belief was less than their belief in complex management's ability to perform services related to the tangibles in the housing complex dependably and accurately as well as the belief in complex management's ability to perform services that increased residents trust in them dependably and accurately. Lastly, the weakest correlation of 0.275 between the reliability and responsiveness dimensions, demonstrates a low positive correlation and weak positive relationship, meaning that residents were unconvinced in complex management employees' willingness to help customers and provide prompt services, dependably and accurately. This belief was less than their belief in complex management employees' ability to perform services that increased communication with residents and understanding of residents dependably and accurately, in complex management's ability to perform services related to the tangibles in the housing complex dependably and accurately as well as the belief in complex management's ability to perform services that increased residents trust in them dependably and accurately.

Overall, the likelihood of any of the other four dimensions of SERVQUAL, namely tangibles, empathy, responsiveness and assurance positively increasing the reliability of Project X in providing low income rental services was found to be weak and moderate at best. One possible reason for this could be the perceived lack of reliability in services provided by the State in South Africa. Lategan (2012) contends that unfortunately the public sector is often associated with an absence of capacity and coordination, as well as constant corruption when it comes to housing delivery.

5.2.5 Objective 5

The fifth objective was to determine if residents perceive the Project X management to be empathetic to their housing needs.

Empathy, according to Olanrele (2014) includes access, communication, understanding the customer". According to Andeleeb and Conway (2006), empathy increases service quality in industries where customer and client relationships are more important for the survival of the company than in industries where "transactions marketing" is emphasized. They conclude that empathy creates a bond between the customer and the organisations in industries where customer and client relationships are more important.

The public sector is such an industry, because according to Gowan *et al*., (2001) as quoted in Ramseook-Munhurrun *et al.,* (2010), "service provision in the public sector caters for needs that are expressed by customers it also attempts to deal with needs that are not expressed, setting priorities, and publicly justifying and accounting for what was done". It therefore becomes very important to establish a relationship with the public to understand both expressed and non-expressed needs of customers.

The findings of this research, however, attribute the second lowest correlation to service quality to the empathy dimension, behind the tangibles, assurance and reliability dimensions. It therefore contributes the second least in every unit increase in service quality, indicating a lower position of importance. When empathy in the housing complex, as one of the five SERVQUAL dimensions, was correlated to the other SERVQUAL dimensions being the assurance, responsiveness, reliability and tangibles dimensions, the research found the tangibles dimension to have the strongest correlation of 0.452. This displays a weak positive relationship with the empathy dimension, meaning that residents expected to receive empathy concerning the tangibles in the complex, and the extent to which management empathised with their needs for the physical or tangibles in their environment contributed the most to how empathetic they perceived complex management to be. Ali and Yaseen (2000) state that one of the reasons "the public sector might not be seen to be empathetic to clients is the perceived lack of interest by the employees to have clients' comfort at heart". Given the importance of the contribution of the tangibles dimension to the empathy dimension Sandman *et al.*, (2018) suggest more empathic involvement of beneficiaries in the architecture of low-cost housing units.

Overall, the likelihood of any of the other four dimensions of SERVQUAL, namely tangibles, reliability, responsiveness, and assurance, positively increasing the empathy dimension in Project X was found to be weak and moderate at best. When responding to questions designed to test the empathy dimension in the research, three out of four questions were responded to by a majority of the respondents as neutral, and only one question, on convenient hours, out of the

four questions posed was responded to predominantly as good . It can be noted that there is a negative correlation between convenient operating hours and communication between management and occupants, meaning that management is not necessarily dependent on communication during convenient operating hours to communicate with tenants.

5.3 Conclusion

This chapter provided discussions around subject matter identified in the literature review and the findings chapters of the study; it was segmented according to the five research objectives of the study. Discussions around each of the objectives indicated that the relationships between the dimensions of SERVQUAL were positive and ranged from weak to substantial. In other words, the likelihood of any individual SERVQUAL dimension, namely tangibles, reliability, responsiveness, empathy and assurance, increasing any other SERVQUAL dimensions in Project X was found to be weak and moderate at best. The dimension with the strongest relationship to each of the other dimensions was determined to be the tangibles dimension.

Correlation between the dimensions of SERVQUAL and service quality were positive and ranged from moderate to high, and therefore, the relationships ranged from substantial to marked at best, meaning that the likelihood of the SERVQUAL dimensions individually increasing service quality as a whole was moderate and high at best. The dimension with the strongest relationship to service quality was the tangibles dimension, with the responsiveness dimension having the weakest. The following chapter will conclude the study by attempting to answer the questions posed by the research and propose some recommendations in relation thereto.

CHAPTER 6

Conclusion and Recommendations

6.1 Introduction

This chapter presents the conclusions to the objectives of the study and also offers recommendations from the study.

6.2 Conclusions

The conclusions are is presented as per the research objectives. Thus, the structure of this section begins with the first objective and systematically progresses to the fifth. Conclusions are drawn from discussions pertaining to the objectives and the theoretical framework discussed in the discussions chapter.

6.2.1 Research Objective 1

The first objective was to ascertain residents' perceptions of the tangible facilities of the social housing project.

The state of the lighting in the common areas, parking facilities within the complex, and staff appearance were perceived to be good or very good by residents, indicating that residents were generally happy with services that provided improved access to the tangibles in the housing complex. Cleanliness of common areas in the complex and state of the buildings and gardens were given a bad or very bad opinion, indicating that residents felt services directly involved in the upkeep of the physical facilities could benefit with improvement.

Overall, the marked positive relationship of all the contributory factors to the tangibles dimension meant that residents felt that it was possible for an improvement in contributory factors to result in an improvement of perceptions of the tangibles dimension. Understanding the contributory factors' individual relationships to the tangibles dimension helped assess their importance to the tangibles dimension as a whole, making it possible to determine which contributory factors' individual change would result in the greatest change in the tangibles dimension as a whole. The individual relationships between each of these contributory factors and the tangibles dimension ranged from weak to substantial. This suggests that even though they each, individually could cause positive perception changes to the overall tangibles dimension, the rate which the individual relationships could change the overall tangibles dimension is not the same and overall not very strong. Therefore, for greater impact the change

would have be to a combination of the contributory factors, preferably ones with the greatest relationships to the tangibles dimension. The biggest individual contributors to every unit increase in the tangibles dimension are the cleanliness of common areas in the complex, the state of the lighting in the common areas, followed by the state of parking facilities within the complex. This means that an improvement of these would increase perceptions on the overall tangibles dimension the most.

