

***A STUDY TO DETERMINE THE QUALITY OF GIS
SUPPORT SERVICE RENDERED TO MUNICIPALITIES IN
KWAZULU-NATAL USING SERVQUAL SCALE APPROACH***

By

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**Submitted in partial fulfilment of the requirements for the degree of
Master of Business Administration
At the School of Management, University of KwaZulu-Natal
(Pietermaritzburg, South Africa)**

SEPTEMBER 2006

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EXECUTIVE SUMMARY

Since the birth of a new democracy in the Republic of South Africa in 1994, municipalities across the country have embarked on several service-oriented programmes primarily to improve the quality of life of ordinary citizens within their areas of jurisdiction. Subsequently, these programmes which include Land Use Management System (LUMS), Integrated Development Planning (IDP), Integrated Sustainable Rural Development, Local Economic Development (LED), Urban Renewal Strategy, Property Rate Implementation and Municipal Infrastructure Grant (MIG) have been tailored to fast track service delivery in municipalities by building capacity and promoting small, medium and micro enterprises in local communities as a means of alleviating poverty (Local Government Programmes, 2004, paragraph 4).

In order to speed up the development planning processes in the Province with regards to Integrated Development Planning, Spatial Development Framework and Land Use Management, Integrated Sustainable Rural Development, Local Economic Development (LED) and Municipal Infrastructure Grant (MIG), it has been identified that local authorities require a GIS application to integrate spatially related municipal information with other business information (Sarkar, 2004, paragraph 1). In view of this, the Department of Local Government and Traditional Affairs (DLGTA) has for the past six years, provided financial and technical support to the ten (10) District Municipalities and about thirty (30) Local Municipalities in KwaZulu-Natal to facilitate the establishment of Geographic Information Systems (GIS) in these municipalities (DLGTA Municipal GIS Capacity Building Manual, 2004). It is further noted that although a substantial amount of grant funding and technical support has been provided to the 10 District Municipalities and thirty Local Municipalities in KwaZulu-Natal, the full utilization of GIS as a decision-making support tool has not, as yet, been realised in some of these municipalities. This scenario thus calls for the need to ascertain municipalities' expectation and perception of the quality of GIS support services rendered to them by the Department and also to measure the gap thereof. To do so, the researcher employed SERVQUAL scale methodology to measure the service quality gap between

municipalities' expectation and perception of the quality of GIS support services. A self-administered questionnaire, which covers the five (5) dimensions of service quality, namely; tangible, reliability, responsiveness, assurance and empathy, was compiled and forwarded to the 10 District municipalities and 20 Local Municipalities in the Province to complete and return to the researcher within a specified time period. Fourteen (14) of the thirty (30) questionnaires sent out to these municipalities were returned to the researcher. The data was then analysed and conclusions were drawn.

The research discovered that responsiveness, assurance, empathy and tangible dimensions are significant to municipalities in that they all had average expectation statement scores above 6 on the Likert 7-point scale. This means that respondents strongly agree to the expectation statements relating to these dimensions. On the other hand, the average expectation statement score relating to reliability dimension is below 6. The research result has shown that DLGTA is perceived by municipalities for rendering a desirable level of services to municipalities with respect to aspects relating to reliability, assurance, empathy and tangible dimensions. However, DLGTA seems not to provide prompt service to most of these municipalities and not showing signs of readiness to respond to their requests on GIS matters.

It is also noted that there is a wide gap between municipalities' perception and expectation for responsiveness (-1.19), empathy (-0.90) and assurance (-0.98), and this seems to confirm the view that responsiveness and assurance dimensions are the most significant variables out of the five determinants of service quality, and thus require service improvement attention. The outcome of the survey reflects that the GIS concept is relatively new to some of these municipalities, and thus municipal officials want to feel safe in their transactions with DLGTA on GIS matters. As a result, they expect DLGTA officials to attend to them promptly and must have the knowledge to answer their GIS related questions. They strongly require DLGTA staff to give them individual attention and possibly have their best interest at heart.

In this study, the responsiveness dimension is classified as having a poor service quality while the reliability dimension (with a narrow gap) has the superior service quality. To minimise or eliminate these gaps, it has been mentioned that DLGTA should be guided by the eight principles of Batho Pele which seem to take care of the key requirements of the five service quality dimensions as discussed in this dissertation. Based on this outcome, recommendations were made and a future research proposal outlined.

ACKNOWLEDGEMENTS

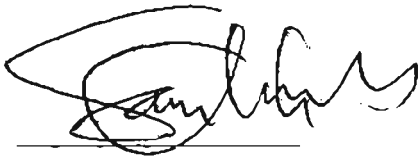
First and foremost, the author would like to thank the LORD ALMIGHTY for sustaining him and his family during the loss of his beloved daughter Jennifer on the 16th April 2004. May her soul rest in peace.

The author wishes to express his sincere appreciation for the assistance given by the following people:-

- Professor Debbie Vigar-Ellis, Director of the MBA programme, for her support and supervision of this research.
- His wife Esther, son Maxwell, late daughter Jennifer and the external family for their continuous encouragement and support throughout his studies.
- Pastors Richard and Deborah Gray, Dr. and Mrs Koranteng, Mr and Mrs Okyere-Manu, Mr. and Mrs Oduro-Adjei, Mr and Mrs Agyeman-Duah and Pastor and Mrs Ampeah-Badu, Dr. and Mrs Adewusi, Mr. Vincent Okudoh, Mr. G. Opoku-Kesse, Mr. S Osei, Ms L. Gcabashe, Ms. T. Ngidi, Mr. S. Noye, Mr. N Fox and other colleagues at DLGTA for their words of encouragement and prayers.
- MBA lecturers, Admin staff and course mates at the University of KwaZulu-Natal who have helped him in various ways during his studies.

DECLARATION

I, Samuel Yaw Yirenkyi, hereby declare that the contents of this dissertation are my own work, and that all sources utilised, have been accurately reported and acknowledged. This dissertation has not, nor is submitted for any degree / examination at any university.

A handwritten signature in black ink, appearing to read 'Samuel Yaw Yirenkyi', written over a horizontal line.

Samuel Yaw Yirenkyi

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LIST OF ACRONYMS

DIMS	: District Information Management System
DLGTA	: Department of Local Government and Traditional Affairs
GIS	: Geographic Information System
GPS	: Global Position System
IDP	: Integrated Development Planning
LED	: Local Economic Development
LUMS	: Land Use Management System
MIG	: Municipal Infrastructure Grant

CHAPTER 1

INTRODUCTION

1.1 Background and Motivation

Since the birth of a new democracy in the Republic of South Africa in 1994, municipalities across the country have embarked on several service oriented programmes primarily to improve the quality of life of ordinary citizens within their areas of jurisdiction. Some of these programmes were commissioned by National and Provincial spheres of government and are meant to assist District and Local municipalities to achieve their Constitutional mandates. According to Section 152 of the Constitution of Republic of South Africa (Act 108 of 1996), these mandates include provision of democratic and accountable government for local communities; provision of basic services to local communities in a sustainable manner; promotion of socio-economic development in rural, urban and peri-urban communities; and the creation of a safe and healthy environment. Some of the programmes that were commissioned by the National government include Land Use Management System (LUMS), Integrated Development Planning (IDP), Integrated Sustainable Rural Development, Local Economic Development (LED), Urban Renewal Strategy and Municipal Infrastructure Grant (MIG). The key objective of these programmes is to fast track service delivery in municipalities by building capacity and promoting small, medium and micro enterprises in local communities as a means of alleviating poverty (Local Government Programmes, 2004, paragraph 4).

Subsequently, the responsibility of improving the quality of life of ordinary citizens in the Republic is largely conferred on District and Local municipalities across the country by the Constitution of the Republic (Constitution of Republic of South Africa, Act No. 108 of 1996) and other pieces of legislation such as the Republic of South Africa Municipal Systems Act (Act No. 32 of 2000), Republic of South Africa Municipal Structures Act (Act No. 117 of 1998), Republic of South Africa Traditional Leadership and Governance Framework Amended Act (Act No. 41 of 2003), Republic of South Africa Disaster Management Act (Act No. 57 of 2002), etc. According to Section 40 of the Republic of South Africa Constitution (Act No. 108 of 1996), government is constituted as national, provincial and local spheres of government which although are interdependent, are also autonomous with respect to their operations and responsibilities. Nonetheless, in the spirit of co-operative governance, these

spheres of government and their organs of state are required by Section 41 of the Republic of South Africa Constitution (Act No. 108 of 1996) to co-operate with one another in mutual trust and good faith. Furthermore, Section 152(1) of the Republic of South Africa Constitution (Act No. 108 of 1996) provides that local sphere of government, consisting of District and Local municipalities, should function as a truly accountable, effective and efficient sphere of government and also play a major role in the war against poverty and promotion of socio-economic development in the local communities. In order to perform their constitutional duties effectively and efficiently as stipulated in Section 154(1) and 156 of the Republic of South Africa Constitution (Act No. 108 of 1996), it is deemed essential that municipalities acquire the requisite capabilities and manpower, and this is why National and provincial spheres of government roles are critically needed to build and strengthen capacity of municipalities.

According to Mr. F. S. Mufamadi (Minister of Department of Provincial and Local Government) at the National Council of Provinces workshop held in June 2000, national and provincial spheres of government have played and continue to play an important role in the co-operative government which is aimed primarily at raising the standard of living of ordinary citizens in local communities in South Africa (Mufamadi, 2000, paragraph 11). Mr. Mufamadi reported that the local sphere of government appears to be the weakest partner in the tri-lateral relationship, and this perhaps explains why many developmental initiatives embarked upon by national and provincial spheres of government to assist municipalities could not be crowned with success (Mufamadi, 2000, paragraph 8).

Mr. Mufamadi reported further that, the President's Co-ordinating Council (a forum which is made up of the Presidency, the Ministry of Provincial and Local Government and the nine provincial Premiers) are strongly of the view that national and provincial spheres of government are not providing adequate support to municipalities as they should. In view of this, at a President's Co-ordinating Council meeting held on the 14th December 2001, it was resolved that a National Capacity Building Framework for Local Government should be compiled to align and focus efforts of all public entities providing direct support to municipalities across the country (Republic of South Africa National Capacity Building Framework for Local Government Manual, 2002:1).

Furthermore, public access to relevant municipal information is deemed essential to effective delivery of services to local communities across the country. Thus, municipalities across the country are required by law, to promote a society in which the public at large will have ready access to municipal information. Pieces of legislation have been instituted by National and Provincial spheres of government to enforce availability of municipal information to parties interested in local government affairs. For instance, Republic of South Africa Local Government Municipal Property Rates Act (Act No. 6 of 2004) requires each municipality to maintain a database of landholdings within its jurisdiction detailing information about geographic locations and extent of each landholding, ownership rights and the value of those rights, etc. According to KwaZulu-Natal Provincial Department of Local Government and Traditional Affairs GIS Strategy Report (2006:4), some municipalities in KwaZulu-Natal for the past three years have revealed that municipal information are stored in separate database systems and these systems are not interlinked in most cases. Access to municipal information is sometimes impossible and there is a dire need for implementation of information management systems of some kind in municipalities to address this concern.

A study conducted in United State of America shows that about 97% of local governments (or municipalities) in United State of America with populations of at least 100 000 are using Geographical Information Systems (GIS) to manage and analyze spatially related municipal information. The GIS tools enable local government officials to integrate spatially related municipal information with other business information. As a result, GIS technology has become an integral part of their day-to-day operations (Sarkar, 2004, paragraph 1). It is against this background that KwaZulu-Natal Provincial Department of Local Government and Traditional Affairs (DLGTA) has for the past six years, provided financial and technical support to the ten (10) District Municipalities and about 30 Local Municipalities in KwaZulu-Natal to facilitate implementation of Geographic Information Systems (GIS) and the District Information Management System (DIMS) (KwaZulu-Natal Provincial Department of Local Government and Traditional Affairs GIS Strategy Report, 2006:4). Initiation of these projects by KwaZulu-Natal Provincial Department of Local Government and Traditional Affairs is based on the premise that a large volume of information that is required by municipalities for development and planning purposes has geographical relevance. Hence it is anticipated that the use of GIS tools in municipalities among other things will assist municipal officials to:

- speed up development planning processes with respect to Integrated Development Planning, Spatial Development Frameworks and Land Use Management, Integrated

Sustainable Rural Development, Local Economic Development (LED), Urban Renewal Strategy and Municipal Infrastructure Grant (MIG).

- locate landholdings well suited for specific needs such as housing developments and other business initiatives,
- identify potential sites for specific national, provincial and/or local developmental projects with ease,
- map out geographic locations of municipal assets,
- plan effectively for capital utilisation, design and construction of municipal infrastructure (KwaZulu-Natal Provincial Department of Local Government and Traditional Affairs Municipal GIS Capacity Building Manual, 2004).

To this effect, KwaZulu-Natal Provincial Department of Local Government and Traditional Affairs has disseminated a wide range of GIS base datasets to District and some Local municipalities in KwaZulu-Natal. These datasets include digital aerial photographs covering the full extent of local municipalities in KwaZulu-Natal, 1: 50 000 topographic map series of KwaZulu-Natal, municipal administrative boundaries, schools, clinics, hospitals, rivers, wetlands, pension pay points, boreholes, national and provincial street datasets and many others in GIS data format.

In addition to the dataset, this Department has provided conditional grants to some of the larger municipalities to:

- purchase high-speed computers suitable for processing and storing GIS datasets;
- acquire a GIS software application for manipulation and mapping GIS datasets;
- acquire A0 plotters and/or A3 colour printers for producing large format hardcopy maps;
- purchase Global Position System (GPS) devices for capturing geographic locations of municipal projects and physical assets;
- development of web-based GIS interface to provide access to development planning information via the Internet and Intranet.

Training of municipal officials regarding the use of GIS software, data manipulation and mapping techniques was also provided by the Department. In order to facilitate acquisition and sharing of relevant spatial datasets as well as utilisation and re-use of GIS applications

and organisational learning without unnecessary duplication of efforts and funds, this Department had also established provincial and regional GIS fora.

Although a substantial amount of funding and technical support has been provided to the 10 District Municipalities and other Local Municipalities in KwaZulu-Natal by Provincial Department of Local Government and Traditional Affairs, the full utilisation of GIS as a decision-making support tool has not, as yet, been achieved in some of these municipalities. On one hand, the lack of GIS utilisation could be attributed to the fact that some of the municipal officials are finding it difficult to grasp the GIS concept and its application in local government environment, or otherwise, it could be said that the existing Municipal GIS Capacity Building program is not addressing the real information needs of these municipalities. According to Fitzsimmons and Fitzsimmons (2001:44), quality of service is deemed unacceptable when customers' expectations are not met. In other words, customer satisfaction is based on the comparison between perceptions of service rendered and expectations of services desired. When expectations are exceeded, service is perceived to be exceptional quality and vice versa. In this sense, customers are the ultimate judges of the value of services rendered to them by service providers (Fitzsimmons and Fitzsimmons, 2001:69). It is against this background that the researcher has decided to embark on this study to measure the gap between municipalities' expectation and perception of the quality of services rendered to them by the Department with respect to GIS implementation.

1.2 Research Question and Objectives

The ensuing subsections discuss the research questions and the objective of the study.

1.2.1 Research Question

Based on previous discussion about local government's inability to perform their constitutional duties, there is now a greater need for national and provincial sphere of government to provide high-quality support services to local government in South Africa. As a result, it was deemed necessary for Department of Local Government and Traditional Affairs to be aware of municipalities' perceptions about the quality of the GIS support services rendered to them by this Department. According to Zeithaml and Bitner (2003:135), a sound measure of service quality is necessary for identifying aspects of service needing

performance improvement and also assessing how much improvement is needed on each aspect of the services provided. Hayes (1991:6) has also stated that services are intangible in nature and therefore customers' judgment about quality of service is usually based on dimensions of the service. Measurement of service quality had not as yet been carried out by this Department hence it was appropriate to ascertain the actual or perceived gap between municipalities' expectations and perceptions of the GIS support services rendered to them by the Department.

1.2.2 Research Objectives

From the above discussion, this research study sought to achieve the following objectives:

- 1) To determine municipalities' expectations of the services rendered to them by the Department with respect to GIS implementation and technical support (for each of the service quality dimensions).
- 2) To determine municipalities' perceptions of the services rendered to them by the Department with respect to GIS implementation and technical support (for each of the service quality dimensions).
- 3) To determine the average gap score between municipalities' perceptions and expectations for each of the service quality dimensions.
- 4) To determine which dimensions have poor service quality (i.e. poor perceptions by municipalities relative to expectations)
- 5) To determine which dimensions have superior service quality (i.e. perception meets or exceeds expectation of service quality)

It is anticipated that by achieving the above objectives, the Department of Local Government and Traditional Affairs will be in the better position to identify aspects of the services rendered to municipalities that require performance improvement, and also able to assess how much improvement is needed on each aspect of the services provided.