Improving on aspects of other dimensions that affect the tangibles dimension would also contribute to improving perceptions of the tangibles dimension overall. Upon determining which of the other dimensions, namely assurance, reliability, empathy, and responsiveness, affected perceptions on the tangibles dimension the most. The research found the assurance dimension to have the strongest positive substantial relationship with the tangibles dimension. Therefore, improving residents' trust in the competency of complex management to deal with the tangibles in the housing complex, would increase residents' perception of the tangibles in the housing complex the most. The research identified that residents did trust that complex employees appointed to deal with the tangibles in the complex were competent to do so, however the trust was not strong and should be improved to increase residents' perceptions on tangibles in the housing complex.

The reliability dimension had the second strongest relationship with the tangibles dimension. Residents were not strongly convinced of complex management's ability to perform the promised services that relate to tangibles, dependably and accurately. Improving residents' perception of complex management's ability to perform the promised services accurately and dependently within the complex would increase their perception of the tangibles dimension in the housing complex. Comparatively, however, this would not be as significant as would increasing residents' trust in the competency of complex management to deal with the tangibles in the housing complex.

The third strongest relationship was between the tangibles dimension and the empathy dimension. This relationship was weak, suggesting that the respondents found the tangibles in the complex to be managed in a manner that does not show understanding of them as customers.

Lastly, the relationship between the tangibles dimension and the responsiveness dimension in the study were the weak and weakest respectively. This suggests that those who manage tangibles in the complex were neither willing to help residents, nor provide prompt response to

tenants needs concerning the tangibles in the complex. Ideally, efforts at increasing perceptions on the tangibles in the housing project should start with weaker relationships in order to maximise the impact. Therefore, interventions aimed at increasing empathy and responsiveness dimensions in relation to tangibles would increase the tangibles dimension the most, perhaps by starting with contributory factors to the tangibles dimension that would contribute the most to changes in the tangibles dimension. Therefore, improvements would look like increasing empathy and responsiveness with regards to complaints on the cleanliness of common areas, state of the parking facilities, and on issues related to lighting of the common areas within the complex.

In assessing the importance of the five SERVQUAL dimensions to service quality, the research identified the tangibles dimension as having the strongest positive marked relationship to service quality than those of the dimensions of assurance, reliability, empathy and responsiveness. It, therefore, contributes the most in every unit increase in service quality. In other words, increasing perceptions on the tangibles dimension has the potential to increase service quality perceptions the most in the housing complex, however because the relationship between the tangibles dimension and service quality is already strong, strengthening it further would not mean the greatest change in perception. To have the biggest impact on perceptions of service quality, interventions that aim at strengthening weaker dimensions that are of importance to service quality should be prioritised.

6.2.2 Research Objective 2

The second objective was to ascertain residents' perceptions of the assurance of quality services they are given by agents of the social housing programme.

Residents felt that the assurance of quality services given to residents by agents of the social housing programme, could benefit from interventions designed to improve resident opinions on the assurance of quality services in the housing complex. This is because technical and management staff courtesy and the security of the housing complex were given bad and very bad opinions by residents, while noise control was given a very good opinion. This culminates in an opinion not too favourable for the assurance dimension. To improve opinions of the assurance dimension, determining the importance of each contributary factors to the assurance dimension would assist in implementing interventions that prioritised interventions with the greatest impact on the assurance dimension.

All the contributing factors to the assurance dimension, namely courtesy of technical and management staff, security of the housing complex, and noise control had a positive effect on the assurance dimension. Therefore, any positive change in how residents view any of the contributory factors to the assurance dimension would result in positive changes in how residents perceive the assurance dimension as a whole. However, because the individual relationships between each of these contributory factors and the assurance dimension range from substantial to marked, it suggests a strong positive relationship.

By further strengthening each of the already strong positive relationships of the contributory factors to the overall assurance dimension it is possible to increase perceptions on the assurance dimension as a whole, although this will not result in a great change in perception since the relationships are already strong. Noise control and technical and management staff courtesy have the highest marked relationships to the assurance dimension, which means that improving the way they are viewed in the housing complex would contribute the most to every unit increase in the assurance dimension. Therefore, the greatest change in perceptions will result from improvements in the security of the housing complex.

Another way to focus the strengthening of the assurance dimension, would be to determine in which dimension changes in the assurance dimension would have the greatest impact. The research found all the dimensions to have a weak to substantial relationship with the overall assurance dimension. With the tangible dimension having the strongest substantial relationship, the most significant change to every unit increase in the assurance dimension would result from changes to the tangibles dimension or increases in trust in complex managements' competency to deal with the tangibles in the complex. However, the need to increase residents' trust to all the other SERVQUAL dimensions of service quality exist. The low trust reflected that the likelihood of any of the other four dimensions of SERVQUAL individually increasing the assurance dimension amongst residents was possible but moderate at best. Therefore residents' trust levels were low in various areas, namely in the avenues of communication available to them to communicate with complex management, the ability of complex managements to provide prompt services, the ability of complex management to fulfil all promises made to residents, and the competency of complex managements to deal with the tangibles in the complex.

In assessing the importance of the five SERVQUAL dimensions to service quality, the assurance dimension had the third strongest relationship with service quality and the third

highest importance. This suggests the importance of the two dimensions of tangibles and reliability to residents above that of the assurance dimension in Project X, which is therefore the third highest contributor to every unit increase in service quality. Therefore, residents do view the assurance dimension positively and it does have an impact on service quality, albeit a less important one than the of tangibles and reliability dimensions.

6.2.3 Research Objective 3

The third objective was to determine residents' perceptions of the responsiveness they observe from Project X management in response to their service needs.

Residents generally felt that the responsiveness dimension could benefit from interventions designed to change the resident opinion of management's responsiveness to their service needs in the housing complex. By understanding the contributing factors to the responsiveness dimensions, namely prompt attention to faults, frequency of building maintenance and willingness of employees to help, and each one's individual relationship to the responsiveness dimension helped assess their importance to this dimension, thereby making it possible to determine which contributory factors' individual change would result in the greatest change in the responsiveness dimension.

All the contributory factors to the overall responsiveness dimension had a positive relationship with the responsiveness dimension. In other words, any positive change in how residents view the contributory factors to the responsiveness dimension would result in positive changes in how residents perceive the responsiveness dimension as a whole, because the individual relationships between each of these contributory factors and the responsiveness dimension is strong.

By strengthening each of the strong positive relationships of the contributory factors to the overall responsiveness dimension, it is possible to increase perceptions of the responsiveness dimension. However, because the relationship already is strong, the change would not result in a great positive change in the responsiveness dimension. Therefore, marginal changes in opinions of the above-mentioned contributory factors to this dimension will not result in significant changes in the opinion of the responsiveness dimension.

In the research, the responsiveness dimension's contribution to quality services is not seen as very important, which is evidenced by the fact that the responsiveness dimension contributes the least in every unit increase in service quality. By having the least strongest substantial relationship to service quality, this is the least important of the other SERVQUAL dimensions.