1.3 Research Design

The study utilised both primary and secondary data sources. The primary data was used specifically to address the research objectives while the secondary data source was used to gather relevant literature information in the area of service marketing, service quality, customer satisfaction, legislation and mandates of provincial sphere of government with respect to assisting municipalities to improve the quality of life of ordinary citizens and lastly the use of GIS in local government. According to Kotler (1994:41), most business companies conduct customer satisfaction surveys using questionnaires. As a result, data collection was carried out using a self-administered SERVQUAL scale questionnaire. The survey questionnaires for this study were distributed to 30 municipalities in KwaZulu-Natal Province. Upon completion of the questionnaires, the responses were categorised into the five dimension variables (i.e. tangible, reliability, responsiveness, assurance and empathy) to determine average gap score for each of the five dimensions.

1.4 Anticipated Contribution

This study is aimed at providing the outcome of this research to KwaZulu-Natal Provincial Department of Local Government and Traditional Affairs so that senior management would become aware of municipalities' expectations and perceptions about the GIS implementation support services that are rendered to municipalities. According to Hayes (1991:2), knowledge of customers' perception and attitudes about an organisation's business will greatly enhance its opportunity to make better business decisions. In the light of this, it is anticipated that knowledge and insight gained from this research will contribute to:

- Minimizing service quality gaps between municipalities' expectations and perceptions of the GIS support services rendered to them by the Department;
- Understanding the actual spatial information needs of municipalities in KwaZulu-Natal;
- Ensuring effective implementation and use of GIS in the municipalities;
- Development of GIS-related applications to address specific spatial information needs or requirements of municipalities;
- Increasing the overall performance of municipalities in terms of time, cost, human resources and service delivery processes through the use of GIS technology;

- Assisting municipalities to improve the quality of life of ordinary citizens in KwaZulu-Natal by ensuring that high-quality of services are rendered to municipalities.

1.5 Outline of the Dissertation

Chapter Two: Characteristics of Services and Service Quality

This chapter critically reviews literature on Service Marketing, Service Quality and Customer Satisfaction with particular reference to the five dimensions of service quality and the use of the SERVQUAL model to measure service quality. As mentioned in the previous section, these dimensions of service quality are critical to this study in that they provide the framework upon which municipalities' perceptions and expectations about the quality of GIS support services rendered to them by Department of Local Government and Traditional Affairs could be determined and analyzed.

Chapter Three: Improving Service Delivery: Legislative roles and responsibilities of KZN Department of Local Government and Traditional Affairs

This chapter discusses national and provincial legislatures underlying national and provincial governments supporting municipalities to provide basic services to ordinary citizens. Constitutional mandates of Provincial Department of Local Government and Traditional Affairs to support to municipalities is discussed.

Chapter Four: Research Methodology

This chapter details the process of the research design and methodology used for the study.

Chapter Five: Research Findings

This chapter provides the research findings and detailed analysis of responses received from municipal officials regarding support services rendered to them by KwaZulu-Natal Department of Local Government and Traditional Affairs.

Chapter Six: Discussion and Conclusion

This chapter discusses the outcome of the research analysis.

Chapter Seven: Recommendations

Recommendations based on the outcome of the research analysis are discussed. Possible future research projects are proposed.

Chapter Eight: Limitations and Recommendations for Future Research

Limitations encountered in this study are highlighted in this chapter based on the outcome of the survey data analysis. Possible future research projects are proposed.

CHAPTER 2

CHARACTERISTICS OF SERVICES AND SERVICE QUALITY

2.1 Introduction

According to Zeithaml and Bitner (2003:35), “the main objective of service firms is to develop and provide offerings that would satisfy the needs and expectations of consumers and thereby ensuring their economic survival”. Kotler (1994:46) states that “in the past, many firms took their customers for granted because customers did not have many alternative suppliers, but today firms are going all out to retain their customers by delivering high customer satisfaction which their competitors may find harder to overcome”. Essentially, service firms of today strive to provide service offerings that would meet the needs and expectations of their customers. It is believed that if the expectations of customers are exceeded, customers become highly satisfied and are much less ready to switch over to other brands (Kotler, 2000:36). In his view, satisfied customers are more likely to create emotional affinity with the service offering and this may result in customer loyalty. Satisfying customers could also lead to repeat purchase and positive word-of-mouth communications (Bitner, 1990:69), which according to Rogers *et al* (1994:14), could result in greater market share and subsequently higher profits for service firms. Prabhakaran and Satya (2003:157) in support of this view assert that “survival of business has direct correlation with the satisfaction of the customer”. They remark that “customer satisfaction is the sum total of the customers expression of the service quality”.

Zeithaml and Bitner (2003:35) state that “customer’s expectations of an offering are, in fact, beliefs about service delivery that function as standards or reference points against which performances are judged, and failure to meet these standards or expectations is likely to result in customers being dissatisfied with the service offering”. Grönroos (1984:36) also states that “customers evaluate service quality by comparing their perceptions of the service they received with their expectations of it, and if perceptions do not match expectations, then customers will form a view that service quality is poor”. To avoid performing below these standards or reference points, service firms ought to provide service offerings that would exceed customer’s service-quality expectations (Zeithaml and Bitner, 2003:35), and to achieve this goal, Zeithaml and Bitner (2003:35) assert that “some service firms have undertaken customer satisfaction surveys of some kind to identify aspects of the service

offerings or dimensions that may need performance improvement". It has been noted that customers' needs or expectations change over time due to variety of factors such as customer's emotional responses, their attribution and perceptions of equity, and throughout the service cycle, customers do have different experiences which ultimately impact on their satisfaction (Zeithaml and Bitner, 2003:86). In this context, Zeithaml and Bitner (2003:86) warn that "customer satisfaction is dynamic and thus when measuring customer satisfaction or service quality dimensions, evaluating firms should identify a point in the experience cycle to focus their attention or efforts".

Kumar *et al* (1999:575) stress the importance for organisations to develop a customer satisfaction program to measure performance/satisfaction over time. They argued that 96% of dissatisfied customers never complain whilst 60-90% of these 'silent' dissatisfied customers, never buy from the company again. Zeithaml and Bitner (2003:135) also state that "a sound measure of service quality is necessary for identifying aspects of services needing performance improvement, assessing how much improvement is needed on each aspect, and evaluating the impact of improvement efforts". Wisniewski (2001, 380), in support of the above views, stresses that "obtaining adequate information about the quality of services as perceived or expected by customers is absolutely necessary for evaluating firms' performances, otherwise feedback obtained from customer surveys could be misleading from both policy and operational perspective".

From the above discussion, one may argue that information about customer's expectations and perceptions of quality of services should not only be adequate, but it should also be gathered accurately using the right measuring instrument or methodology. In this regard, Jain and Gupta (2004:25) state that "different scales for measuring service quality have been put forward by researchers based on their perceptions about service quality". They further state that "SERVQUAL and SERVPERF constitute the two major service quality measurement scales. The consensus, however, continues to elude to date as to which one is superior". In their view, however, SERVQUAL scale outperforms SERVPERF scale in that it possesses higher diagnostic power to pinpoint areas for managerial interventions in the event of service quality shortfalls. According to Parasuraman *et al* (1988:12), the SERVQUAL scale was first published by them in 1988 but has since undergone numerous improvements and revisions (Parasuraman *et al*, 1994:111). In terms of its applicability, it has been noted that SERVQUAL scale has been used extensively by many service research institutions and

organisations (Parasuraman *et al*, 1988:12, Lee *et al*, 2000:217), applied in different service settings (Jain and Gupta, 2004:26) including local authorities (Wisniewski, 2001:380). Subsequently, the SERVQUAL scale allows a firm to determine the facets on which it has to work to improve the global perception of its service quality (Parasuraman *et al*, 1988:12, Llosa *et al*, 1998:18), and the firm does so by comparing customer expectations of their services to their perceptions of what is received or offered to them by the firm (Llosa *et al*, 1998:18).

In spite of its extensive use, the SERVQUAL scale has also attracted numerous criticisms around its universal applicability (Llosa *et al*, 1998:19), and issues concerning its dimensionality (Mittal and Lassar, 1998:177) and validity (Lee *et al*, 2000:217). According to Llosa *et al* (1998:19), “SERVQUAL scale has been replicated in many different service categories as to examine its generalization”. They continued by stating that “some of them (results) show that conceptual and methodological problems exist regarding the measurement of perceived service quality and its true dimensionality”.

Building from the above discussion, and also taking into account the positive elements of the SERVQUAL scale, it is evident that the SERVQUAL scale would be useful in this study for determining the average gap score between municipalities’ expectations and perceptions for each of the service quality dimensions as proposed by Parasuraman *et al* (1988:12) (i.e. reliability, responsiveness, assurance, empathy and tangible). Aspects of the SERVQUAL scale model are discussed in Section 2.6.2.

Lastly, since this study is aiming at assessing the quality of GIS support services rendered to municipalities in KwaZulu-Natal by DLGTA, it is deemed important to draw a distinction between services and goods (or manufactured products). The ensuing sections thus explain what services are and discuss the key characteristics of services as well as the five dimensions of service quality. The methodology for measuring service quality or consumer satisfaction has also been discussed in this chapter.

2.2 What are Services?

The concept of service comes from marketing literature and many scholars have offered different definitions of a service based on their diverse perceptions about what services are

(Chang *et al*, 2002:1). In simple terms, services are defined as “deeds, processes and performances” (Zeithaml and Bitner, 2003:3). Perreault and McCarthy (1999:245) define services as “deeds performed by one party for another”. However, in a more broader definition, Fitzsimmons and Fitzsimmons (2001:5) citing Quinn, Baruch and Paquette (1987:50) and Zeithaml and Bitner (2003:3) indicate that “services include all economic activities whose output is not a physical product or construction, and is generally consumed at the time of production, and provides added value in forms such as convenience, amusement, timeliness, comfort, or health which are essentially intangible in nature”.

Kotler (1994:464), on the other hand, defines services as “any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything”. He affirms the view that “services are intangible, inseparable, variable and perishable and also added that services normally require more quality control, supplier credibility, and adaptability”. According to Grönroos (1990:27), services are “activities or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems”. It is noted that “services are non-material equivalent of goods and service provision is essentially an economic activity that does not result in ownership” (Encyclopedia Britannica, 2005: paragraph 1).

Yong (2000:43) reviewing the various definitions of a service, has pointed out that the following features of service are noteworthy in order to better understand the concept. Firstly, he explains that “service is a performance and happens through interaction between consumers and service providers”. Secondly, he asserts that “other factors such as physical resources or environments play an important role in the process of service production and consumption” and lastly, he states that “service is needed by consumers to provide certain functions such as problem-solving”. Putting these features together, Yong (2000:43) concludes that “a service, combined with goods or products, is experienced and evaluated by consumers who have particular goals and motivations for consuming the service”.

Fitzsimmons and Fitzsimmons (2001:5); Perreault and McCarthy (1999:245) and Zeithaml and Bitner (2003:5) in an attempt to differentiate between goods and services, indicate that goods and services should be distinguished on the basis of their attributes. They explain that

“goods are tangible physical objects which can be created and transferred, and can exist over time and therefore can be stored and used later”. According to them, “services tend to be intangible, and unlike goods or manufactured products, are created and used simultaneously or near simultaneously”. For example, Perreault and McCarthy (1999:245) state that “a customer after watching a movie at a cinema house would at least have a sound memory of the movie that he or she watched, but cannot take ownership of anything tangible”. The above examples explain why services cannot be touched or owned by consumers.

From the above discussions, it is evident that intangibility is the key determinant of whether an offering is a service or not. The next section discusses the main characteristics of services and outlines service marketing challenges that these characteristics tend to impose on both consumers and service marketers. Among other things, the ensuing sections seek to highlight on the inherent differences between goods (or manufactured products) and services, and further explain how these differences affect the way and manner customers perceive service quality as oppose to product quality.

2.3 Characteristics of Services

Having explained what services are in the previous section, it is necessary to discuss the nature and characteristics of services. As stated in Section 2.2, there are inherent differences between goods (or manufactured products) and services, and this section outlines the main characteristics or attributes of services. According to Kotler (1994:466), Zeithaml and Bitner (2003:20), Fitzsimmons and Fitzsimmons (2001:28,29) and Srivastava and Smith (1994: 35) accounts, there are four major characteristics of services that greatly affect the design of marketing programs and these are intangibility, inseparability, variability and perishability. These characteristics of services are discussed below.

2.3.1 Intangibility

As stated in Section 2.2, the most basic difference between goods and services is intangibility (Gordon and McDougall, 1990:27) and this is argued on the basis that “services are performances or actions rather than objects and hence cannot be seen, tasted, touched, heard or smelled in the same manner as tangible goods before they are purchased” (Zeithaml and Bitner, 2003:20; Kotler, 1994:466; Fitzsimmons and Fitzsimmons, 2001:28). As an example, Kotler (1994:46) states that “a person getting a *face lift* or a patient in a psychiatrist’s office

cannot see or predict the outcome of the services before purchase". Zeithaml and Bitner (2003:20) are however of the view that "although services cannot generally be seen or touched, there are certain tangible components of services that can be seen or touched by consumers". As an example, Zeithaml and Bitner (2003:20) state that "equipment or tools used by some service firms can be seen or touched by consumers".

Invariably, in the service industry, intangibility seems to pose marketing challenges to both consumers and service marketers (Fitzsimmons and Fitzsimmons, 2001:29; Zeithaml and Bitner, 2003:21; Siu *et al*, 2001:719, Kotler, 1994:467). For instance, according to Fitzsimmons and Fitzsimmons (2001:29) "in the process of evaluating or comparing services prior to experiencing the outcome of the services, consumers would usually rely extensively on the reputation of service firms". This means that, service firms are faced with the challenge of maintaining their reputations at all times and also making intangible elements of their services more visible to their customers.

Kotler (1994:467) further asserts that "since services cannot readily be displayed or communicated to consumers; consumers may find it extremely difficult to assess the quality of the service offering. As a result, customers would usually look for signs or evidence of the service quality by considering tangible components of the services such as place, people, equipment, symbols, etc". With this in mind, Kotler (1994:467) concludes that "decisions concerning what to include in advertising and other promotional materials could pose marketing challenges to service marketers". In essence, Kotler (1994:467) is of the view that advertising or promotional materials used by service marketers must be chosen such that the intangible qualities of the service offerings are clearly communicated to customers.

Siu *et al* (2001: 719), on the other hand, assert that "because service is not an object but a phenomenon, it is difficult for customers to evaluate the quality of services as they evaluate physical goods". On the same token, Zeithaml (1981) shares that "service firms may find it difficult to understand how customers perceive their services and evaluate service quality". Llosa *et al* (1998:16) explain that "in the absence of tangible evidence of services, service quality can fundamentally be measured through customer perceptions". To this effect, SERVQUAL scale was developed by Parasuraman and others in 1988 to measure customers' perceptions of service quality (Parasuraman *et al*, 1988).

In relation to this study, it is anticipated that municipalities' expectations and perceptions of GIS services rendered to them by Provincial Department of Local Government and Traditional Affairs (DLGTA), could largely be influenced by the physical settings of DLGTA offices; the level of commitment and expertise of DLGTA staff providing GIS support service to municipalities, the IT equipment or technology used by DLGTA staff as well as the promotional materials used by the Department to market its GIS information products and services to municipalities and the public at large.

2.3.2 Inseparability

As stated previously in Section 2.2, unlike goods (or manufactured products), most services are typically produced and consumed simultaneously by consumers (Kotler, 1994:466, Zeithaml and Bitner, 2003:21, Fitzsimmons and Fitzsimmons, 2001:27; Siu *et al*, 2001:719). This implies that services cannot be stored and consumed later like goods (or manufactured products); and more often than not customers are present while the service is being produced, and may even take part in the production process (Kotler, 1994:466, Zeithaml and Bitner, 2003:21, Siu *et al*, 2001:719).

Zeithaml and Bitner (2003:22) state that "because services are consumed simultaneously and customers are sometimes in the production process, the quality of the service and consumer satisfaction may depend extensively on what happens during the production process". Under this condition, customer's input becomes critical to the quality of service performance (Siu *et al*, 2001:719). In other words, customers' involvement in the production process could impact positively or negatively on the outcome of the service process. For example, Zeithaml and Bitner (2003:22) state that "customers who disrupt service processes can cause problems for themselves and also others in the service setting resulting in poor customer satisfaction". They cite that "in a restaurant setting, over-demanding or intoxicated customers may demand extra attention from the restaurant owner or the waitresses, and this could negatively affect experiences of other customers".

Fitzsimmons and Fitzsimmons (2001:27) further state that "simultaneous production and consumption of services eliminates many opportunities for quality-control intervention". As an example, they explain that "goods (or manufactured products) generally can be inspected before delivery, but services rely largely on other measures which incorporate quality in the

service package”. This statement affirms Zeithaml and Bitner’s (2003:22) views that because customers are present while the service is being produced, the quality of the service would depend extensively on what happens during the production process.

2.3.3 Variability

According to Fitzsimmons and Fitzsimmons (2001:29), the combination of the intangible nature of services and customers as participants in service delivery process may result in variation of the service from customer to customer. Fitzsimmons and Fitzsimmons (2001:29) state that “work activity in services is more people-oriented than with tangible items”. There are exceptions though (e.g. services that process information or customers’ property). Zeithaml and Bitner (2003:21) also state that “no two customers are alike and thus each customer may have unique demands or would experience the service in a unique way”. For example, according to Zeithaml and Bitner (2003:22), a tax accountant may provide different services to two different customers on the same day based on their specific interests or demands, or better still the mood of the tax accountant during service delivery could affect the quality of his/her performance in both cases. Siu *et al* (2001:719), in support of this view, state that “because of the personal involvement of both service producers and customers, services are difficult to standardize”.

Zeithaml and Bitner (2003:21) further state that “because services vary across time, organisations and people, ensuring consistent service quality is a big challenge to service firms”. In other words, in the service sector, quality depends on factors that cannot be fully controlled by the service providers such as the ability of the customer to articulate his or her needs. Fitzsimmons and Fitzsimmons (2001:29) also state that “direct customer-employee contact has implications for service relations”. Accordingly, a disgruntled employee of a service firm can do irreparable harm to the organisation especially when such employee is the firm’s sole contact with customers. In this regard, Fitzsimmons and Fitzsimmons (2001:29) advise that service managers should be concerned about employees’ attitudes as well their performances.

Furthermore, it has been stated that “since services are varied from customer to customer, there are greater difficulties in maintaining quality control standards with services than with products” (Encyclopedia Britannica, 2005: paragraph 1). Nonetheless, Kotler (1994:468)

asserts that “service firms can take three steps to maintain quality control standards with services”. These are:

- 1) investing in good personnel selection and training;
- 2) standardising the service-performance process throughout the organisation; and
- 3) detecting and correcting poor service by monitoring customer satisfaction through suggestion and complaint systems, customer surveys, and comparison shopping.

2.3.4 Perishability

According to Siu *et al* (2001:719), perishability means that “services cannot be produced in advance, inventoried, and later made available for sale”. Fitzsimmons and Fitzsimmons (2001:28) add that “services are perishable commodities and because they cannot be stored, they are lost forever when not used”. As an example, Fitzsimmons and Fitzsimmons (2001:28) explain that “a seat on an airplane or in a restaurant, etc, cannot be reclaimed or resold at a later time”. Zeithaml and Bitner (2003:22) also state that “unlike goods, services cannot be saved, stored, resold, or returned and this tends to pose many challenges to service marketers especially concerning demand forecasting and creative planning for capacity utilisation”. Kotler (1994:468) affirms that “services cannot be stored and their value exists only at the time when the service is needed”.

It was noted by Kotler (1994:468) and Siu *et al* (2001:719) that the perishability of services is not a problem per se when demand is steady, but it does become a problem when demand fluctuates. For instance, according to Siu *et al* (2001:719), “since services cannot be stored, it is difficult to adequately match up with demand and supply items like corrective maintenance works such as heating and cooling repairs”. Fitzsimmons and Fitzsimmons (2001:33) add that “perishability of service does create a challenge for service managers because these managers lack the option of producing and storing inventory for the future”. Fitzsimmons and Fitzsimmons (2001:33) continue by stating that “inability of firms to take inventory of services precludes the option of using traditional manufacturing strategy of relying on inventory as a buffer to absorb fluctuations in demand”.

In conclusion, it is evident from the foregoing discussion that the human element plays a crucial role in service operations. The unavoidable interaction between service providers and consumers during production of services could be a source of great opportunity as in direct

selling (Fitzsimmons and Fitzsimmons, 2001:33). That is to say, because consumers conduct their transactions directly with service providers, service firms have the opportunity to build long-term relationships with their customers and thereby increasing their profit margins. However, the unique characteristics of intangibility, perishability and simultaneous provision and consumption of services seem to introduce special challenges for service marketers. To say the least, the intangible nature of services makes marketing objective of measuring service quality difficult. As a result, a more structured approach is required to determine consumer's perception of the service quality.

In order to satisfy customers or achieve marketing objectives, it is essential that service firms have a strategy that will not only satisfy the needs of the customers within the target markets, but also to maximize the performance of the organisation. In this regard, the ensuing section discusses the marketing mix concept and explains briefly the seven variables (i.e. 7Ps) which constitute the extended marketing mix. In essence, these variables are at the disposal of service marketing managers to influence customers.

2.4 Service Marketing Mix

According to McLean (1994:190), Kotler (1994:98) and Rafiq and Ahmed (1995:4), one of the dominant marketing theories is the *marketing mix* which was originally developed by Borden (1965:389). The original marketing mix, which is commonly known as 4P's (i.e. Product, Price, Promotion and Place), is essentially a set of controllable marketing variables that a firm blends to produce the response it wants in the target market (Kotler and Armstrong, 1989:45). Rafiq and Ahmed (1995:4), on the other hand, define marketing mix as "a set of tools that are at the disposal of marketing managers to influence customers". Low and Tan (1995:36) state that "the basic marketing strategy used by a firm to satisfy the needs of selected target markets is the result of blending these marketing variables, namely; product, place, promotion and price".

It has been noted that Borden's original list was derived from research in product manufacturing firms and thus it is not comprehensive enough for services marketing (McLean, 1994:190, Kent, 1986:145, Rafiq and Ahmed, 1995:4). According to Kent (1986:145) "the original 4Ps marketing mix concept is too simplistic and misleading". Rafiq and Ahmed (1995:4) affirm that "there is a growing consensus in the services marketing

literature that service marketing is different because of the nature of services". They cite that "the original marketing mix as developed by Borden (1965:389) does not incorporate the unique characteristics of services, and thus there is a strong contention to adopt the 7Ps marketing mix concept as proposed by Booms and Bitner (1981:47) as the generic marketing mix". Subsequently, Booms and Bitner's (1981:47) propose seven elements by adding People, Process and Physical evidence to the traditional 4Ps, and these elements are discussed in brief below. Zeithmal and Bitner (1996:26) affirm that "for all service marketing, people, physical evidence and process must be added to the usual four part marketing mix consisting of product, price, promotion and distribution".

2.4.1 Product

According to Kotler (1984:3; 1994:432), "a product is anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need; and it includes physical objects, services, persons, place, organisations and ideas". He defines product mix as "set of all product lines and items that are offered to the target market". Perreault and McCarthy (1999:48) add that 'this offering may include factors such as quality, design, durability, branding, packaging, installation, accessories, after sales service, training, features and product lines".

McLean (1994:196) asserts that "product planning for services is as relevant in services marketing as it is in goods marketing, where decisions on the service product and the range of services offered integrate with other elements of the marketing mix". He further states that "differences become apparent when the service being offered is altered". According to Kotler (1994:434) "product mix planning is largely the responsibility of the company's strategic planners; and they must assess which product lines to grow, maintain, harvest and divest".

According to Low and Tan (1995:36), "it is often thought that the largest profits will go to businesses which devotedly follow a policy of product superiority since consumers buy product's benefits rather than its advertisements, price or even the ease of obtaining it". They conclude that "product is therefore the main weapon used to wage a war in the business world".

However, unlike goods, consumers are normally unable to try out a service (an intangible product) beforehand and once consumed there is nothing tangible remaining for future inspection. The inherent intangibility of services makes them more difficult to evaluate.

2.4.2 Price

The price, according to Kotler (1984:3), “is the amount of money charged for a product or service, or the sum of the values that consumers exchange for the benefits of having or using the product or service”. According Low and Tan (1995:36), “price is the only variable in the marketing mix that must be set in relation to the other 3Ps (i.e. Promotion, Place and Product)”. They stress that “pricing is one of the most difficult areas of marketing in which to make decisions; and this is due to the fact that large number of variables are involved e.g. relationships with the suppliers, company’s policy on mark-up, etc”.

McLean (1994:190) states that “the key problem in service pricing which distinguishes it from the pricing for goods is the difficulty in assessing the cost of providing the service”. He explains further that “the problem is exacerbated by the non-homogeneity of services, where a wide range of prices is attached to apparently similar services”. However, Kotler (1994:491) states that “if a firm has selected its target market and market positioning carefully, then its marketing mix including price will be fairly straightforward”. In his view, pricing strategy is largely determined by the prior decision on market positioning. Some of the things to consider with pricing strategy include offering credit, charging a deposit, quantity discounts and early payment discounts (Perreault and McCarthy, 1999:48).

Since services are intangible and vaguely defined, their values tend to be determined from the user’s point of view. According to Hidaka (2006, 39), “this makes the pricing of services more difficult than that of products”. Thus establishing a pricing method that is convincing for both the provider and the user is extremely essential.

2.4.3 Promotion

According to Hawkins et al (2001:19), “promotion is marketing communication that includes advertising, sales, public relations, packaging as well as any reflection about the company and its offerings”. According to Perreault and McCarthy (1999:49), “promotion is concerned with

telling the target market or others in the channel of distribution about the product”. Low and Tan (1995) define promotion as “any method of informing, persuading or reminding clients about the marketing mix”.

Promotion includes finding out what appeals to customers and then applying imagination to trigger their interest, and it could be carried out using one of these techniques, advertising, direct mail and public relations (Perreault and McCarthy, 1999:49). Primarily, the choice of the technique will depend largely on which of the techniques will give the service firm the best return for their money. In this regard, Perreault and McCarthy (1999:49) state that “it is the marketing manager’s job to blend these methods of communication”.

2.4.4 Place

According to Low and Tan (1995:36), “*place* as a marketing mix variable, is concerned with the possession of service that is accessible to the clients at the right place, and at the right time”. They continue by stating that “by occupying strategic locations, advantages and resources can be optimized; thus in selecting distribution channels for a service firm, the main aim should be to occupy strategic locations”. In essence, clients can only engage the service if he or she has possession of it. In this regard, Low and Tan (1995:42) contend that “no matter how many channels and level of distribution are involved, one has to gain strategic location”.

Hawkins et al (2001:21), on the other hand, refers to a place as “having the product available where target customers can buy or access the product.” Accordingly, this is very important to the success of the product. This view is supported by Wilkie (1994:34) who indicates that “distribution should be well structured to meet consumers’ need.” In this sense, it is recommended that marketers need to continuously study where consumers shop for their product in order to formulate an appropriate and effective distribution strategy.

2.4.5 People

Personnel are key to the creation of the service and its delivery to the consumer in a consistently acceptable fashion (Rafiq and Ahmed, 1995:4; Low and Tan, 1995:44). They indicate that “because of the simultaneity of production and consumption, personnel occupy a key position in influencing customer perceptions of the product quality”. In other words,

customers identify and associate the traits of service personnel with the firms they work for. For this reason, personnel behavior can adversely affect the survival or the success of the service firm. In this regard, Rafiq and Ahmed (1995:4) advise that “marketing managers should pay attention to the quality of employees and to monitor their performance”. They contend further that “this is especially important in services in that employees tend to be variable in their performance which can lead to variable quality”.

2.4.6 Physical Evidence

According to Rafiq and Ahmed (1995:4), “physical evidence refers to the environment in which the service is delivered and any tangible goods that facilitate the performance and communication of the service”. It is emphasized that physical assets are important in facilitating the enhanced marketing and delivery of services. Low and Tan (1995:45) state that “a firm which is well endowed with supporting facilities will be better placed to outperform one which is not”. Rafiq and Ahmed (1995:4) further assert that “customers’ experiences are greatly affected by the setting or the physical environment (i.e. the building, décor, furnishings, layout, etc) that is visible to the customers and also physical assets that are hidden from their view but critical to providing the service”. They conclude that “the environment itself is instrumental in customers’ assessment of the quality and level of service they can expect”.

2.4.7 Process

According to McLean (1994:199), “the process or flow of activities by which a service is delivered or consumed is an essential element of the marketing strategy”. He stresses that “service delivery can be variable because of the heterogeneity of services: that is to say no two service encounters are the same”. Rafiq and Ahmed (1995:4) also indicate that “in a service situation, customers are likely to queue before they can be served and service delivery itself is likely to take a certain length of time”. In this situation, they recommend that “marketers must ensure that customers understand the process of acquiring a service; and that the queuing and delivery times is acceptable to customers”. Process management therefore involves task scheduling, routines and supervision of activities.

From the above discussions, it can be said that developing a marketing mix will not only satisfy the needs of customers within the target market, but will also maximize the performance of the firm. In essence, the firm's limited resources will be allocated effectively. The challenge though is to get the balance (mix) right.

Considering the intangibility nature of services, developing a sound marketing mix would not necessary warranty the success of the service organisation, but the way and manner at which this service is provided or executed is crucially important. In this regard, the next section discusses the concept of service quality concept and gap analysis model and outlines factors that influence customer expectations and perceptions of services and the measurement thereof.

2.5 Service Quality Concept and Gap Analysis Model

This section discusses service quality concept in terms of customer expectation and perception of services and the factors that influence it occurrences in both instances. It further discusses the five dimensions of service quality, namely; reliability, responsibility, assurance, empathy and tangibles.

2.5.1 Service Quality

Siu *et al* (2001:719), citing Shugan (1994:223), state that "growth in the service sector continues throughout the world, and this has been accompanied by a drive towards outsourcing none-core functions to service providers". They continue by stating that "provision of services is viewed in terms of the worth that the service brings to customers in terms of satisfaction, production and motivation, and in this situation, customer expectations become an important focus for service providers".

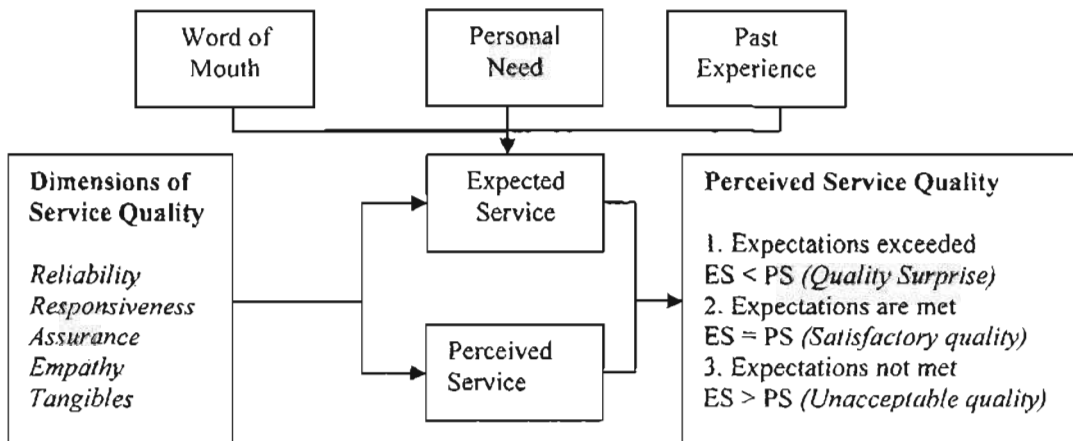
According to Chang *et al* (2002:5) and Shahin (no date, paragraph 4, citing Wisniewski, 2001:380) "service quality has aroused considerable interest and debate in the research literature because of the difficulties in defining and measuring it with no overall consensus emerging". Chang *et al* (2002:2) state that "the most common definition is the traditional notion that views quality as customer's perception of service excellence; that is to say quality is defined by the customer's impression of the service provided". The assumption behind this definition is that "customers form the perception of service quality according to the service

performance they experience; or it is based on past experiences of service performance” Chang *et al* (2002:2).

Other researchers view service quality as “the function of what customers expect and how well the service firms perform in providing the service” (Lewis and Mitchell, 1990:11; Dotchin and Oakland, 1994a:24; Asubonteng *et al.*, 1996:62; Wisniewski and Donnelly, 1996:357, Nitecki, no date, paragraph 1). Parasuraman *et al* (1985:41) define service quality as “the degree and direction of discrepancy between customers’ service expectation and perception”. They explain that “if customer expectations are greater than performance, then perceived service quality is less than satisfactory and vice versa”.