This means that residents believe in management's ability to handle the tangibles in the housing complex, deliver quality services, perform quality services dependably or accurately, and empathise with the residents' needs for quality services more than they believe that management will actually respond to their needs promptly.

To strengthen the responsiveness dimension, it must be determined where responsiveness would have the greatest change. The tangibles dimension was found to have the highest importance and weakest relationship when compared to the other SERVQUAL dimensions. Therefore, residents felt that if the tangibles are well responded to, more often than not, the need for attending to faults, frequent building maintenance, and tenant experience with staff not willing to help would not be as great.

6.2.4 Research Objective 4

The fourth objective was to determine residents perceptions of the reliability of Project X in providing low-income rental housing services.

The reliability dimension in the research was predominantly viewed as good or very good. Services related to water supply, waste removal services, and mechanical and electrical services in the complex were perceived by residents to be good, while accurate record keeping, and emergency maintenance were found to be bad. Furthermore, residents generally felt that outsourced services were more reliable than those provided by complex management, as in the instance that waste management, electricity, and water are services provided by the municipality, while record keeping, and maintenance are provided by complex management.

Overall, since all the contributing factors to the reliability dimension, namely mechanical and electrical services, water services, emergency maintenance, waste removal and accurate record keeping, have a positive relationship to the reliability dimension, any positive change in how residents view any of them would result in positive changes in how residents perceive the reliability dimension, and changes in how residents view service quality in the complex. However, because the individual relationships between each of these contributory factors and the reliability dimension range from weak to substantial, they generally are weak, and the positive impact on the reliability dimension although there would not be very strong. Therefore, raising opinions on any of the contributory factors to the reliability dimension in an effort to strengthen the reliability dimension is possible, but due to the relationships of the contributory factors to the reliability dimension and the reliability dimension are not very strong, a big change in opinion would be necessary. The contributory factors to the reliability dimension

that have the potential of creating the greatest change in opinions of the reliability dimension as a whole are emergency maintenance and accurate record keeping, simply because their relationship to the reliability dimensions are the weakest and therefore strengthening them would result in the biggest changes in opinions.

Another way to achieve significant change in opinion to the reliability dimension, would be to determine which dimensions' changes would result in the most important changes to the reliability dimension. The research revealed that the reliability dimension had a very weak positive to substantial positive relationship with each the other four SERVQUAL dimensions of service quality. This means that the likelihood of any of the other four dimensions of SERVQUAL currently strengthening the reliability dimension in Project X in providing low-income rental services was found to be weak and moderate at best. Therefore, the positive change in opinion caused by changes in the other four SERVQUAL dimensions although there, would not be very strong.

Despite this, the tangibles dimension with the strongest substantially positive relationship to the reliability dimension would contribute the most to every unit change in the reliability dimension. Therefore, it can be concluded that, residents substantially believe in the complex management's ability to perform services related to the tangibles in the housing complex dependably and accurately. The assurance dimension had the second strongest substantially positive relationship to the reliability dimension, meaning that residents, substantially believed in complex management's ability to perform services that increased residents trust in them dependably and accurately. The third strongest relationship was between the reliability dimension and the empathy dimension, which demonstrated a weak positive relationship. This means that the belief of residents in complex management employees' ability to perform services that increased communication with residents and understanding of residents, dependably and accurately was weak. Lastly, the weakest relationship was between the reliability dimension and the responsiveness dimension, demonstrating a weak positive relationship. In other words, the residents weakly believed in complex management employees' willingness to help customers and provide prompt services, dependably and accurately. Therefore, the greatest change would be needed to achieve increasing opinions in weaker relationships to the reliability dimension, which in this case are the relationships between reliability and responsiveness and between reliability and empathy.

With the reliability dimension being rated the second highest contributor to every unit increase in service quality and having the second highest marked relationship to service quality of all the five service quality dimensions following the tangibles dimension, it was found to have a high rating and importance. Therefore, efforts at strengthening service quality through strengthening the reliability dimension in relation to the other dimensions are possible but would not result in as big a change in opinions as strengthening it through the other three dimensions, namely responsiveness, empathy and assurance, whose relationships with service quality the research has found to not be as strong as that enjoyed by the reliability dimension.

6.2.5 Research Objective 5

The fifth objective was to determine if residents perceive Project X management to be empathetic to their housing needs.

Residents view Project X management to be empathetic to their housing needs when approached. This opinion is demonstrated by the generally happy opinions expressed with the avenues and slots of communication that complex management makes available to tenants for them communicate with complex management. The research highlighted telecommunication services, communication between management and occupants, and operating hours convenient to tenants, as contributory factors of the empathy dimension that they generally were happy with. Pro-activeness of agents of the housing complex in doing things without being asked was the only factor that respondents were not happy with. Overall, respondents indicated that they feel that complex management do open avenues for residents to communicate with them, however complex management are not proactive in seeking to identify faults or challenges experienced by tenants.

All the contributory factors to the overall empathy dimension, namely telecommunication services, communication between management and occupants, operating hours convenient to residents, and pro-activeness of the housing complex agents in doing things without being asked, had a positive relationship to the empathy dimension. In other words, any positive change in how residents view the contributory factors to the overall empathy dimension would result in positive changes in how residents perceive the empathy dimension as a whole. But because the individual relationships between each of these contributory factors to the empathy dimension and the empathy dimension range from weak to substantial, that positive relationship is not very strong. By strengthening the positive relationships of the contributory factors to the empathy dimension with the empathy dimension, it is possible to increase

perceptions of the empathy dimension. The greatest change to the opinion on the empathy dimension would result from an increase in opinions on the pro-activeness of agents of the housing complex in taking initiative to do things without being asked because this aspect currently has the weakest relationship to the empathy dimension.

Another change to residents' opinion on the empathy dimension can be made by strengthening its relationship to service quality. To strengthen the empathy dimension's relationship with service quality, the SERVQUAL dimension that the empathy dimension would make the greatest per unit change to was determined to be the tangibles dimension. However, the research found all the dimensions to have a weak and at best a moderate relationship with the overall empathy dimension. Hence the need for complex management to increase resident's perception of empathy in relation to all the other SERVQUAL dimensions of service quality by showing empathy when responding to resident service needs, assuring residents of quality services, dealing with the tangibles in the housing complex, and providing services reliably.

Therefore, efforts that increase residents' perception of Project X management being empathetic to their housing needs should be implemented. The findings of this research attribute the second lowest relationship with service quality to the empathy dimension, which is behind the tangibles dimension, the assurance dimension and the reliability dimension. It therefore contributes the second least in every unit increase in service quality, indicating a lower position of importance; increasing its importance will strengthen its relationship to service quality.

6.3 Recommendations

The recommendations below are intended to facilitate the provision of quality living in Project X for all tenants.