Shahin (no date, paragraph 4) states that “measurement of service quality will enable firms to identify quality related problems and establish clear standards for service delivery”. It is anticipated that by doing so service firms are able to meet or exceed customer’s service quality expectations by delivering consistently higher service quality than competitors (Kotler, 1994:474).

Figure 2.1: Perceived Service Quality



(Source: Fitzsimmons and Fitzsimmons, 2001:44)

As depicted in Figure 2.1 (above), Fitzsimmons and Fitzsimmons (2001:44) indicate that “assessment of quality of service is made during the service delivery process; and each customer contact is referred to as ‘a moment of truth’ (i.e. an opportunity to either satisfy or dissatisfy a customer)”. They conclude that “if the perceived service (PS) falls below the

expected service (ES), then the level of service quality is perceived by customers as unacceptable or unsatisfactory, otherwise, it is perceived as a *quality surprise* (i.e. beyond expectations)”.

2.5.1.1 Customer Expectation of Services

Zeithaml and Bitner (2003:35) define customer expectations of services as “beliefs about service delivery that function as standards or reference points against which performance is judged”. Parasuraman *et al* (1988:12) stress that “expectations should not be viewed as predictions (i.e. what is likely to happen), but as desires or wants of consumers (i.e. what should happen)”.

As indicated previously, Cox and Gresham (no date, 1) and Kotler (1994:474) have indicated that “customer’s expectations for services are formed from past buying experiences, word of mouth, and the information and promises made by firms and competitors”. Kotler (1994:475) further adds that “customers choose service providers on this basis, and after receiving the service, they compare the perceived service with expected service”. In other words, as depicted in Figure 2.1, if the perceived service (PS) falls below the expected service (ES), the service quality will be perceived by customers as unacceptable or unsatisfactory. Otherwise, the service received is perceived as a *quality surprise* (i.e. beyond expectations).

According to Zeithaml and Bitner (2003:60) “because customers compare their perceptions of performance with these reference points (expectations) when evaluating service quality, it is absolutely critical to have a thorough knowledge about customer expectations”. They warn that “failing to do so would mean expending money, time and other resources on things that are of no value to customers, and in a fiercely competitive market, survival of firms lacking vital information of customer’s needs can not be guaranteed”.

Zeithaml and Bitner (2003:60) also state that “for successful service marketing, certain aspects of expectations should be explored or understood by service firms”. These aspects, in their view, should include identifying types of expectation standards that customer hold about the service, factors that most influence the formation of these expectations, roles that these factors play in changing expectations, and ways and means by which service firms can meet or exceed customer expectations.

2.5.1.2 Types of Customer Service Expectations

With regards to types of service expectations, Zeithaml and Bitner (2003:62) state that “customers hold different types of expectations”. They report that “customers assess service performance on the basis of two standard boundaries: what they desire (termed as desired service) and what they deem acceptable (termed as adequate service)”. They further explain that “the *desired service* is the level of service that customers hope to receive (i.e. the ‘wished for’ level of performance) or believe ‘can be’ or ‘should be’”. Basically, it expresses hopes, wishes and beliefs of customers.

It has been stated that “customers would hope to achieve their desired services but are also aware that in certain cases this is not always possible” (Zeithaml and Bitner, 2003:62). In this situation, Zeithaml and Bitner (2003:62) express that “customers would tend to accept a minimum level of service; and the threshold level of acceptance is termed the *adequate service level*”. Accordingly, service performance below the *adequate service level* would frustrate customers and their satisfaction with the firm will be undermined (Zeithaml and Bitner, 2003:63). On the same token, if service performance exceeds the desired service, customers are said to be pleased or delight of the service.

2.5.1.3 Factors that Influence Customer Expectations of Service

According to Zeithaml and Bitner (2003:63), “because customer expectations play a critical role in customer evaluation of services, it is important to understand factors or forces that influence them”. Essentially, there are two main factors that influence *desired service* level and these are *personal needs* and *philosophies about services* (Zeithaml and Bitner, 2003:67). In the case of *personal needs*, Zeithaml and Bitner (2003:63) explain that “these are states or conditions essential to the physical or psychological well-being of the customer”.

In the case of *adequate service*, a different set of determinants or influence factors have been identified and these include transitory service intensifiers, perceived service alternatives, customer’s self-perceived service role, situational factors and predicted service (Zeithaml and Bitner, 2003:69). According to Zeithaml and Bitner (2003:69) “these factors are generally short term and tend to fluctuate more than the factors that influence *desired service*”. *Transitory service intensifiers* consist of temporary individual factors that make a customer

more aware of the need for service. As an example, they cite that “in an emergency situation such as accident or a breakdown of office equipment, service is needed quite urgently and this tends to increase the level of adequate service expectation”.

Perceived service alternatives are, in fact, other service providers from whom the customer can obtain service (Zeithaml and Bitner, 2003:60). They state that “if customers have multiple service providers to choose from, their level of *adequate service* is usually higher than those customers who believe it is not possible to get better service elsewhere”. As an example, they state that “a customer who lives in a small town with a tiny airport, has a reduced set of options in airline travel; this particular customer will be more tolerant of the service performance of the carriers in this town because of few alternatives exist”.

Customer's self-perceived service role is defined as “the degree to which customers exert an influence on the level of service they receive” (Zeithaml and Bitner, 2003:70). Essentially, these customers' expectations are partly determined by how well they believe they are performing their role in the service delivery. As an example, Zeithaml and Bitner (2003:70) state that “a customer who is very explicit with a waiter about how he wants his steak to be cooked will be more dissatisfied if the meat comes to the table in a different form than a customer who does not articulate the degree of doneness expected”.

Situational factors are defined as “the service performance conditions that customers view as beyond the control of the service provider” (Zeithaml and Bitner, 2003:71). As an example, they state that “in the event of natural disaster such as earthquake where a large number of people are affected, customer service expectations of insurance companies are likely to be lower because customers would recognize that insurers are inundated with demands for their services”. *Predicted Service*, on the other hand, is “an estimate of the service a customer will receive in an individual transaction rather than in the overall relationship with a service provider” (Zeithaml and Bitner, 2003:71).

Kotler (1994:474) affirms that customer's expectations for services are also formed from past buying experiences, word-of-mouth, and the information and promises made by firms and competitors. According to Kotler (1994:475) “customers choose service providers on this basis, and after receiving the service, they compare the perceived service with expected service”.

Llosa *et al* (1995:16) explain that “frequent users of a service will have a very good perception of the quality level they will obtain from a service provider, and this experience may lower the difference between expectations and perceptions without leading to satisfaction”. Accordingly, these frequent users may base their expectations on their past experiences or word-of-mouth resulting in PS-ES score being equal to zero, but may in no way be satisfied (Llosa *et al*, 1995:16).

From the above discussion, it is noted that certain aspects of expectations should be understood or explored by service firms, particularly when using SERVQUAL scale to determine customer expectations. The next section seeks to define customer perception of services and explains the three selective processes which determine how consumers get and use information.

2.5.1.4 Customer Perception of Services

Llosa *et al* (1998:19) define perceptions as “consumer’s judgment of the service organisation’s performance”. According to Zeithaml and Bitner (2003:85), “customers perceive services in terms of the quality of the service and how satisfied they are overall with their experiences”.

Schiffman and Kanuk (1997:146) define perception as “the process by which an individual selects, organises, and interprets stimuli into a meaningful and coherent picture of the world.” Perner (no date: 33) says our “perceptions are an approximation of reality.” He goes on to say that our brain attempts to make sense of the stimuli to which we are exposed. Hence our perceptions of the products or services we are exposed to determine our purchase behaviour. Kotler (2000:173) gives further insight into perception by asserting that “perception depends not only on the physical stimuli but also on the stimuli’s relation to the surrounding field and on condition within the individual.” For instance, he explains that “one person might perceive a fast-talking salesperson as aggressive and in sincere while another can see him as intelligent and helpful”.

McCarthy and Perreault (1993:206) add that “perception determines what consumers see and feel”. They attribute this to the following three selective processes.

- Selective Exposure: our eyes and minds find out and notice only information that interests us. Consumers concentrate on certain stimuli while ignoring others (Kotler, 2000:173, Assael 1998:220, Wilkie, 1994:216).
- Selective Perception: Accordingly, people screen out or modify ideas, messages, and information that conflict with previously learned attitudes and beliefs. (Kotler, 2000:173, Assael, 1998:219, Schiffman and Kanuk, 1997:216 and Wilkie, 1994:216).
- Selective Retention: We remember only what we want to remember. (Kotler 2000:173, Assael, 1998:219, Schiffman and Kanuk, 1997:164, Wilkie, 1994:216 and McCarthy and Perreault, 1993:207).

In their view, the above selective processes help us in getting to know how consumers get and use information hence contribute to defining appropriate marketing strategies (McCarthy and Perreault, 1993:206). Zeithaml and Bitner (2003:87) on the other hand, explain that “customer’s emotion could also affect their perceptions of satisfaction with products and services”. They explain that “when customers are in their bad mood, their negative feelings may be carried over into how they respond to services and vice versa”.

The next section discusses the five dimensions of service quality. According to Zeithaml and Bitner (2003:87), “service quality is a focused evaluation that reflects customer’s perception of services elements such as customer-provider interaction, physical appearance, service outcome, etc”. These elements are in turn evaluated based on the five service quality dimensions as proposed by Parasuraman and others, namely; reliability, responsiveness, assurance, empathy and tangibles.

Satisfaction, on the other hand, is influenced by perceptions of service quality, product quality, price as well as situational and personal factors (Zeithaml and Bitner, 2003:87). In their view, customer satisfaction could be influenced significantly by customer’s evaluation of product or service features. As an example, Zeithaml and Bitner (2003:87) cite that “for a service such as a resort hotel, important features may include the pool areas, access to golf facilities, room comfort and privacy, etc”.

2.5.2 Dimensions of Service Quality

According to Zeithaml and Bitner (2003:93) “consumers do not perceive quality in uni-dimensional way, but instead they judge quality based on multiple factors”. As an example, they explain that “the quality of an automobile is judged by factors such as reliability, serviceability, prestige, durability, functionality, etc, whereas in the case of food products, their judgment may be based on other factors such flavor, freshness, and so on”. Llosa *et al* (1998:16) state that “a number of dimensions found in the different replications of the SERVQUAL scale model vary from three to nine”. Parasuraman *et al* (1985:122) argue that “although any service industry is unique in some aspects, there are five broad dimensions of service quality that are applicable to variety of services, namely; reliability, responsiveness, assurance, empathy and tangibles”. As shown in Figure 2.1, the five dimensions, as proposed by Parasuraman, Zeithaml and Bitner, represent how consumers organize information about service quality in their minds.

The ensuing sub-sections discuss each of the five dimensions of service quality, namely; reliability, responsibility, assurance, empathy and tangibles.

2.5.2.1 Reliability

Reliability simply refers to “the ability to perform the promised services dependably and accurately” (Mittal and Lassar, 1998:177; Zeithaml and Bitner, 2003:93). In its broadest sense, reliability means that “firms are able to deliver on their promises with respect to accomplishing on time, without errors, every time” (Zeithaml and Bitner, 2003:97; Fitzsimmons and Fitzsimmons, 2001:45). According to Zeithaml and Bitner (2003:97), customers want to do business with firms that keep their promises. Mittal and Lassar (1998:177) state that “in most research studies done by SERVQUAL’s authors, reliability has been found to be the most influential determinant of overall service quality or for customer satisfaction with the service.” Siu *et al* (2001:719) have expressed a similar view based on a research study conducted by them. In their studies, respondents rated reliability as the most significant variable out of the five determinants of service quality.

2.5.2.2 Responsiveness

Responsiveness is the willingness to help customers and to provide prompt service (Zeithaml and Bitner, 2003:97; Fitzsimmons and Fitzsimmons, 2001:45). According to Zeithaml and Bitner (2003:97), this dimension emphasizes attentiveness and promptness in dealing with customer requests, questions, complaints, and problems. Fitzsimmons and Fitzsimmons (2001:45) state that keeping customers waiting particularly for no apparent reason can create unnecessary negative perceptions of quality. However, the ability to recover quickly and with professionalism can create positive perceptions of quality.

To excel on this dimension, Zeithaml and Bitner (2003:97) state that “companies must view the process of service delivery and handling of requests from the customer’s point of view rather than from the company’s point of view”. They also alert companies to the fact that responsiveness perceptions diminish when customers wait to get through to a company by telephone or are put on hold or have trouble accessing the firm’s website. For this reason, they recommend that “companies are expected to place responsive people in all contact points”. Other research studies had shown that responsiveness dimension is significant to customers (Wisniewski, 2001:380, Siu *et al*, 2001:719, Llosa *et al*, 1998:16). For example, with reference to the study undertaken by Siu *et al* (2001:723) regarding investigation of service quality in the maintenance of mechanical and engineering services, it was identified that responsiveness is the second most important factor or determinant in the evaluation of service quality in the maintenance of mechanical and engineering services. They concluded that the mechanical and engineering service providers involved in the study had a better prediction of clients’ expectations in this dimension. In other words, these customers require prompt services from the engineering firm without unnecessary delay.

2.5.2.3 Assurance

Assurance is defined as “knowledge and courtesy and ability of the firm and its employees to inspire trust and confidence” (Fitzsimmons and Fitzsimmons, 2001:45; Zeithaml and Bitner, 2003:97). According to Fitzsimmons and Fitzsimmons (2001:45) “assurance dimension includes features such as competence to perform the service, politeness and respect for the customer, effective communication with the customers and the general attitude that the server has the customer’s best interest at heart”. Zeithaml and Bitner (2003:97) mention that

“assurance appears to be important for services that the customer perceives as involving high risk or where they feel uncertain about their ability to evaluate outcomes; these include banking, insurance, medical and legal services”. Subsequently, these companies seek to build trust and loyalty between key employees and individual customers. Other research studies had shown that assurance dimension is fairly significant to customers (Wisniewski, 2001:380, Siu *et al*, 2001:719, Llosa *et al*, 1998:16).

2.5.2.4 Empathy

Zeithaml and Bitner (2003:98) define empathy as “the caring, individualised attention the firm provides its customers”. According to Fitzsimmons and Fitzsimmons (2001:45) “empathy dimension includes features such as approachability, sensitivity, and effort to understand the customer’s needs”. The essence of empathy, according to Zeithaml and Bitner (2003:98), is to convey through personalized or customized service, that customers are unique and special. Accordingly, customers want to be understood or feel important to firms that provide service to them. According to Rogers *et al* (1994:14) “understanding and prediction make empathy a potential tool for developing effective communications and relationships among employees, between employees and management, and between employees and customers”. They further state that “given the seemingly apparent need for empathetic relationships among employees of a business firm, it is somewhat surprising that the subject has received little empirical attention among business researchers”.

Other research studies though had shown that the empathy dimension is least significant to customers (Lee *et al*, 2000:217, Wisniewski, 2001:380, Siu *et al*, 2001:719, Llosa *et al*, 1998:16). However, according to Chapman (no date: paragraph 13) “the secret to customer retention is the relationship with the service provider”. In other words, customers are far more likely to stay if they like the service provider, otherwise they are empowered to reinforce withdrawal from the very moment they feel challenged or opposed. Empathy is thus a powerful relationship builder, and forms the bedrock of a sustainable business.

2.5.2.5 Tangibles

Tangibles are defined as “the appearance of physical facilities, equipment, personnel and communication materials” (Fitzsimmons and Fitzsimmons, 2001:45; Zeithaml and Bitner,

2003:98). According to Zeithaml and Bitner (2003:98) “all of these provide physical representations or images of the service that customers, particularly the new customers, will use to evaluate quality”. Fitzsimmons and Fitzsimmons (2001:45) on the other hand, state that “the condition of the physical surroundings (e.g. cleanliness) is tangible evidence of the care and attention exhibited by the service provider”. Zeithaml and Bitner (2003:98) alert that “although tangibles are often used by service companies to enhance their image, most companies combine tangibles with other dimensions to create a service quality strategy for the firm”.

From this discussion, it can be inferred that companies that do not pay attention to the tangible dimension of the service strategy can destroy an otherwise good strategy. In essence, customers expect service providers to appear neat and organised, be responsive, reassuring, empathetic, and most of all, reliable.

The next ensuing sections identify the five gaps which can cause unsuccessful service delivery, and in particular discuss measurement of Gap 5, which determines the difference between customer expectations and perceptions of service quality.

2.6 Service Quality Measurement

This section discusses the gap analysis model as determined by Zeithaml, Berry, and Parasuraman for measuring service quality. It further outlines the five service quality gaps which could impair the extent of service quality delivered.

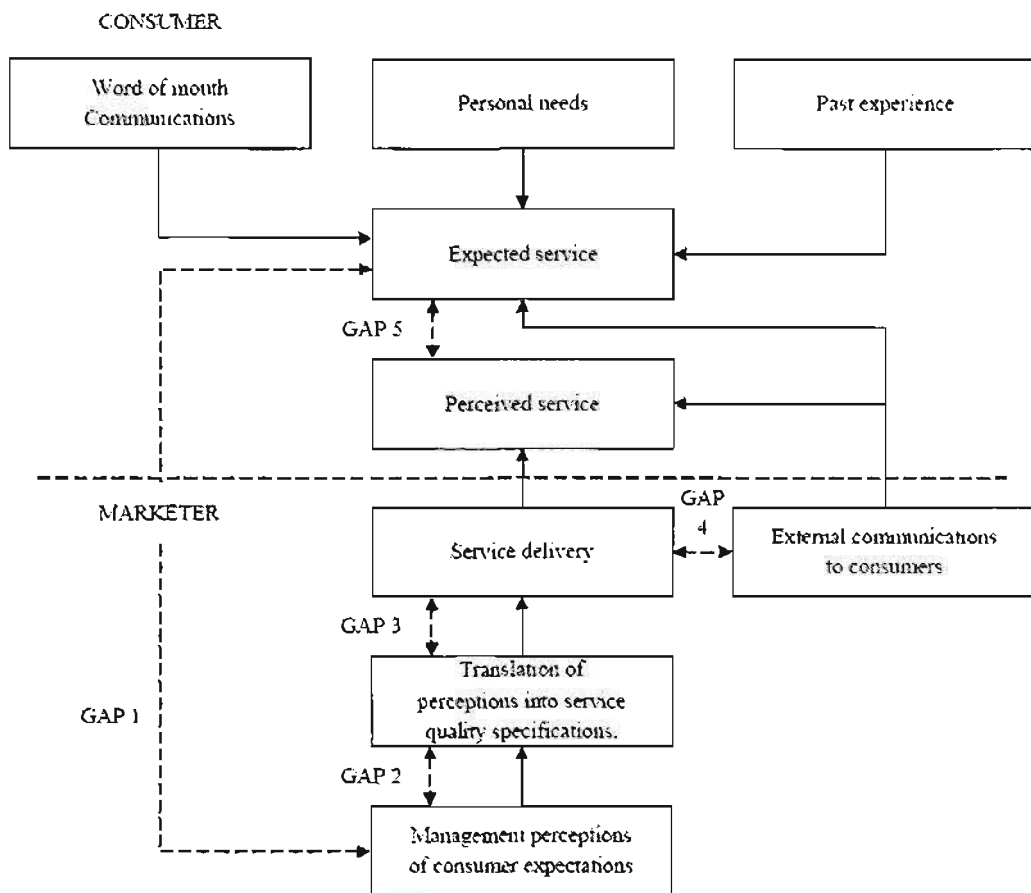
2.6.1 Gap Analysis Model

A widely used method of measuring service quality is the gap analysis model originally developed by Zeithaml, Berry, and Parasuraman in 1988 (Kotler, 1994:474). According to Kotler (1994:274), “the starting premise for the model is that the perceived service quality (or satisfaction with service) is a function of the difference between expected service levels and delivered service”. Siu *et al* (2001:719) define the service quality as “the gap between customer expectations and management perception”. Figure 2.2 overleaf, which summarizes how perceived service can diverge from expected service, constitutes the essence of the Gap Analysis Model.

As shown in Figure 2.2, the Gap model has five ‘gaps’ which can impair the extent of service quality delivered. This study, however, focuses on Gap 5: the difference between customers’ experiences and expectations of service. Although the other four gaps are also important factors in service quality, Gap 5 is the only one that can be determined solely from data collected from customers (Kotler, 1994:474).

According to Kotler (1994:474) “one of the ways to differentiate a service firm is to deliver consistently higher-service quality than competitors”. In other words, customers’ expectations of service quality which are formed from their past experiences, word of mouth and promotion (as shown in Figure 2.2) must be met or exceeded. Kotler (1994:474) states further that “customers choose service providers on this basis, and after receiving the service, they compare the perceived service with the expected service (i.e. Gap 5 as depicted in Figure 2.2)”.

Figure 2.2: Model of Service Quality Gaps



(Source: Parasuraman *et al*, 1985:41; Curry, 1999:180; Luk and Layton, 2002:109; Kotler, 1994:274; Messinger, 2004:2)

The five (5) gaps are discussed in the following subsections based on the literature accounts by the following service researchers, namely; Parasuraman *et al* (1985:41), Curry (1999:180); Luk and Layton (2002:109), Kotler (1994:274) and Messinger (2004:paragraph 2).

2.6.1.1 Gap 1: Customers' Expectations versus Management Perceptions

According to Messinger (2004: paragraph 2), this is the first and possibly most critical step in delivering quality service. This gap exists between customer expectation and management perception of a service offering, and it depicts that management does not always perceive correctly what customers want. Occurrence of this gap, according to Messinger (2004: paragraph 2) and Kotler (1994:474), could largely be attributed to the following factors:

Lack of marketing research orientation within the organisation: According to these authors, this occurs when managers fail to make an effort to understand customers' needs either through lack of formal or informal information gathering activities. They explain that formal market research activities may help managers focus on gathering data about service quality issues and from that data, gain an understanding of which features are most important to customers, which levels of these features customers expect, and what customers think the company can or should do when service delivery problems occur.

Inadequate use of research findings: According to Messinger (2004: paragraph 5), this is a common problem because managers may be too busy with day-to-day operations to interpret and/or utilise the data in a meaningful way. In essence, managers are inclined to ignore vital information concerning customers' needs.

Infrequent management interaction with customers: Accordingly, this problem can be addressed by having managers participate in the most basic of marketing research activities: mingling with customers to learn what they are really thinking (Messinger, 2004: paragraph 6). One formal mechanism to address this is to rotate managers periodically through the front-line.

Inadequate upward communication: Gaps in service also occur when top management fails to seek, stimulate and facilitate the flow of information from employees at lower levels (Messinger, 2004: paragraph 6). These employees are often the most valuable source of real

and relevant information about customer service in that they deal with and serve customers on daily basis.

To close this gap, management needs to critically consider the factors outlined above, particularly interacting with customers and seeking valuable information about customers from employees at lower levels.

2.6.1.2 Gap 2: Management Perceptions versus Service Quality Specifications

According to Parasuraman *et al* (1985:42), Curry (1999:180); Luk and Layton (2002:109), Kotler (1994:274) and Messinger (2004: paragraph 2), Gap 2 arises when there is a discrepancy between what managers perceive that customers expect and the actual standards that they (the managers) set for service delivery. According to these authors, this gap may occur when management is aware of customers' expectations but may not be willing or able to put systems in place that meet or exceed those expectations.

The first factor responsible for this gap is an *inadequate commitment to service quality* (Parasuraman *et al*, 1985:42, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 2). Messinger (2004: paragraph 2) states that "management of effective organisations must view service quality as a key strategic goal; and the absence of an organisational commitment to service quality is a virtual guarantee of a wide Gap 2". Messinger (2004, paragraph 2) further accounts that the following key questions could be asked when evaluating the extent of Gap 2:

- Are resources committed to departments to improve service quality?
- Do internal programs exist for improving the quality of customer service?
- Are managers who improve customer service quality more likely to be rewarded?
- Does the company emphasize sales goals as much or more than it does customer service?
- Are upper and middle managers committed to providing quality customer service?

The second factor responsible for this gap is a *perception of infeasibility* (Parasuraman *et al*, 1985:42, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 6). To be committed to customer service, they account that "managers must believe

that customer expectations can actually be met". According to Messinger (2004: paragraph 6), Gap 2 can be closed when the following questions can be answered positively:

- Does the company have the capabilities to meet customer requirements for service?
- Can customer expectations be met without hindering financial performance?
- Do existing operating systems enable customer expectations to be met?

- Are resources and personnel available to deliver the service levels that customers demand?
- Does management change policies and procedures to meet the needs of customers?

A third factor that can influence Gap 2 is *task standardization* (Parasuraman *et al*, 1985:43, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 6). According to these authors, this gap can be closed when hard and soft technologies are used to standardise service tasks, and if the answers to the following questions are negative, Gap 2 could be widened:

- Is automation used to achieve consistency in customer service?
- Are programs in place to improve operating procedures so that consistent service is provided?

A fourth relevant factor that can close Gap 2 is *goal setting* (Parasuraman *et al*, 1985:43, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 6). Basically, this is the extent to which service quality standards are based on customers' expectations rather than company standards. These authors account that "formal processes to set the quality of service goals for employees must be put in place; the company must have clear goals for customer service and must measure its performance against these goals; and service-quality standards should be based on customers' standards rather than company standards"(Parasuraman *et al*, 1985:43, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 6).

2.6.1.3 Gap3: Service Quality Specifications versus Service Delivery

Accordingly, Gap 3 is the difference between organisational service specifications and actual levels of service delivery; and it occurs when employees are unable or unwilling to perform to

the level of service desired by management (Parasuraman *et al.*, 1985:45, Curry, 1999:180; Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 10).

Subsequently, seven key factors contribute to unwillingness and/or inability of employees (Parasuraman *et al.*, 1985:45, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 10) namely; role ambiguity and conflict, poor employee-job fit and poor technology-job fit, inappropriate supervisory control systems, lack of perceived control and lack of teamwork. These factors are described as follows based on the authors account:

- Role Ambiguity occurs when employees do not have the information or training to perform their jobs adequately, resulting in an uncertainty about what managers expect, or how to provide the level of service necessary to satisfy customers.
- Role Conflict is caused when employees perceive that they cannot satisfy the demands of all the customer groups (internal and external) that they serve. This may arise under the following conditions:
 - Differing expectations of service levels between managers and customers.
 - The volume of work is overwhelming (too many customers demand service at the same time).
 - Employees are expected to cross-sell services in inappropriate situations. For example, is the employee supposed to “sell” other products while providing service?
 - Employees have more work to do than they have time to do it.
- Employee-Job Fit is basically the match between the employee’s skill level and their job description, and in order for Gap 3 to be avoided, it has been said that “employees must first believe they are able to perform their jobs well, the company must hire qualified people; and management must devote sufficient time and resources to hiring and selecting employees” (Parasuraman *et al.*, 1985:45, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 10).
- Fit between Technology and the Job exists when employees are not given reliable and appropriate tools and technology to perform their jobs (Parasuraman *et al.*, 1985:45, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 2).

- Supervisory Control Systems concerns appropriate evaluation and rewarding systems (Parasuraman *et al*, 1985:45, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 10).
- Perceived Control is actually the extent to which employees perceive that they can act flexibly rather than acting by rote when solving service problems (Parasuraman *et al*, 1985:45, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 10).
- Teamwork involves employees and managers working together toward a common goal.

According to Parasuraman *et al* (1985:45), Curry (1999:180), Luk and Layton (2002:109), Kotler (1994:274) and Messinger (2004: paragraph 10), with a positive indicator of a cooperative and productive working environment, employees are able to work together to provide customer service.

2.6.1.4 Gap 4: Service Delivery versus External Communication

Messinger (2004: paragraph 12) states that “customers perceive that organisations are delivering low-quality service when a gap appears between promised levels of service and the service that is actually delivered”. According to Parasuraman *et al* (1985:48), Curry (1999:180); Luk and Layton (2002:109), Kotler (1994:274) and Messinger (2004: paragraph 12), Gap 4 arises when advertising, personal selling or public relations over-promise or misrepresent service levels. The authors further indicate that Gap 4 can also occur when companies do not inform their customers of special “behind-the-scenes” efforts that are designed to serve to improve service levels, but are not visible to customers. According to Parasuraman *et al* (1985:48), Curry (1999:180); Luk and Layton (2002:109), Kotler (1994:274) and Messinger (2004: paragraph 12), making customers aware of these standards or efforts can heighten their service perceptions. These authors further assert that if either or both of the following indicators are present, Gap 4 could exist: inadequate horizontal communication within and across departments (operations, marketing, and human resources) and branches can be responsible for Gap 4.

According to Parasuraman *et al* (1985:48), Curry (1999:180); Luk and Layton (2002:109), Kotler (1994:274) and Messinger (2004: paragraph 12), another major cause of Gap 4 is a propensity to over promise in external communications. As a result, the company's promises do not accurately reflect what customers receive in the service encounter. Commonly, a higher degree of discrepancy occurs when there is increasing pressure inside the company to generate new business or when competing organisations over promise to gain new customers (Parasuraman *et al*, 1985:48; Curry, 1999:180; Luk and Layton, 2002:109; Kotler, 1994:274; and Messinger, 2004: paragraph 12).

To alleviate Gap 4, Parasuraman *et al* (1985:48), Curry (1999:180); Luk and Layton (2002:109), Kotler (1994:274) and Messinger (2004: paragraph 12) have commented that *customer-contact* staff must have input in the planning and execution of advertising, and/or should be made aware of external communications aimed at customers before it "hits the streets". The authors also remarked that when customer service and sales functions are separate and distinct, the sales force must communicate with *customer-contact* staff to discuss the level of service that can be promised to customers.

2.6.1.5 Gap 5: The discrepancy between Customer Expectations and their Perceptions of the Service Delivered

Accordingly, Gap 5 arises due to the influences exerted from the customer side and the shortfalls (gaps) on the part of the service provider (Parasuraman *et al*, 1985:48, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 2). As already indicated, this study focuses on Gap 5 as it is the only one that can be determined solely from data collected from customers.

From the ongoing discussion, it can be argued that the Gap Analysis Model is a useful tool for identifying various causes of poor service, and as Messinger (2004, paragraph 10) rightly put it "knowing the causes of service quality shortfalls, one is able to take appropriate action to remedy the situation by closing the gaps, and thereby improving service quality". The next section describes the SERVQUAL scale model and its application. It is noted that the gap model is the foundation for the development of the SERVQUAL scale model (Jain and Gupta, 2004:27). It is noted that the SERVQUAL scale model focuses mainly on Gap 5 of the Gap Analysis model (Shahin, no date, paragraph 7).

2.6.2 SERVQUAL Model

One of the service quality measurement models that have been extensively applied is the SERVQUAL scale model developed by Parasuraman, Zeithaml and Berry in 1985 (Gronroos, 1984:36; Lewis and Booms, 1983:99; Lloso *et al*, 1998:16). According to Jain and Gupta (2004:25), the foundation of the SERVQUAL scale is the gap model described in the previous section. According to Lloso *et al* (1998:18), “the SERVQUAL scale model allows firms to determine the facets on which it has to work to improve the global perception of its service quality”.

In order to measure Gap 5, which determines the difference between customer expectations and perceptions of a service, the SERVQUAL instrument developed by Parasuraman, Zeithaml and Berry in 1985 (Kotler, 1994:474) is adopted. Based on their empirical work, Parasuraman, Zeithaml and Berry identified a set of 21 variables tapping five different dimensions of service quality. According to Jain and Gupta (2004:217) “since Parasuraman, Zeithaml and Berry operationalised service quality as being the gap between customer’s expectations and perceptions of performance on these variables, their service quality measurement scale is comprised of a total of 42 items (21 for expectations and 21 for perceptions)”.

Jain and Gupta (2004:27) further add that “customer’s response to their expectations and perceptions are obtained on a 7-point Likert scale”. Here, customers are required to provide two different ratings on each of the five dimensions discussed above; one reflecting the level of services they would expect from excellent service providers in the business sector under consideration, and the other reflecting their perception of the service delivered by a specific company within the same business sector. According to Jain and Gupta (2004:27), “the difference between the expectation and perception ratings constitutes a quantified measure of service quality”. Jain and Gupta (2004:27) further state that “the higher the perception minus expectation score (i.e. more positive), the higher is perceived to be the level of service quality”. In an equation form, the operationalisation of service quality can be expressed as follows (Jain and Gupta, 2004:27):

$$SQ_i = \sum_{j=1}^k (P_{ij} - E_{ij})$$

where: SQ_i = perceived service quality of individual 'i'
 k = number of service attributes
 P = perception of individual 'i' with respect to performance of a service firm attribute 'j'
 E = service quality expectation for attribute 'j' that is the relevant norm for individual 'i'

Despite its extensive application, Jain and Gupta (2004:27) state that “the SERVQUAL scale has been criticized on various conceptual and operational grounds”. Jain and Gupta (2004:27) add that some of the objections against SERVQUAL scale relate to the use of P-E gap scores (Teas, 1994:132; Babakus and Boller, 1992:253), length of the questionnaire, predictive power of the instrument (Cronin and Taylor, 1992:55, Dabholkar et al, 2000:139), and validity of the five dimension structure across various service scenes (Carmen, 1990:33; Finn and Lamb, 1991:480). With regards to the PS-ES gap score, Jain and Gupta (2004:27) citing Babakus and Boller (1992:253), Carmen (1990:33), Finn and Lamb (1991:480); Spreng and Singh (1993:1) indicate that most studies have found a poor fit between service quality as measured through Parasuraman, Zeithaml and Berry’s 1988 scale and the overall service quality measured through a single-item scale. Buttle (no date, 8) adds that “perception and expectation are subjective and thus not good measures, that there is not necessarily a direct relationship between service and quality, and also the measures in the model are not necessarily the right things to be measuring”.