6.3.1 Research Objective 1

The first objective was to ascertain residents' perceptions of the tangible facilities of the social housing project.

Despite the fact that the tangibles dimension had the strongest positive marked relationship to service quality in the research, the relationship can be further improved. One way of doing this is by improving the other dimensions' relationship to the tangibles dimension, thereby increasing the tangible dimensions overall strength when related to service quality. Starting with improvements to dimensions with the highest relationships to the tangibles dimension

would provide the biggest improvements to service, and least opinion changes, to the strength of the tangibles dimension. The assurance dimension has the strongest positive substantial relationship with the tangibles dimension, followed by the reliability dimension.

In order to increase trust in competency to deal with the tangibles in the complex or the assurance dimension in relation to tangible dimension, evidence of conformance to quality standards in the construction of the complex should be communicated with residents upon the residents moving into the complex. One way to increase residents' belief in complex management's ability to perform services related to the tangibles dimension in the housing complex dependably and accurately, or the reliability dimension in relation to tangible dimension, could be to decrease the perception of municipal maladministration, lack of control, and corruption in the public sector. This can be done through increased advocacy and communication through the media of instances where corruption was successfully overcome.

Efforts at improving the positive relationship between the contributory factors to the overall tangibles dimension in the complex, and the tangibles dimension, through improvements in current services would also help in increasing the strength of the tangibles dimension. Below are several ways in which this can be done:

- **Cleanliness of common areas in the complex**

It is recommended that cleaning service hours be extended to include weekends, ensuring that at all times common areas are well kept. Residents should also be encouraged not to litter by increasing the number of dustbins around the housing complex, thereby contributing to changing the opinion that the cleanliness in common areas is bad.

- **State of the buildings and gardens**

Management is encouraged to increase the frequency of garden maintenance services during the summer months, when the grass is known to grow faster, thus reducing the appearance of overgrown lawns and gardens. Project X needs to consider improving the design of the external and internal appearance of the housing complex to better cater for differently abled people, as well as children and the elderly. Access to many of the housing blocks and upper-level apartments is reached via steps, which might present a challenge to a person whose mode of getting around is a wheel chair, for example. One way of making this improvement is through the installation of ramps near steps and widening doorways so as to allow for better access and independence amongst all people.

- **State of the lighting in the common areas**

Despite respondents predominantly feeling that the lighting in common areas was good, fluorescent lights can also be used in common areas, which would reduce costs and keep the complex lit even during periods of no electricity. Implementation of low-cost, energy-saving practices and technologies should be included in the building plans of all social housing construction projects and be agreed upon by all stakeholders such as the Department of Human Settlements, housing associations, and the municipality.

- **Parking facilities**

Despite respondents predominantly feeling that the number of parking bays available in the housing complex are enough. It is, recommended that complex management consider the provision of some covered parking bays in order to better to protect residents' vehicles from adverse weather conditions.

6.3.2 Research Objective 2

The second objective was to ascertain residents' perceptions of the assurance of quality services they are given by Project X management as agents of the social housing program.

Despite the significant relationship with service quality, the assurance dimension had the third strongest relationship to service quality. This indicates that two dimensions, tangibles and reliability, had a higher relationship and a higher contribution to service quality. The relationship between service quality and the assurance dimension can be improved upon for it to become a very strong one. One way of doing this is by improving the other dimensions relationship to the assurance dimension, thereby increasing the assurance dimensions' overall strength when related to service quality. Starting with improvements to dimensions with the highest relationships to the assurance dimension would provide the biggest improvements to the strength of the assurance dimension. The tangibles dimension followed by the reliability dimension had the strongest relationships to the assurance dimension. Therefore, increasing the substantial relationships of both the tangibles and reliability dimensions to the assurance dimension to marked or very strong ones, would mean improving residents trust in the competency of complex employees to deal with the tangibles in the complex as well as improvements in residents' perception of complex management's ability to fulfil all promises made to residents.

Efforts at improving the positive relationship between the contributory factors to the overall assurance dimension in the complex, and the assurance dimension, through improvements in current services would also help in strengthening the assurance dimension. Below are several ways in which this can be done:

- **The security of the housing complex (safety)**

A majority of respondents perceived security in the housing complex as bad. It is therefore recommended that complex management investigate the provision of better security in the complex, for example through gate access control, burglar gates, and window guards. The provision of electric fencing and the use of access disks or biometric scanners for tenants has also been known to increase security. An intercom system improves security by permitting only resident-approved entrants into the complex. Having sides of the buildings and all staircases fitted with motion detector lighting so as to illuminate dark places for hiding and thus improve visibility has also been known to improve security. Strong doors and reinforced windows that are slightly elevated also discourage people accessing units through broken windows.

Effective security improves the service quality offering in the complex by creating a secure environment where tenants feel safe. Complex residents can contribute towards their own safety by creating a 'neighbourhood watch' organisation where crime could be reported and potentially reduced in this way. The provision of designated spaces for children to play would increase their safety by removing them from parking spaces where they can be injured by cars. Complex management should explore creative ways of funding some of the initiatives listed above, such as through advertising or donations from building supplier companies.

6.3.3 Research Objective 3

The third objective was to determine residents' perceptions of the responsiveness they observe from Project X management in response to their service needs.

The responsiveness dimension had the lowest positive substantial relationship to service quality in the research, and thus this relationship can be improved upon to being a marked or very strong one. One way of doing this is by improving the other dimensions' relationship to the responsiveness dimension, thereby increasing the responsiveness dimension's overall strength when related to service quality. Starting with improvements to dimensions with the highest relationships to the responsiveness dimension would provide the biggest improvements to the strength of the responsiveness dimension. The responsiveness dimension has the weakest

and most negative relationship with the tangibles dimension, followed by the reliability dimension. Therefore improving the weak relationships of both the tangibles dimension and the reliability dimension to the responsiveness dimension to a substantial, marked or very strong one. This would result in an improvement in residents' perception that the tangibles in the complex are well taken care of, and that response times to queries are acceptable. In order to increase responsiveness in the housing complex, complex management should look at the possibility of automating manual processes and systems, making it easier to respond to customers and ensure that all queries are responded to appropriately.

Efforts at improving the positive relationship between the contributory factors to the overall responsiveness dimension in the complex, and the responsiveness dimension, through improvements in current services, would also help in increasing the strength of the responsiveness dimension. Prompt attention to faults had the highest relationship to the responsiveness dimension, while willingness to help and frequency of building maintenance contributed equally to overall responsiveness. Therefore, higher value is placed on the question regarding response time than those that speak to staff attitude and proactivity reducing the need to respond.