Furthermore, concerning validity of the PS-ES measurement framework, concerns have been raised regarding conceptualization and measurement of expectation component of the SERVQUAL scale (Jain and Gupta, 2004:27). For instance, Jain and Gupta (2004:27) noted that “while perception (P) is definable and measurable in a straightforward manner as the consumer’s belief about the service is experienced, the expectation (E) is subject to multiple interpretations and as such has been operationalised differently by different authors and researchers. Subsequently, Parasuraman, Zeithaml and Berry (1985, 1988) defined expectation as “desires or wants of consumers- i.e. what they feel a service provider should offer rather than would offer”. Realising the problem with this interpretation, Parasuraman, Zeithaml and Berry (developers of SERVQUAL scale) proposed a revised expectation (E) measure in 1994 as “what the customer would expect from *excellent* service (Parasuraman *et al*, 1994:111).

However, Sureshchandar *et al* (2001, 111) state that “although the effectiveness of the SERVQUAL scale model in evaluating service quality has been questioned by different authors for diverse reasons, there is a general agreement that the 22 items are reasonably good predictors of service quality in its entirety”. For instance, SERVQUAL scale model has been used widely within service industries such as travel agencies (Cliff and Ryan, 1994: paragraph 2), medical care (Curry *et al*, 1999:327; Chan *et al*, 2003:65), real estate (Seiler, 2004:1), local authorities (Wisniewski, 2001:380), leisure management (Collins and Copper, 1997), retail stores (Zhao, *et al*, 2002:241), information system (Kettinger and Lee, 1994:737) and library (Andaleeb and Simmonds, 1998:156; Fisk *et al*, 1993:61; Hermon *et al*, 1999:9).

2.7 Conclusion

This chapter discusses what services are and the five dimensions of service quality. It was noted that the five (5) dimensions of service quality influence how consumers organize information about service quality in their minds. The chapter further outlines the importance of identifying the gap that may cause unsuccessful service delivery. It concludes that measurement of service quality is critical to the survival of service firms as it does help them to identify quality related problems and also to establish clear standards for delivering consistently higher service quality than competitors. It was noted that if the expectations of a customer are exceeded, customers become highly satisfied and are much less ready to switch. To understand how customers perceive quality of service, factors influencing customer expectation and perceptions have been discussed in this chapter.

SERVQUAL scale model as a service quality measuring tool has been discussed in detail in this chapter. It was noted that although there is no one ideal method for measuring service quality, the SERVQUAL scale model stands out as the most widely used service quality measuring tool. Subsequently, it has been applied extensively in many research projects as well as public service organisations. The next chapter discusses legislative roles or mandates of DLGTA as a Provincial Department concerning providing assistance to municipalities in KwaZulu-Natal province to improve the life of ordinary citizens in its local communities. Basically, it describes DLGTA as a service provider and outlines its plans to meet the expectations of municipalities (consumers) with regards to implementation of municipal GIS or spatial information management system.

CHAPTER 3

IMPROVING SERVICE DELIVERY: LEGISLATIVE ROLES AND RESPONSIBILITIES OF DLGTA

3.1 Introduction

As indicated in Chapter 1 of this dissertation, in the Republic of South Africa, local government has been identified as the most important sphere of government and this has been enshrined in Section 152 of Republic of South African Constitution (Act No. 108 of 1996) and other pieces of legislation such as the Republic of South African Municipal Systems Act (Act No. 32 of 2000), Republic of South African Municipal Structures Act (Act No. 117 of 1998), Republic of South African Traditional Leadership and Governance Framework Amended Act (Act No. 41 of 2003), Republic of South African Disaster Management Act (Act No. 57 of 2002), etc. This is because local government has been invested with power to perform duties which are intended to transform the lives of ordinary citizens in the communities it serves by providing basic municipal services and also to promote micro enterprises in the local communities as a means of alleviating poverty (Local Government Programmes, 2004: paragraph 1).

In order to fast track service delivery in local communities throughout the country, the national government has embarked upon numerous developmental programmes which among others include Land Use Management System (LUMS), Integrated Development Planning (IDP), Integrated Sustainable Rural Development, Local Economic Development (LED), Urban Renewal Strategy and Municipal Infrastructure Grant (MIG) (Local Government Programmes, 2004: paragraph 2). Nonetheless, it has been stressed that some local communities (notably rural communities) are behind schedule when it comes to the development and provision of basic services (Association of Rural Advancement News, 2006:3). The constitutional challenges and the request for equitable service delivery mechanisms by the new system of municipal governance means that municipal management must comply with the additional requirement of effective and efficient management of municipal affairs. According to Foundation for Contemporary Research (2002:3), "specific factors contributing to the challenges faced by local government to deliver effective service

programmes include insufficient administrative and financial capabilities, and the fact that councillors and municipal officials do not fully understand the practical implications for developmental local government”.

Nonetheless, to ensure that development occurs in local communities throughout the Republic in the fullest sense by eliminating backlogs and inequalities created by the previous government, the three spheres of government (i.e. national, provincial and local) and their organs of state are required by Section 41 of Republic of South Africa Constitution (Act No. 108 of 1996) to co-operate with one another in mutual trust and good faith. In essence, the three spheres of governments although functioning distinctively and interdependently, are interrelated. The enforcement of this legislative requirement has led to the establishment of the South Africa Local Government Association (SALGA) to represent local government in the National Council of Provinces (NCOP). The main functions of the National Council of Provinces are law making and parliamentary oversight of the national executive or Cabinet (Local Governance and ICTs Research Network for Africa Documentation, 2005:4).

This chapter provides a perspective on the powers and functions of the National Department of Provincial Local Government (DPLG), Provincial Department of Local Government and Traditional Affairs and municipalities as well as an overview of the existing local government legislation of which the Provincial Department of Local Government and Traditional Affairs is obliged to support local government in fulfilling their constitutional and legal obligations with regards to provision of basic municipal services to ordinary citizens. The use of Geographic Information System (GIS) in local government as a decision-making support tool and the DLGTA’s municipal GIS capacity building program is discussed.

3.2 Powers and Functions of National Department of Provincial Local Government (DPLG)

The powers and functions of each sphere are defined by the Republic of South Africa Constitution (Act No. 108 of 1996). National government deals with matters which affect the whole country, while provincial government deals with issues that affect the provinces. Each province is divided into a number of municipalities run by local authorities who are responsible for the management of their local area. As indicated in the previous subsection, the national and provincial governments, by legislative and other measures, must support and

strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions. As set out in Section 154 (1) of Republic of South Africa Constitution (Act No. 108 of 1996), national or provincial legislations that affect the status, institutions, powers or functions of local government must be published for public comment before it is introduced in Parliament or a provincial legislature, in a manner that allows organised local government, municipalities and other interested persons an opportunity to make representations with regard to the draft legislation.

As a national department, the mandate of DPLG is derived from Chapters 3 and 7 of Republic of South Africa Constitution (Act No. 108 of 1996), and has its mission as providing professional and technical support to government by:

- developing appropriate policies and legislation to promote integration in government's development programmes and service delivery;
- providing strategic interventions, support and partnerships to facilitate policy implementation in the Provinces and Local Government; and
- creating enabling mechanisms for communities to participate in governance.

DPLG's function is thus to develop national policies and legislation with regard to provinces and local government, and to monitor the implementation of the following:

- White Paper on Local Government (1998);
- Local Government: Municipal Demarcation Act, 1998 (Act No. 27 of 1998);
- Local Government: Municipal Structures Act, 1998 (Act No. 117 of 1998);
- Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000);
- Disaster Management Act, 2002 (Act No. 57 of 2002);
- Traditional Leadership and Governance Framework Act, 2003 (Act No. 41 of 2003);
- Local Government: Municipal Finance Management Act, 2003 (Act No. 56 of 2003);
and
- Local Government: Municipal Property Rates Act, 2004 (Act No. 6 of 2004).

These legislations are supported by an array of policy documentation relating to local economic development, social development, public/private partnerships as well as community-based public works (Local Governance and ICTs Research Network for Africa Documentation, 2005:5). Primarily, DPLG's key function is to support provinces and local

government in fulfilling their constitutional and legal obligations. The ensuing subsection discusses the powers and responsibilities of the Provincial Department of Local Government and Traditional Affairs in fulfilling their constitutional and legal mandates.

3.3 Powers and functions of KZN Provincial Department of Local Government and Traditional Affairs

Chapter 6, Schedule 4 and Schedule 5 of Republic of South Africa Constitution (Act No. 108 of 1996) determine the powers and functions of the Provinces and their Provincial legislatures. Accordingly, each of the nine provinces in the Republic has its own Provincial legislature, which is responsible for making laws for the particular province in relation to matters listed in Schedule 5, Part A of the Republic of South Africa Constitution, which determine how the Provinces are run. Craemer (2004:1) adds that “Provinces have independent powers with regard to areas such as ambulance services, liquor licenses and provincial planning, cultural and recreational activities and provincial roads”.

As previously indicated, the national government and provincial governments are required by Republic of South Africa Constitution (Act No. 108 of 1996) to support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions. As a result, the nine provinces in the Republic are allowed to initiate or prepare legislation in the form of bills, and pass, amend or reject proposed legislation. This is usually done by the Executive Councils, which are established to administer Provincial departments. Once a Bill has been assented to and signed by the Premier of a Province, it becomes a Provincial Act. The Provincial Acts are entrusted to the Constitutional Court for safekeeping, in terms of Section 124 of Republic of South Africa Constitution (Act No. 108 of 1996). The Provincial Acts are administered by the Executive Councils of the provinces. Bills and Acts are published in the Provincial gazettes. Regulations are drawn up by the members of Executive Councils and are published in the Provincial gazette for comment and in their finalised form.

According to Local Governance and ICTs Research Network for Africa Documentation (2005:6), provincial government departments play a mentoring and capacity-building role whilst also have their own specific competencies with regard to service delivery. Accordingly, each province has a Local Government Department that oversees the implementation of IDPs

for example. The KZN Department of Local Government and Traditional Affairs which is currently under the leadership of MEC M. Mabuyakhulu, has its mission as “promoting people-centred accountable and viable local governance that will accelerates service delivery and ensures sustainable communities”.

With this mission, the DLGTA as a provincial department strives to accelerate service delivery in local communities in KwaZulu-Natal and promote good governance and sustainable municipalities. This is reflected in the Department’s 2006/2007 Budget Policy speech delivered by the MEC Mabuyakhulu on the 21st April 2006 (Mabuyakhulu, 2006:5).

There are many challenges though. According to the MEC Mabuyakhulu 2006/2007 Budget Policy speech, “KwaZulu-Natal Province continues to be experiencing low delivery of free basic service due to lack of infrastructure or financial viability, and also poor planning capacity especially in smaller municipalities continues to undermine of the Integrated Development Planning (IDP)”. In this regard, the MEC Mabuyakhulu remarked that “the DLGTA will continue to set up systems in all municipalities that will strengthen municipal performance and reporting”. This commitment is enshrined in the First KwaZulu-Natal Citizens Charter which among other things outlines the service levels and standards to which citizens of KwaZulu-Natal will have access, as well as the route to follow in seeking relief should these standards be compromised (KwaZulu-Natal Citizens Charter, 2005, paragraph 3).

The ensuing subsection discusses the powers and responsibilities of local government (or municipalities) in fulfilling their constitutional and legal mandates.

3.4 Powers and functions of Local Government

The Republic of South Africa Constitution (Act No. 108 of 1996) has laid down the powers and functions assigned to local government in Chapter 7, sections 152 and 156, in Schedule 4, Part B and Schedule 5 Part B. Local government is considered an independent sphere of government, and consists of district and local municipalities which enjoy an independent status as vehicles for delivery of services, which previously was not the case. Section 156 of the Republic of South Africa Constitution (Act No. 108 of 1996) confers executive authority and the right of administration on a municipality, with regard to matters listed in Schedule 4

and Part B of the Republic of South Africa Constitution (Act No. 108 of 1996), such as building regulations, electricity and gas reticulation and water and sanitation services. Schedule 5, Part B of the Republic of South Africa Constitution (Act No. 108 of 1996) gives municipalities' executive authority over matters such as billboards, control of public nuisances, refuse removal, street trading and traffic, parking, etc.

As set out in Section 151 of the Republic of South Africa Constitution (Act No. 108 of 1996), the executive and legislative authority of municipalities is vested in their Municipal Councils, and in this case municipalities have the right to govern, on their own initiatives, the local government affairs of the communities they serve, subject to national and provincial legislation, as provided for in the Constitution. Essentially, the national or a provincial government may not compromise or impede a municipality's ability or right to exercise its powers or perform its functions.

The objects of local government as set out in Section 152 of Republic of South Africa Constitution (Act No. 108 of 1996) are:-

- to provide democratic and accountable government for local communities;
- to ensure the provision of services to communities in a sustainable manner;
- to promote social and economic development;
- to promote a safe and healthy environment; and
- to encourage the involvement of communities and community organisations in the matters of local government.

Municipalities are required to strive, within their financial and administrative capacity, to achieve the above-listed objects set out in subsection (1). In terms of developmental duties of municipalities, municipalities are required by Section 153 of the Republic of South Africa Constitution (Act No. 108 of 1996) to structure and manage its administration, budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community; and to participate in national and provincial development programmes.

Furthermore, Sections 156 and 160 of the Republic of South Africa Constitution (Act No. 108 of 1996) stipulate that “municipalities have the right to exercise any power concerning a

matter reasonably necessary for, or incidental to, the effective performance of its functions”.

Municipalities are thus responsible for the following functions:

- Electricity delivery
- Water for household use
- Sewage and sanitation
- Storm water systems
- Refuse removal
- Fire fighting services
- Municipal health services
- Decisions around land use
- Municipal roads
- Municipal public transport
- Street trading
- Abattoirs and fresh food markets
- Parks and recreational areas
- Libraries and other facilities
- Local tourism

National or provincial government can also delegate other responsibilities to municipalities. However, when municipalities are tasked to perform the role of another sphere of government, a clear agreement specifying institution reliable for payment should be made. In the Republic, municipalities are managed by Municipal Managers, and these are accountable to the populace through a five-year performance contract. However, political decision-making is the responsibility of the elected Councils based on a ward representation system (Local Governance and ICTs Research Network for Africa Documentation, 2005:6). In this case, the elected councils make decisions concerning exercising the powers and functions of municipalities.

According to Local Governance and ICTs Research Network for Africa Documentation (2005:6), municipal councils have the power to:

- pass *by-laws* – local laws and regulations about any of the functions they are responsible for. By-laws may not contradict or over-rule any national laws,

- approve budgets and development plans – every year a municipal budget must be passed that sets down how money will be raised and spent. The council should approve an overall plan for how development should take place in the area. This is called an integrated development plan (IDP) and all projects and planning should happen within the framework of the IDP.
- impose rates and other taxes – property rates are a form of tax that municipalities can place on the value of properties. It is an important source of income.
- charge service fees – for use of municipal services like water, electricity, libraries, etc.
- impose fines – for anyone who breaks municipal by laws or regulations, for example traffic fines, littering or library fines.
- borrow money – the council may agree to take a loan for a development or other project and to use the municipal assets as surety.

Decisions about most of the above must be made in full council meetings. Many of the minor decisions that municipalities have to take can be delegated to Executive Council (EXCO), portfolio committees or to officials or other agencies that are contracted to deliver services. Some of the existing local government legislation and policies which have been developed to guide municipalities in the Republic are discussed below.

3.5 Local Government: Development Planning Legislation

The local government mandates are derived from existing legislation instruments such the Constitution of the Republic, Municipal Structure Act and Municipal System Act. The ensuing subsections outline requirements of these Acts to give effect to its developmental duties as required by section 153 of the Constitution (Act 108 of 1996).

3.5.1 Republic of South Africa Constitution (Act No. 108 of 1996)

Chapter 2 of the Republic of South Africa Constitution (Act No. 108 of 1996) provides that “everyone has a right to have access to housing, health care services, sufficient food and water as well as social security and social assistance when they cannot support themselves and dependants”. Sections 26 and 27 of the Republic of South Africa Constitution (Act No. 108 of

1996) further provide that “the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights”.