Below are several ways in which contributory factors to the overall responsiveness dimension in the complex can be done:

- **Prompt attention to faults**

It is recommended that complex management look into improving response times to faults within the complex in order to reduce residents having to make private attempts to fix the faults themselves minimized. This behaviour must also be discouraged because it does not effectively document the work that has gone into fixing faults and should another fault happen in the same place, the maintenance team might not have pertinent information to affect the second repair. Complex management is also encouraged to communicate each step of the service process with the complainant so that the resident is under no mistaken illusion that their faults are not being attended to when they do not physically see action with regards to their queries. An electronic processing system might help with the speed in addressing requests and communicating the status complainants. Often faults get reported more than one time because they are either not properly reported the first time, or for some reason the complaint is overlooked when attending to complaints.

An electronic software system would force the user to report all pertinent information regarding the fault, auto response e-mails or telephone calls would update customers about each step of the repair process and categorise faults and complaints according to the level of severity, giving priority to those needing urgent attention. This system can also be time-based on the part of the institution to whom faults are reported, periodically prompting action on reported faults, reminding the user to follow up on a certain fault whose processing had not reached a certain process given the time when it was reported, and escalating issues which presented a challenge. This software could also provide customers an opportunity to interact with the institution where the complaint was made and telephonic autoresponders could allow customers to phone in to obtain an update on the progress of their complaint. The purchase of this system can be centralised to save costs, for example, purchasing it through the National Department of Human Settlements through the State Information Technology Agency (SITA) and implementing it in all the other provinces.

6.3.4 Research Objective 4

The fourth objective was to determine residents' perceptions of the reliability of Project X in providing low-income rental housing services.

Despite the fact that the reliability dimension had the second strongest positive strong relationship to service quality in the research, the relationship can be improved upon to take it to a very strong one. One way of doing this is by improving the other dimensions' relationship to the reliability dimension, thereby increasing the reliability dimensions' overall strength when related to service quality. Starting with improvements to dimensions with the highest relationships to the reliability dimension would provide the biggest improvements to the strength of the reliability dimension.

The tangibles dimension has the strongest positive substantial relationship with the reliability dimension, followed by the assurance dimension. Therefore, increasing the substantial relationships of both the tangibles and assurance dimensions to the reliability dimension, to marked or very strong ones, would mean improvements in residents' belief in complex management's ability to perform services related to the tangibles in the housing complex and those that increased residents' trust in them dependably and accurately.

In order to increase residents' belief in complex management's ability to perform services related to the tangibles in the housing complex dependably and accurately, complex management should either increase capacity and coordination or better communicate with

residents who might perceive an absence of capacity and coordination, which would result in the service not being seen as dependable or accurate.

Efforts at improving the positive relationship between the contributory factors to the overall reliability dimension in the complex, and the reliability dimension, through improvements in current services would also help in increasing the strength of the reliability dimension. Below are several ways in which this can be done:

- **Mechanical and electrical services**

The provision of electricity within the complex, even in times when there is general load-shedding in, could be improved by the use of alternative energy supplies of electricity. An example of this could be the placement of solar heating panels on roofs that connect to geysers to heat water during periods of rolling blackouts. Implementation of low-cost energy saving proactive and technologies should be included in the building plans of all social housing construction projects, and be agreed upon by all stakeholders such as government departments, housing associations, and the municipality. Talks on incorporating energy efficient construction techniques in social housing developments should be continued with energy experts in the private sector, with the potential to incorporate these into housing policy.

- **Water services**

Another recommendation would be the installation of water tanks at strategic points throughout the complex. In this way, even when the water mains is off, residents have access to potable drinking water and, when necessary, this can be used to water complex lawns and other common areas.

- **Emergency maintenance**

It is recommended that complex management look into improving emergency maintenance within the complex, by possibly increasing capacity, as the perception exists that there are insufficient staff working especially at hours beyond working hours that residents are at home. Possibly investing in a complaint management system whose benefits would include those listed under Recommendation 3 as well as improving record keeping and filing, could all potentially have a positive impact on response times.

- **Accurate record keeping**

Possibly investing in a complaint management systems whose benefits would include, amongst others, the improvement of record keeping and filing is recommended.

6.3.5 Research Objective 5

The fifth objective was to determine if residents perceive the Project X management to be empathetic to their housing needs.

The empathy dimension had the second lowest positive substantial relationship to service quality in the research, and thus the relationship can be improved upon to being a marked or very strong one. One way of doing this is by improving the other dimensions' relationship to the empathy dimension, thereby increasing the empathy dimension's overall strength when related to service quality. Starting with improvements to dimensions with the highest relationships to the empathy dimension would provide the biggest improvement to strengthening the empathy dimension.

The empathy dimension has the strongest positive weak relationship with the tangibles dimension, followed by the reliability dimension. Therefore, increasing the weak relationships of both the tangibles and the reliability dimensions to the empathy dimension to substantial, marked or very strong ones, would result in a change in residents' perception that complex management is not empathetic to their needs concerning the state of the tangibles in the complex. In order to increase empathy in the housing complex, complex management should look at the possibility of increased employee training in order to promote more empathic involvement of beneficiaries in the architecture and management of low-income housing units.

Efforts at improving the positive relationship between the contributory factors to the overall empathy dimension in the complex, and the empathy dimension, through improvements in current services would also help in strengthening the empathy dimension. Below are several ways in which this can be done:

- **Telecommunication services**

It is recommended that customer service training be periodically given to employees and agents of the complex so as to improve empathy showed to customers, which is especially true for newer employees. Empathy as a trait should be incorporated into the listed characteristics section of job descriptions as part of the recruitment and hiring of employees, as employees who are inherently more empathetic are likely to naturally display this towards customers.

Rewarding employees for positive interactions reported by customers fosters a culture striving for increased customer service within the organisation, and new employees will be influenced by witnessing the practice within the organisation. Training or workshops should also be given to residents to increase understanding of how current services serve their individual needs and to determine how further these needs can be serviced. Training on language support, such as how to use emotionally sensitive and intelligent language to convey potentially controversial or challenging to customers should be frequently implemented. The use of harsh, formal talk should be replaced with peertopeer communication in the form of a dialogue with customers.

- **Communication between management and residents**

Social media can also be used as a resource for employees to request solutions to work related challenges and queries from customers that they encounter in the course of interacting with residents. Posting a question on complex community WhatsApp groups means that all employees have a way of promptly assisting with resident queries without even leaving their own workstations. This can also be used as a means of sharing pertinent work-related information between employees and this can form part of knowledge sharing and on-the-job training. The onset of the Covid-19 pandemic has introduced new ways of conducting business, particularly relating to staff being unable to meet physically as a team and with Unit Heads, and so by using new virtual technologies such as Zoom and Microsoft Teams, frequent meetings can be setup where feedback from customers about the service quality improvements may be discussed. Other ways of increasing the ease at which tenants can communicate with management, including making more use of social media platforms such as Twitter, Facebook and WhatsApp can be increased, as well as e-mails addressed to residents that they can reply to or that have embedded links that they can click on to obtain the help that they need any time of the day, thereby extending the hours where customers can obtain assistance.

6.4 Limitations of the Study

- The study is exploratory in nature; however the findings cannot be generalised as they only apply to one low- to medium-income residential project.
- A large number of neutral responses were observed. This might be because the project is newly built, or the respondent had not lived in the complex long enough to have an opinion on the dimensions in question. Neutral responses for dimensions such as empathy, reliability and tangibles might mean that the respondent has not interacted with management, or because the complex is still new it is still in good condition.

It is for the reasons above that the findings, conclusions, and recommendations should be taken to be those belonging only to Village 1 of Project X and not extrapolated to be understood and used to reflect the entire complex or of other complexes within the Pietermaritzburg area. They could, however, provide some insight into future research on a broader basis.

6.5 Further Research

- This research pointed at a need to improve responsiveness to service needs of residents in the housing complex. Therefore, a comparison of responsiveness to service needs in other government-funded low-income rental housing complexes, perhaps in different districts or provinces, might uncover sectoral norms and unearth challenges that result in responsiveness.
- This research points to a need to improve perceptions of empathy in the housing complex. An investigation into how the public sector can incorporate some of the empathetic strategies of some of South Africa's and the world's most empathetic companies to promote an empathetic public sector in the former

6.6 Overall Conclusions

The measurement of service quality in this research revealed that although there is room for improvements in the current service offering in Project X, evidenced by the fact that the five SERVQUAL dimensions have varying impacts on service quality, with the tangibles dimension contributing the most, followed by the reliability dimension which is followed by the assurance dimension, the empathy dimension and lastly the responsiveness dimension. Overall, tenants perceive the service quality they receive in Project X to be good, with all the differing impacts and positive relationships. In other words, that they all contribute positively to every unit increase in the overall service quality in the housing complex.

However, because the tangibles, reliability and assurance dimensions have a very strong relationship to service quality, and the empathy and responsiveness dimensions have a strong relationship to service quality, it is possible, through interventions highlighted in each objective recommendation above, to improve these relationships, and each dimensions' importance in relation to service quality, and ultimately service quality.

Service quality, not being the only determinant of customer satisfaction in the public rental sector, has an impact in improving customer satisfaction, and in this case the impact is a positive one since all the dimensions correlate positively to service quality and hence to customer satisfaction. Therefore, there is an element of the total increase in tenants' satisfaction

in the housing complex that is based on factors which this research did not measure. These factors include historical knowledge of the quality of low-income housing in South Africa, and perhaps perceptions of the service provider, which in this case is the public sector.

This chapter provided both conclusions and recommendations for the research questions, which are linked to the objectives. The study highlighted that Village 1 of Project X residents surveyed in this study were overall not disillusioned by government services offered to them. Rather, they viewed them in a positive light and were satisfied with the service quality.

However, they did have certain service dimensions, such as responsiveness, empathy and assurance, where they felt that improvements should be made. If these three dimensions can be prioritised for improvement, a higher level of customer satisfaction can be obtained. The highest satisfaction levels were observed for the tangibles dimension, followed by the reliability dimension.

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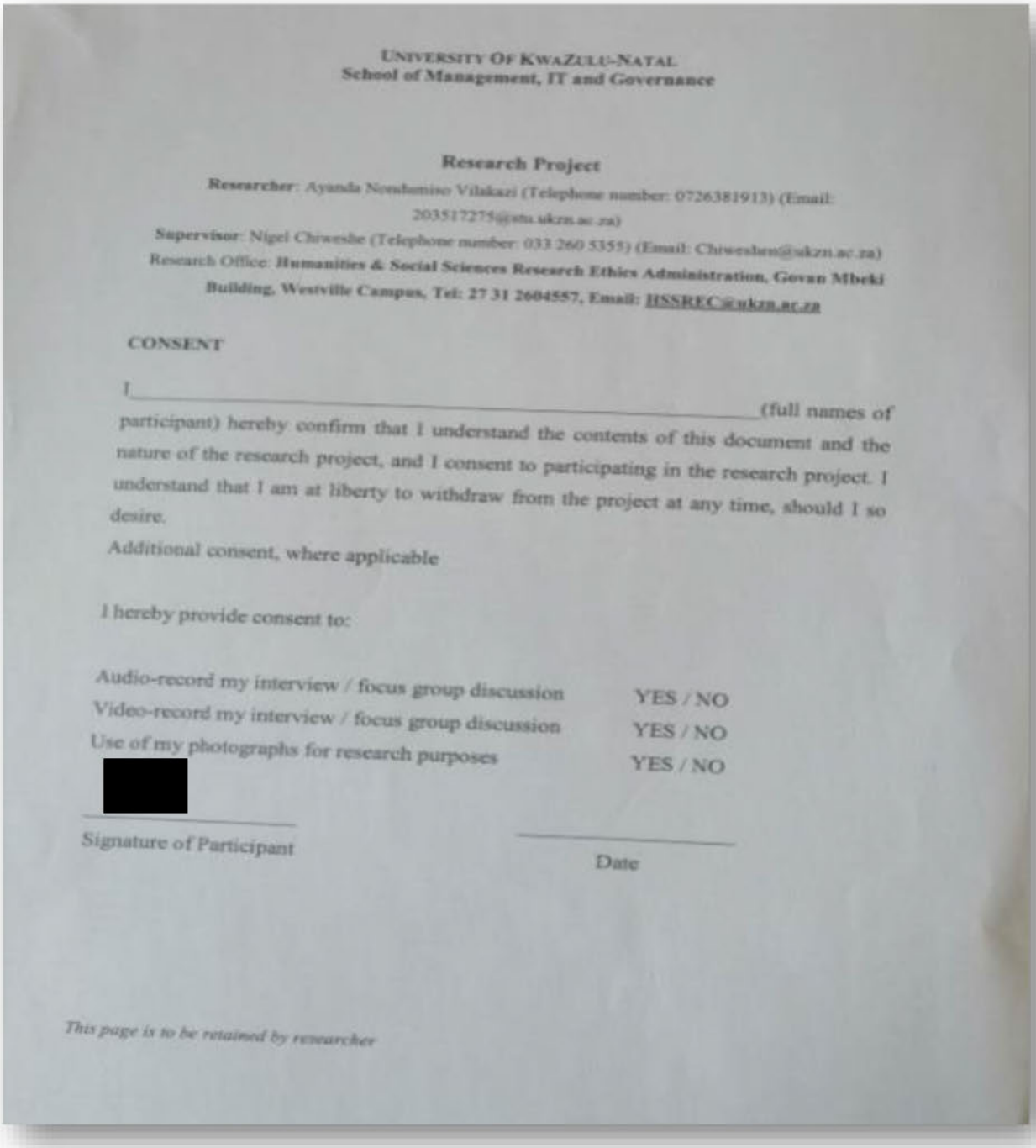
APPENDICES:

Appendix 1: Informed Consent Letter



UNIVERSITY OF KWAZULU-NATAL
School of Management, IT and Governance

Research Project

Researcher: Ayanda Nonhlanhla Vilakazi (Telephone number: 0726381913) (Email: 203517275@stu.ukzn.ac.za)

Supervisor: Nigel Chiweshe (Telephone number: 033 260 5355) (Email: Chiweshen@ukzn.ac.za)

Research Office: **Humanities & Social Sciences Research Ethics Administration, Govan Mbeki Building, Westville Campus, Tel: 27 31 2604557, Email: HSSREC@ukzn.ac.za**

CONSENT

I _____ (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire.