Section 152 of the Republic of South Africa Constitution (Act No. 108 of 1996) mandates local government with the task of promoting social and economic development, while Section 153 of the Republic of South Africa Constitution (Act No. 108 of 1996) obliges every municipality to structure and manage its administration and budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community. Lastly, Section 156 of the Republic of South Africa Constitution (Act No. 108 of 1996) deals with the powers and functions of local government.

3.5.2 Republic of South Africa Municipal Structures Act (Act 117 of 1998)

This Act requires that municipalities be transformed during the final phase to create a truly democratic and developmental local government. The Republic of South Africa Municipal Structures Act (Act 117 of 1998) requires municipalities to engage in consultation with civil society so that they can meet their objectives. According to Section 19 of the Republic of South Africa Municipal Structures Act (Act 117 of 1998), each municipality is required to develop a method by which to consult the community and community organisations in order to perform their functions and exercise power.

3.5.3 Republic of South Africa Municipal System Act (Act No. 32 of 2000)

This Act makes provision for core mechanisms and processes which are necessary to enable municipalities to socially and economically uplift local communities. As clearly stated in the preamble of the Republic of South Africa Municipal Systems Act (Act 32 of 2000), ‘the fundamental aspect of the Act is the active engagement of communities in the affairs of municipal planning, service delivery and performance management’. As set out in Chapter 5 of the Republic of South Africa Municipal Systems Act (Act 32 of 2000), local communities are required to participate in the review processes of the IDP in order to ensure effective service delivery and high performance management. These policies and legislative structures set key requirements for sustainability within local government institutions.

Section 23(1) of the Republic of South Africa Municipal Systems Act (Act 32 of 2000) stipulates that “a municipality must undertake developmentally-oriented planning so as to ensure that it strives to achieve the objects of local government set out in section 152 of the Republic of South Africa Constitution; gives effect to its developmental duties as required by section 153 of the Republic of South Africa Constitution; and together with other organs of state contribute to the progressive realisation of the fundamental rights contained in sections 24, 25, 26, 27 and 29 of the Republic of South Africa Constitution”.

Section 31 of the Republic of South Africa Municipal Systems Act (Act 32 of 2000), requires the MEC for local government in the province, subject to any other law regulating provincial supervision of local government, to facilitate the co-ordination and alignment of integrated development plans of different municipalities, including those of a district municipality and the local municipalities within its area; and take any appropriate steps to resolve disputes or differences in connection with the planning, drafting, adoption or review of an integrated development plan between a municipality and the local community; and different municipalities. In essence, DLGTA as a provincial department has a crucial role to play with respect to planning, drafting, adoption or review of integrated development plans of municipalities in KwaZulu-Natal. The spatial development framework, which is an integral part of the IDP, requires a GIS tool to map out geographic locations or extent of all the IDP projects. The next section details why a GIS tool should be adopted and use in Local Government (or municipalities).

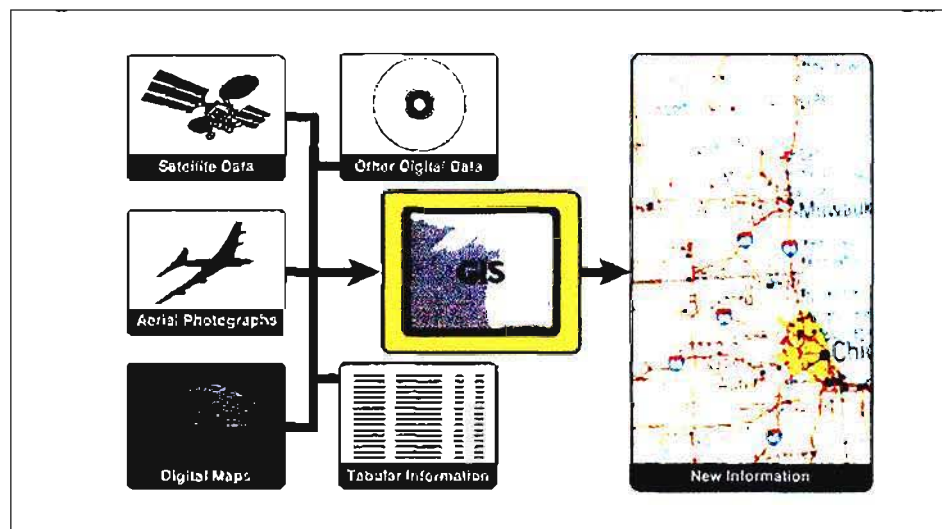
3.6 Adoption and use of GIS in Local Government

A Geographic Information System (GIS) is a computer system capable of capturing, storing, analyzing, and displaying geographically referenced information; that is, data identified according to location (USGS, 2006, paragraph 1). Practitioners also define a GIS as including the procedures, operating personnel, and spatial data that go into the system (Environmental System Research Institute Documentation, 2006: paragraph 3).

According to Environmental Systems Research Institute Documentation (2006, paragraph 5), the power of a GIS comes from the ability to relate different information in a spatial context and to reach a conclusion about this relationship. Most of the information we have about our world contains a location reference, placing that information at some point on the globe. For

example, when rainfall information is collected, it is important to know where the rainfall is located. This is done by using a location reference system, such as longitude and latitude, and perhaps elevation. Comparing the rainfall information with other information, such as the location of marshes across the landscape, may show that certain marshes receive little rainfall. This result may indicate that these marshes are likely to dry up, and this inference can help us make the most appropriate decisions about how humans should interact with the marsh. A GIS, therefore, can reveal important new information that leads to better decision-making.

Figure 3.1. Data Integration through a GIS Technology



(Source: USGS, 2006: paragraph 5)

Van der Vegt (2005: paragraph 7) affirms that “a large part of the information that is important to local government has geographical relevance, and geographical data is very important to local government in order to be able to maintain and plan their areas of jurisdiction”. Increasingly, local governments across the globe are using spatial data as a core part of their business operations and this often involves gaining access to, developing new, and processing in different ways existing data (Spatial Information Management Toolkit Documentation, no date). For instance, among other things, local government uses spatial information in its operations to manage roads through maps, maintenance plans and tracking geographic locations of plant and equipments, etc.

Spatial Information Management Toolkit Documentation (no date) further indicates that the “value of the information and the effectiveness of the decision-making and planning processes are closely related to the quality and completeness of the information and the manner in which it is made available”. Invariably access to reliable and up-to-date information reduces the uncertainty in planning and management by identifying and analysing situations and issues. For this reason, data access, management, integration, analysis and communication are key components of ensuring effective spatial information management in local government.

Crucially, as local government’s use of spatial information increases, so does its requirement to understand spatial information standards, how spatial systems integrate with other information management system and link to the overall direction for improvement in council services to the community. It is against this background that the Department of Local Government and Traditional Affairs (DLGTA) embarked on the implementation of an enterprise GIS in 1997, after a successful GIS Pilot Project which was conducted in 1996 (Provincial Department of Local Government and Traditional Affairs GIS Strategy Report, 2006:1).

As indicated in the Provincial Department of Local Government and Traditional Affairs GIS Strategy Report (2006:1), the Department originally implemented GIS to manage the demarcation processes it was involved at that time and also to support and assist municipal development planning functions and processes. Accordingly, the DLGTA’s municipal GIS capacity building initiative was seen as a medium to long term investment in the spatial information assets of the Province of KwaZulu-Natal. By supporting municipalities with a GIS software application, datasets and human capacity, municipalities would in turn be able to capture, manage and maintain spatial information at a level of detail that the Department could never hope to achieve for the entire Province. In so doing, accurate, current and complete spatial information of the Province would be available literally at the click of a button.

As stated in the DLGTA GIS Strategy Report (2006:4), the Department invested R5.8 million in municipal GIS capacity building in the 2005/2006 financial year. Since 2001, about R20 million has been spent on municipal GIS capacity building within District and Local municipalities in KwaZulu-Natal. An additional R5.9 million and R6 million will be transferred to municipalities in KwaZulu-Natal to support municipal GIS-related projects in

2006/2007 and 2007/2008 financial years respectively. To date, according to the Provincial Department of Local Government and Traditional Affairs GIS Strategy Report (2006:4), DLGTA GIS capacity building programme has greatly assisted the ten (10) District municipalities with the establishment of functional spatial information systems and databases. For internal use, the GIS technology has served the district municipalities well as a decision-support tool for their integrated development planning programmes, spatial development frameworks, disaster management plans, tourism plans, technical project management, and general mapping (Provincial Department of Local Government and Traditional Affairs GIS Strategy Report, 2006:4).

While the previous DLGTA GIS strategy and the associated funding committed to this strategy has reaped rewards for all three spheres of government in KwaZulu-Natal, it has certainly not realised its full potential (Provincial Department of Local Government and Traditional Affairs GIS Strategy Report, 2006:3). Municipalities generally, with several exceptions, have not captured nor maintained spatial information adequately. Where information has been captured and maintained, standards have not been implemented for core information to enable collation at provincial or district levels. GIS technical expertise remains in short supply which has meant extremely vulnerable GIS units at municipalities where only one GIS officer exists. This situation has compelled DLGTA to provide hands-on GIS support to some of these municipalities, and this initiative may also be seen as a means of protecting its financial investments by ensuring that fully functional GISs are implemented in municipalities (Provincial Department of Local Government and Traditional Affairs GIS Strategy Report, 2006:5).

The next subsection outlines the public service delivery principles which the DLGTA as a public institution is obliged to adhere to while rendering GIS support services to municipalities in the Province. These principles are critical to the study in that they provide additional framework upon which the quality of DLGTA GIS support services to municipalities will be evaluated.

3.7 Public Service Delivery Principles (Batho Pele – People First)

The Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997, sets out eight

transformation priorities, amongst which Transforming Service Delivery is the key. This is because a transformed South African public service will be judged by one criterion above all: its effectiveness in delivering services which meet the basic needs of all South African citizens. Improving service delivery is therefore the ultimate goal of the public service transformation programme (Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997).

Accordingly, the purpose of the White Paper on the Transformation of the Public Service Delivery is “to provide a policy framework and a practical implementation strategy for the transformation of public service delivery” (Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997). It is further stated that “the White Paper is primarily about *how* public services are provided, and specifically about improving the efficiency and effectiveness of the way in which services are delivered. It is not about *what* services are to be provided” (Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997).

As set out in Section 3 of the Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997, eight principles (popularly known as *Batho Pele* principles) for transforming public service delivery are identified as consultation, service standards, access, courtesy, information, openness and transparency, redress and value for money. For the benefit of this study, some of the principles relevant to the study are discussed below. In this case, municipalities or municipal officials are herein referred to as ‘customers’.

As set out in section 1.3 of the Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997, in a genuine competitive commercial market, private companies cannot afford to ignore the needs and wishes of their customers if they want to stay in business, because dissatisfied customers can choose to take their business elsewhere. It adds further that “knowing what the customer wants and providing it quicker, better and cheaper than your competitors, is essential to business success”. It affirms the view that “in a fundamental business principle, customer must come first”.

Section 4.1 of the Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997 stipulates that “all national and provincial departments must, regularly and systematically, consult not only about the services currently provided but also about the provision of new basic services to those who lack them”. It is stated that “consultation with users of services can help foster a more participative and co-operative relationship between the providers and users of public services” (Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997).

In terms of ensuring courtesy, section 4.4.1 of the Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997 requires that “behaviour of all public servants is raised to the level of the best”. In other words, public servants are required to treat members of the public as “customers who are entitled to receive the highest standards of service”. According to section 4.4.3 of the Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997, “the performance of public servants who deal with customers must be regularly monitored, and performance which falls below the specified standards should not be tolerated”. It is further stated that “where service has fallen below the promised standard, the response should be immediate, starting with an apology and full explanation; an assurance that the occurrence will not be repeated”.

According to Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997, “improving service delivery is a continuous, progressive process, not a once-for-all task”. In setting out service delivery standards, section 7.2.5 of the Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997 stipulates that “accurate information about the current level and quality of service is essential in order to decide where and how to make improvement”. It adds further that “improvement gap should be identified; and closing this gap is the prime aim of a service delivery improvement programme”. Section 7.2.7 of the Republic of South Africa White Paper on Transforming Public Service Delivery, *Government Gazette*, vol. 388, no. 18340, 1 October Pretoria 1997 concludes that “service standards must cover customers’ main requirements in terms of accessibility of services, response times, turnaround times, accuracy, courtesy, provision of information, and dealing with complaints”.

3.8 DLGTA GIS Service Marketing Mix

3.8.1 Introduction

According to McLean (1994:190), Kotler (1994:98) and Rafiq and Ahmed (1995:4), one of the dominant marketing theories is the *marketing mix* which was originally developed by Borden (1965:389). The original marketing mix, which is commonly known as 4P's (Product, Price, Promotion and Place), is essentially a set of controllable marketing variables that a firm blends to produce the response it wants in the target market (Kotler and Armstrong, 1989:45). Subsequently, Booms and Bitner's (1981:47) propose seven elements by adding People, Process and Physical evidence to the traditional 4Ps, and these elements are discussed in brief below. Zeithmal and Bitner (1996:26) affirm that "for all service marketing, people, physical evidence and process must be added to the usual four part marketing mix consisting of product, price, promotion and distribution".

3.8.2 Product

According to Kotler (1984:3; 1994:432), "a product is anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need; and it includes physical objects, services, persons, place, organisations and ideas". The DLGTA main goal is to provide municipalities with mapping services and also provided digital spatial datasets and software tools require manipulating these datasets. It is anticipated that the information product will add value to the municipal service delivery process and enhancing decision-making pertaining to municipal integrated development planning issues. Information package is gathered and delivered to these municipalities as well as KZN standard map series which were compiled by DLGTA staff.

3.8.3 Price

The price, according to Kotler (1984:3), "is the amount of money charged for a product or service, or the sum of the values that consumers exchange for the benefits of having or using the product or service". According Low and Tan (1995:36), "price is the only variable in the marketing mix that must be set in relation to the other 3Ps (i.e. Promotion, Place and Product)". Since DLGTA is a public institution, rendering GIS support services to

municipalities does not accrue any cost. DLGTA as a provincial department has a constitutional mandates to assist local government in the quest to provide basic services to the local municipalities. The cost of gathering the information is borne by DLGTA and sometimes funds are also provided by Development Bank of South Africa (DBSA).

3.8.4 Promotion

According to Hawkins et al (2001:19), “promotion is marketing communication that includes advertising, sales, public relations, packaging as well as any reflection about the company and its offerings”. According to Perreault and McCarthy (1999:49), “promotion is concerned with telling the target market or others in the channel of distribution about the product”. Low and Tan (1995) define promotion as “any method of informing, persuading or reminding clients about the marketing mix”. DLGTA as part of providing support to municipalities has developed a marketing brochure to market GIS services provided by DLGTA. These information brochures are delivered to municipalities and other relevant role players for information purposes. These brochures are professionally compiled and carry the corporate image or identity of the DLGTA.

3.8.5 Place

Hawkins et al (2001:21) refers to place or distribution as “having the product available where target customers can buy it.” This is very important to the success of the product. This is supported by Wilkie (1994:34) who mentions that distribution should be “well structured to meet consumers need.” Therefore marketers need to continuously study where consumers shop for their product in order to formulate an appropriate and effective distribution strategy.

In the case of DLGTA, GIS information products could be obtained from the three regional offices located at Pietermaritzburg, Durban and Ulundi. A GIS website has been implemented to allow external stakeholders to access GIS information via the Internet. Certain standard and thematic maps have been generated and published on the DLGTA GIS website. These maps can be downloaded off the website.

3.8.6 People

Personnel are key to the creation of the service and its delivery to the consumer in a consistently acceptable fashion (Rafiq and Ahmed, 1995:4; Low and Tan, 1995:44). They indicate that “because of the simultaneity of production and consumption, personnel occupy a key position in influencing customer perceptions of the product quality”. In this regard, DLGTA currently has on its structure 24 staff across the three regional offices at various positions. Staffs are fully capacitated and manage all GIS related projects within the Department. Staff job functions are recorded and assessed quarterly by respective Managers.

3.8.7 Physical Evidence

According to Rafiq and Ahmed (1995:4), “physical evidence refers to the environment in which the service is delivered and any tangible goods that facilitate the performance and communication of the service”. It is emphasized that physical assets are important in facilitating the enhanced marketing and delivery of services. Low and Tan (1995:45) state that “a firm which is well endowed with supporting facilities will be better placed to outperform one which is not”. DLGTA is privileged to secure high tech IT equipments and which are maintained by State Information Technology Agency (SITA) Technicians assigned to DLGTA for IT support. The office building in Pietermaritzburg is situated in CBD and the setup is very pleasing and safe environment. The public has easy access to the building.