Additional consent, where applicable

I hereby provide consent to:

Audio-record my interview / focus group discussion YES / NO
Video-record my interview / focus group discussion YES / NO
Use of my photographs for research purposes YES / NO

[redacted]

_____ _____
Signature of Participant Date

This page is to be retained by researcher

Appendix 2 Questionnaires
Questionnaire (English)

Researcher: Ayanda Nondumiso Vilakazi (Telephone number: 0726381913) (Email: 203517275@stu.ukzn.ac.za)

Supervisor: Nigel Chiweshe (Telephone number: 033 260 5355) (Email: Chiweshen@ukzn.ac.za)

Research Office: **Humanities and Social Sciences Research Ethics Administration, Govan Mbeki Building, Westville Campus, Tel: 27 31 2604557, Email:** HSSREC@ukzn.ac.za

Questionnaire for residents of Project X:

Questionnaire Reference No: (UnitNo)

To be completed by data collector

Visit record		
Date	**Time**	**Survey Code**
		(1)

Survey Codes
1. Questionnaire Completed
2. Tenant refused
3. Questionnaire not Completed

1. Demographic information

Do you live in Project X?	**Tick correct block: (2)** 1. Yes: ☐ 2. Just visiting: ☐	**How long have you been living/ visiting (Current) Project X?** Tick correct block: **(3)** 1) <1yr: ☐ 2) Above 1 yr.: ☐
Resident Interviewed: Gender: Tick correct block **(4)** 1) Male: ☐ 2) Female: ☐ 3) Other: ☐		**Residents age :** Tick correct block **(5)** 1) 18 -35: ☐ 2) 36 –59: ☐ 3) 60 –Above: ☐

Kindly select the best responses from the choices provided.

Rank the following services areas in terms of quality of services **provided**, Rating scales

1. Very good
2. good
3. Neutral
4. bad
5. Very bad

Factors/ Dimensions	Components	Rating				
Tangibles	1. Cleanliness of Common areas in the complex (6)	1	2	3	4	5
	2. State of the buildings and Gardens (7)	1	2	3	4	5
	3. State of the lighting in the common areas (8)	1	2	3	4	5
	4. Parking facilities within the complex (9)	1	2	3	4	5
	5. Appearance of Staff (10)	1	2	3	4	5
Assurance	1. Courtesy of Technical and management staff (11)	1	2	3	4	5
	2. The security of the housing complex (Safety) (12)	1	2	3	4	5
	3. Noise control (13)	1	2	3	4	5
Responsiveness	1. Prompt attention to faults (14)	1	2	3	4	5
	2. Frequency of building maintenance (15)	1	2	3	4	5
	3. Willingness to help of employees (16)	1	2	3	4	5
Reliability	1. Mechanical and electrical services (17)	1	2	3	4	5
	2. Water services (18)	1	2	3	4	5
	3. Emergency maintenance (19)	1	2	3	4	5
	4. Waste removal (20)	1	2	3	4	5
	5. Accurate record keeping (21)	1	2	3	4	5
Empathy	1. Telecommunication services (22)	1	2	3	4	5
	2. Communication between management and occupants (23)	1	2	3	4	5
	3. Operating hours convenient to residents (24)	1	2	3	4	5
	4. Pro-activeness in doing things without being asked (25)	1	2	3	4	5

Questionnaire (Isizulu)

Researcher: Ayanda Nondumiso Vilakazi (Telephone number: 0726381913) (Email: 203517275@stu.ukzn.ac.za)

Supervisor: Nigel Chiweshe (Telephone number: 033 260 5355) (Email: Chiweshen@ukzn.ac.za)

Research Office: **Humanities and Social Sciences Research Ethics Administration, Govan Mbeki Building, Westville Campus, Tel: 27 31 2604557, Email: HSSREC@ukzn.ac.za**

Inhlolo-mibuzo ya bahlali base Project X:

Inombolo yereferensi: (inombolo yendlu)_____

Kubhale umqoqi wedatha

Imininingwane ye Nhlolo-mibuzo		
Usuku	**Isikhathi**	**Ikhodi yokuhlola**
		(1)

Ikhodi yokuhlola
4. Liqediwe iphepha lemibuzo (libhalwe lonke)
5. Umhlali wenqabile
6. Iphepha lwemibuzo aliqediwe (alibhaliwe lonke)

2. Ulwazi lokubalwa kwabantu

Uhlala e Project X na?	***Khetha impendulo efanele:* (2)** 3. Yebo: ☐ 4. Cha ngivakashile: ☐	**usuwahlala/ vakasha isithathi esingakanani la eProject X? *Khetha impendulo efanele:* (3)** 1) ngaphansi konyaka: ☐ 2) ngaphuzu konyaka: ☐
Ubulili bomhlali okuxoxwe naye: *Khetha impendulo efanele* (4) 1) isilisa: ☐ 2) Sifazane ☐ 3) okunye: ☐		**Iminyaka yomhlali ekuxoxwe naye : *Khetha impendulo efanele* (5)** 1) 18 -35: ☐ 2) 36 –59: ☐ 3) ngaphezu kwa 60: ☐

Sicela ucacise izinga lwempatho **uyitholayo**, ngokuphendula imibuzo.

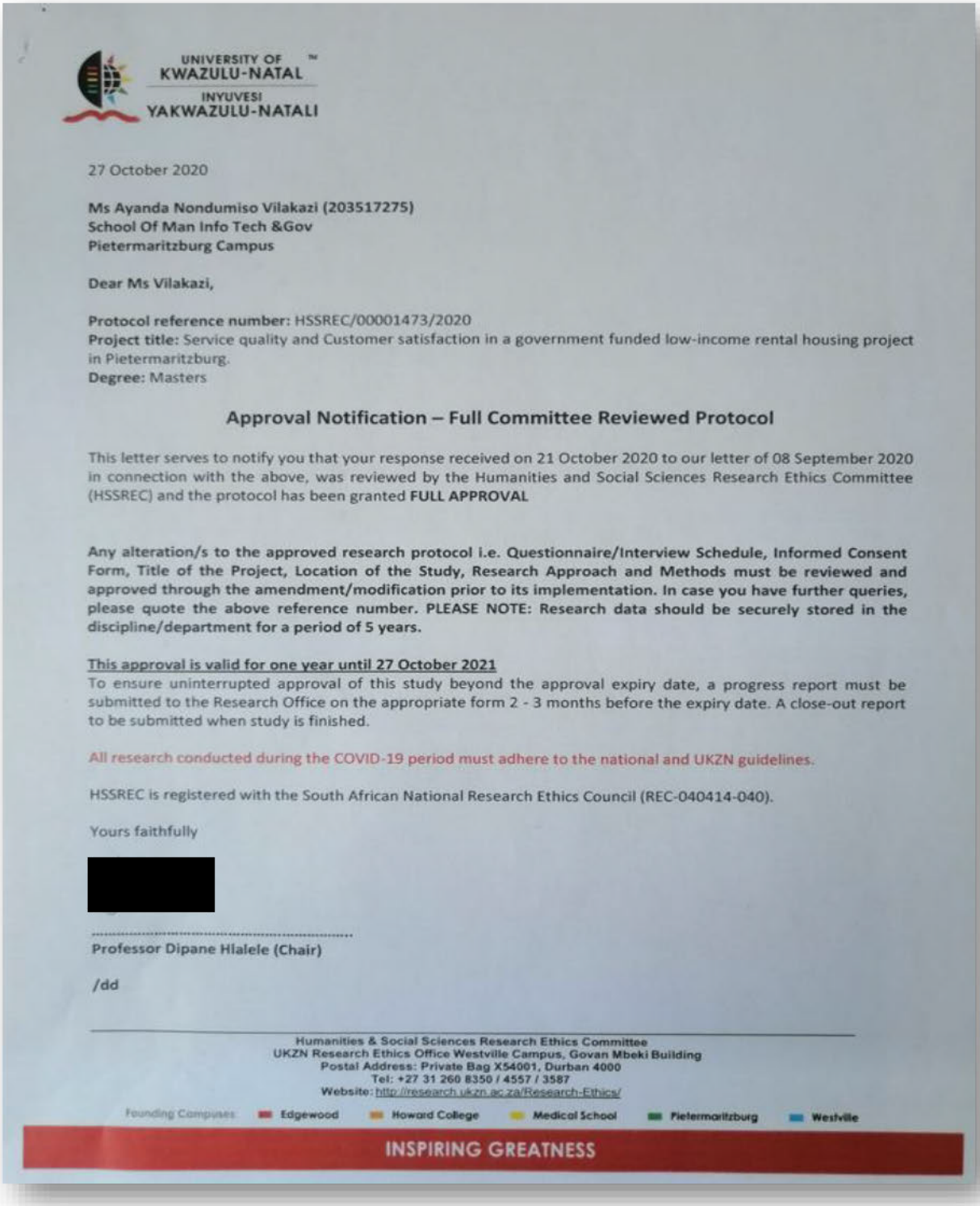
Imibuzo uyiphendula ngokukhetha inombolo ovumelana nayo. Izinombolo nezincazelo zazo ziyalandela:

1. sihle kakhulu (isimo esihamba phambili)
2. sihle
3. si phakathi nendawo (asisibi futhi asisihle)
4. sibi
5. sibi kakhulu

Izici	imibuzo	Izinga lwempatho

Izibonakalayo	6. Isimo senhlanzeko yezindawo ezidlula abahlali (6)	1	2	3	4	5
	7. Isimo sezakhiwo nengadi (7)	1	2	3	4	5
	8. Isimo sokukhanya kwezindawo ezidlula abahlali (kakhulukazi ebusuku)(8)	1	2	3	4	5
	9. Isimo senhlanzeko nokwanela kwezindawo zokupaka (9)	1	2	3	4	5
	10. Isimo sokubukeka kwabasebenzi(10) (ukugqoka ngokufanele futhi nokuhlanzeka)	1	2	3	4	5
Isiqiniseko	4. Isimo senhlonipho esiphathwa ngayo njekabahlali (11)	1	2	3	4	5
	5. Isimo sokuphepha kwezindlu zabahlali (12)	1	2	3	4	5
	6. Isimo somsindo ophazamisayo (13)	1	2	3	4	5
Ukuphemdula	4. Isimo sokusheshiswa kokulungiswa kwezinto eziphukile (14)	1	2	3	4	5
	5. Imvamisa yokugcinwa kwendawo namabhilidi (15)	1	2	3	4	5
	6. Isimo sokuthanda ukuba usizo kwabasebenzi (16)	1	2	3	4	5
Ukwethembeka	6. Isimo sokuba nogesi osebenzayo ezindlini (17)	1	2	3	4	5
	7. Isimo sokuba namanzi ezindlini (18)	1	2	3	4	5
	8. Isimo sabahlali sokukwazi ukuthola abantu abagcina ibhilidi ukuthi basheshe befifike (19)	1	2	3	4	5
	9. Isimo sokwethuthwa kwemfucuza (20)	1	2	3	4	5
	10. Ukugcinwa kwamarekhodi abahlali ngendlela (21)	1	2	3	4	5
Uzwelo	5. Isimo sokuthola usizo ngefoni (22)	1	2	3	4	5
	6. Isimo sokuxhumana phakathi kwabahlali nabaphathi bendawo (23)	1	2	3	4	5
	7. Isimo sokuvulwa amahovisi abaphathi bendawo sibalungele na abahlali (24)	1	2	3	4	5
	8. Imvamisa yabaphathi bendawo ukukwenzela abahlali okuhle bengaceliwe (25)	1	2	3	4	5

Appendix 3 Ethical Clearance



UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

27 October 2020

Ms Ayanda Nondumiso Vilakazi (203517275)
School Of Man Info Tech &Gov
Pietermaritzburg Campus

Dear Ms Vilakazi,

Protocol reference number: HSSREC/00001473/2020
Project title: Service quality and Customer satisfaction in a government funded low-income rental housing project in Pietermaritzburg.
Degree: Masters

Approval Notification – Full Committee Reviewed Protocol

This letter serves to notify you that your response received on 21 October 2020 to our letter of 08 September 2020 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the 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.

This approval is valid for one year until 27 October 2021
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours faithfully

[redacted]

.....
Professor Dipane Hlalele (Chair)

/dd

Humanities & Social Sciences Research Ethics Committee
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Tel: +27 31 260 8350 / 4557 / 3587
Website: http://research.ukzn.ac.za/Research-Ethics/

Founding Campuses: Edgewood, Howard College, Medical School, Pietermaritzburg, Westville

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