3.8.8 Process

According to McLean (1994:199), “the process or flow of activities by which a service is delivered or consumed is an essential element of the marketing strategy”. He stresses that “service delivery can be variable because of the heterogeneity of services: that is to say no two service encounters are the same”. In this context, DLGTA has instituted regional GIS for a where technical information and know-how is shared among municipal officials. These meetings are chaired by DLGTA staff and they ensure that municipality information requirements are discussed and GIS best practices are identified and shared with municipalities. The three regional offices is situated geographic such that DLGTA officials are close to municipalities across the province. In terms of processing municipal GIS requests,

map request form is completed by the municipal official (s) and handed to the DLGTA GIS Project Manager for further action.

3.9 Conclusion

This chapter dealt with the marketing mix of DLGTA with respect its GIS functions. Considering the intangibility nature of services, developing a sound marketing mix would not necessary warranty the success of the service organisation, but the way and manner at which this service is provided or executed is crucially important. In this regard, the next section discusses the research methodology employed in this study.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

This chapter focuses on the research methodology and the design used to collect and analyse the data from the survey questionnaires. The 21-item statements of the SERVQUAL scale questionnaire are briefly explained within the context of the five dimensions of service quality as discussed in Chapter Two. The data collection, data analysis and its presentations are all discussed in this chapter.

4.2 Statement of the Problem

According to Zeithaml and Bitner (2003:35), “the main objective of service firms is to develop and provide offerings that would satisfy the needs and expectations of consumers”. Kotler (2000:36) asserts that “if the expectations of customers are exceeded, customers become highly satisfied”. To achieve this objective, Kumar *et al* (1999:575) stress the importance of service firms developing a customer satisfaction program for measuring performance/satisfaction over time. Zeithaml and Bitner (2003:135) affirm that “a sound measure of service quality is necessary for identifying aspects of service needing performance improvement and also assessing how much improvement is needed on each aspect of the service offerings”.

In light of the above discussion, it is deemed essential for the Department of Local Government and Traditional Affairs (DLGTA) to be fully aware of municipalities’ perceptions and expectations of the quality of the GIS support services rendered to municipalities in KwaZulu-Natal Province. The purpose of this research is thus to ascertain the gap between municipalities’ expectations and perceptions of the GIS support services rendered to them.

4.3 Research Questions

According to Aaker *et al* (2002:54), “research questions ask what specific information is required to achieve the research purpose”.

This study seeks to answer the following questions:

- What are municipalities' expectations of the quality of GIS support services received by them (in accordance with the five service quality dimensions)?
- What are municipalities' perceptions of the quality of GIS support services received by them (in accordance with the five service quality dimensions).
- What is the average gap score between municipalities' perceptions and expectations for each of the service quality dimensions?
- Which of the service quality dimensions have poor service quality (i.e. poor perceptions by municipalities relative to expectations)
- Which of the service quality dimensions have superior service quality (i.e. perception meets or exceeds expectation of service quality)

4.4 Research Objectives

According to Mouton (1996:101), "the research objective or purpose gives a broad indication of what researchers wish to achieve in their research". The general purpose of the study was to ascertain the actual or perceived gap between municipalities' expectations and perceptions of the quality of GIS support services received.

The specific objectives were:

- 1) To determine municipalities' expectations of the quality of GIS support services received (in respect of the five service quality dimensions)
- 2) To determine municipalities' perceptions of the quality of GIS support services received (in respect of the five service quality dimensions)
- 3) To determine the average gap score between municipalities' perceptions and expectations for each of the service quality dimensions.
- 4) To determine which dimensions have poor service quality (i.e. poor perceptions by municipalities relative to expectations)
- 5) To determine which dimensions have superior service quality (i.e. perception meets or exceeds expectation of service quality)

4.5 Research Design

McDaniel and Gates (2001:28) define research design as “the plan to be followed to answer the research objectives or hypothesis”. Mouton (1996:107) defines research design as “a set of guidelines and instructions to be followed in addressing the research problem”. According to Mouton (1996:107), “the main function of a research design is to enable the researcher to anticipate what the appropriate research decisions should be so as to maximize the validity of the eventual results”. Terre Blanche and Durrheim (1999:30) on the other hand, state that “a research design should provide a plan that specifies how the research is going to be executed in order to answer the research questions”. They further indicate that “this process involves a sequence of activities beginning with the research question and ending with a report”. The ensuing sections outline how the research data was collected and analysed.

4.5.1 Questionnaire Design

In order to answer the research questions, a self-administered questionnaire (i.e. SERVQUAL scale) was adapted to collect the research data. Firstly, McDaniel and Gates (2001:289) indicate that “a questionnaire is a set of questions designed to generate the data necessary for accomplishing the objectives of the research project”. They continued by stating that “a questionnaire provides consistency in the data gathering process because it standardises the wording and sequencing of the questions for all respondents; and since every participant gets the same question it prevents the discrepancy that would emerge from unsystematic questioning”

Bless and Higson-Smith (2000:109), on the other hand, state that “the most important advantage for using self-administered questionnaires is that anonymity is assured since respondents returned filled-out questionnaires without indicating their names; and this will help them to be honest in their answers”. They further acknowledge that “by using self-administered questionnaires, a large coverage of the population can be reached with little time or cost”. Typically, this type of survey method takes into account the geographic dispersion of the respondents which in this case are reached through the mail. According to Aaker *et al* (2004:236), “the mail survey procedure in most cases cost less than personal interviews”. Bless and Higson-Smith (2000:109) warn that “due to inherent problems associated with self-administered questionnaire, questions should be simple and unambiguous”. Aaker *et al*

(2004:235) adds that “with self-administered questionnaire, there is no interviewer present to probe incomplete answers for clarity”.

According to Zeithaml and Bitner (2003:135), “service quality is generally abstract and thus dimensions of services are best captured by surveys that measure customer evaluations of services; and one such survey instrument developed to measure service quality is the SERVQUAL scale”. According to Prabhakaran and Satya (2003:160) “research has shown SERVQUAL to be an effective and stable tool for measuring service quality across service organisations”. With the SERVQUAL scale, service quality is measured by the level of discrepancy between consumer expectations or desire and their perceptions of what they received. For this study, the primary data was collected from municipal officials in order to understand their perspective of the five service quality dimensions (i.e. reliability, responsiveness, assurance, empathy and tangibles) with regards to GIS support rendered by DLGTA. The SERVQUAL questionnaire used in this study is framed to bring out the perceptions of municipal officials on the service quality dimensions.

According to Siu *et al* (2001:721), “the SERVQUAL questionnaire comprises a general information section and the service evaluation section that applied the SERVQUAL instrument, suitably modified to suit this research”. There are two parts to the SERVQUAL questionnaire used in this study. Part A is aimed at eliciting respondents’ expected level of service quality, and Part B deals with respondents’ perceptions of the service quality received. Each part comprises 21-item statements relating to the five service dimensions: 21-items to measure customers’ expected level of service for a GIS service industry in general (expectations), and corresponding 21-items to measure customers’ perception of the present level of GIS support service rendered by DLGTA. Both sets of items were presented on a Likert rating scale of 1 to 7, with terminal anchors of ‘strongly agree’ to ‘strongly disagree’.

4.5.2 Discussion of the Questionnaire

As indicated in section 4.5.1, there are two parts to SERVQUAL questionnaire and each part comprises 21-item statements relating to the five service quality dimensions, namely; reliability, responsiveness, assurance, empathy and tangibles. Subsequently, statements 1 to 5 of SERVQUAL relate to *reliability* dimension which is the ability to perform the promised service dependably and accurately. Statements 6 to 8 relate to the *responsiveness* dimension

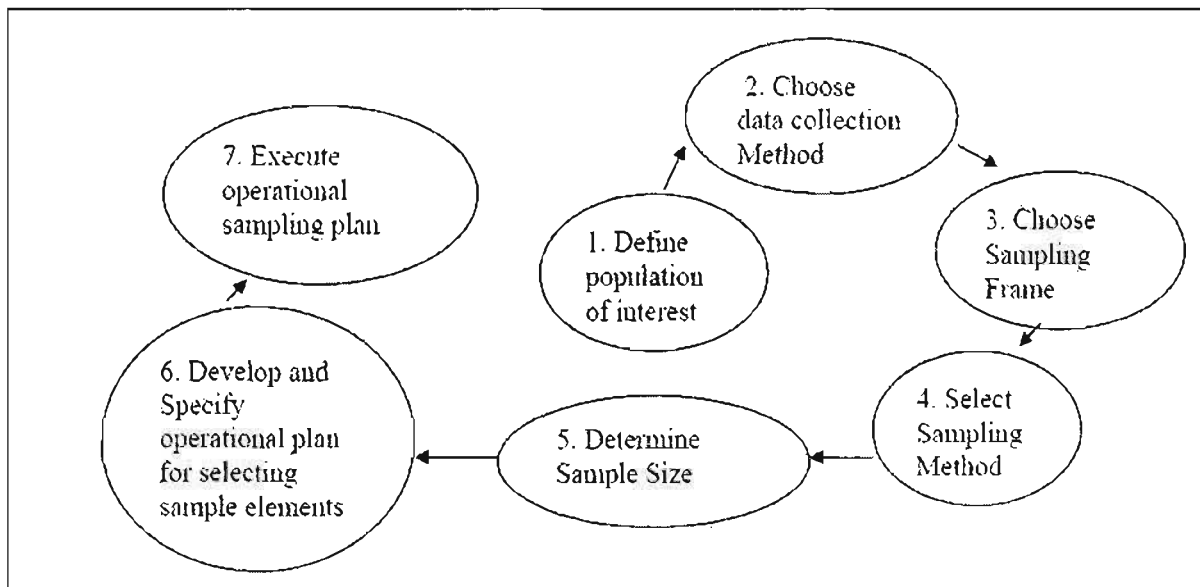
which basically depicts the service provider's willingness to help customers and provide prompt service to customers.

Statements 9 to 12 relate to *assurance* dimension which deals with knowledge and courtesy of employees of the service firm and their ability to convey trust and confidence. Statements 13 to 16 relate to the *empathy* dimension which involves the caring and individualised attention that a service firm provides to its customers. Lastly, statements 17 to 21 relate to *tangible* dimension which deals with appearance of physical facilities, equipment, personnel, and communication materials. Respondents' ratings of these statements are intended to bring out their expectations and perceptions on each of the five service dimensions.

4.6 Sample Design

According to McDaniel and Gates (2001:329), "the process of designing a sample involves seven steps". These are shown in Figure 4.1 below:

Figure 4.1 Steps in developing a Sample Plan



(Source: McDaniel and Gates, 2001:329)

The steps used in this study to develop a sample plan are discussed below as follows:

4.6.1 Defining the population of Interest

McDaniel and Gates (2001:328) define *population of interest* as “the total group of people from whom we need to obtain information”. According to Bless and Higson-Smith (2000:85), “the population of interest is the set of elements that the research focuses upon and to which the results obtained by testing the sample should be generalized”. The population of interest for this study includes all municipal officials in KZN. Since it is impractical to obtain information from the entire population of interest, a specific sample was selected to actually participate in the survey.

4.6.2 Data Collection Method

Data collection was carried out through a self-administered questionnaire (i.e. SERVQUAL). According to Aaker *et al* (2004:235), “self-administered procedures are thought to be the best, because the respondent does not have to admit directly to an interviewer a socially undesirable or negatively valued characteristics or behaviours”. The SERVQUAL questionnaire used in this study comprising 42-item statements (21 for expectations and 21 for perceptions) was e-mailed to municipal officials dedicated to DLGTA municipal GIS implementation program on the 9th August 2006 to complete and return to the researcher latest by 30th August 2006 either through the post, e-mail or by fax. Aaker *et al* (2004:235) acknowledge that “if one simply mails questionnaires to the population sample (or respondents) without appropriate follow-up procedure, the rate of return is likely to be less than 20 percent”. To ensure that a good response rate is attained, the researcher subsequently contacted respondents on the 15th August 2006.

4.6.3 Sampling Frame

According to McDaniel and Gates (2001:333) and Bless and Higson-Smith (2000:86), “a sampling frame is a list of the population elements or members from which we select units to be sampled”. This research focused on municipal officials dedicated to DLGTA municipal GIS implementation program. It includes all funded District and Local municipalities in

KwaZulu-Natal Province (i.e. 10 District and 20 Local Municipalities). The sampling method used is discussed next.

4.6.4 Sampling Method

According to Cooper and Schindler (2001:165), “the sampling method selected for the research depends on the requirements of the project, its objectives, the funds available and time constraints”. There are two types of sampling method: namely probability (or random) sampling methods and non-probability sampling methods (Bless and Higson-Smith, 2000:86). According to Bless and Higson-Smith (2000:86), “probability sampling occurs when the probability of including each element of the population can be estimated”. In other words, a researcher can estimate the accuracy of the generalisation from a sample to population. Bless and Higson-Smith (2000:86) refer to non-probability sampling method as “the case where the probability of including each element of the population in a sample is unknown”. Here, it is not possible to determine the likelihood of the inclusion of all representative elements of the population into the sample.

According to Aaker *et al* (2004:380), “probability sampling involves four considerations. Firstly, the target population must be specified. Secondly, the method for selecting the sample needs to be developed. Thirdly, the sample size must be determined, and finally, the non-response problem must be addressed”. In this study, a self-administered SERVQUAL questionnaire was sent to the target population (i.e. 30 funded municipalities in KwaZulu-Natal). The next section discusses determination of sample size and data collection methodology employed.

4.6.5 Sample Size

According to Bless and Higson-Smith (2000:86) “a very important issue in sampling is to determine the most adequate size of the sample”. They state that “a large sample is more representative but very costly; and a small sample is much less accurate but more convenient”. Presently, there are 61 municipalities in KwaZulu-Natal Province (i.e. 1 Metro, 10 District Municipalities and 50 Local Municipalities); and only 30 of these municipalities (i.e. 10 District Municipalities and 20 Local Municipalities) have been funded to date by DLGTA for GIS implementation. Officials from the funded municipalities thus constitute the

sample for this research. At least, one of the officials from the funded municipalities took part in the survey.

4.6.6 Data Collection

In order to collect the data for this research, municipal officials dedicated to DLGTA GIS implementation program in the funded municipalities were consulted by the researcher at a Municipal GIS Project Steering Committee meeting held at Pietermaritzburg on the 9th August 2006 and the purpose of the research was explained to them. These officials were satisfied with the explanation and agreed to participate in the survey. As previously indicated, the SERVQUAL questionnaire was e-mailed to these officials to complete and return to the researcher either through the post, e-mail or by fax. Subsequently, some of the officials contacted the researcher later in the week for further clarity on the questionnaire content.

4.7 Data Analysis

The researcher followed a five-step procedure for the data analysis listed in McDaniel and Gates (2001:386). These are:

- Validation and Editing (Quality control)
- Coding
- Data Entry
- Machine Cleaning Data
- Tabulation and Statistical Analysis

4.7.1 Validation and Editing

The researcher checked all the 14 questionnaires returned to make sure that they were filled in as specified and contained no mistakes. Cooper and Schindler (2001:423) state that “editing detects errors and omissions, and corrects them when possible so that the possible data quality is obtained”. The researcher through editing confirmed that the data were accurate, complete, and properly entered by respondents.

4.7.2 Coding

McDaniel and Gates (2001:393) define coding as “the process of grouping and assigning numeric codes to the various responses of a particular question”. For the purpose of this study, numerical values were assigned to each statement in the SERVQUAL questionnaire.

4.7.3 Data Entry

According to McDaniel and Gates (2001:396), “the process of going directly from the questionnaire to the data entry device has proved to be more efficient and accurate”. In this regard, a spreadsheet was designed and all the data were entered directly from the questionnaires so as to avoid mistakes that would occur by transferring data to a sheet before actual entry.

4.7.4 Machine Cleaning Data

The data that were entered into the spreadsheet were finally checked by the researcher for possible errors. This was done several times before the final output was derived.

4.7.5 Tabulation and Analysis of Survey Results

According to Parasuraman *et al* (1985:14), “quality is a comparison between expectation and performance”. Therefore, assessing the quality of service (SQ) by using SERVQUAL approach, involves computing the differences between the ratings customers assign to the paired expectation/ perception statements:

$$\text{SERVQUAL score} = \text{Perception score} - \text{Expectation score}$$

Thus, when all the above procedure was carried out as effectively and efficiently as the researcher could, the perceived service quality (denoted as SQ) was computed along the five service dimensions by subtracting expectations scores from perception scores, giving an SQ score for each statement ranging between -0.6 and -1.0. A negative SQ score indicates that the level of the provider’s service quality is below customer expectations. Similarly, a positive

SQ score indicates that the service provider is exceeding customer expectations in that particular area.

4.8 Conclusion

This chapter dealt with the overall methodology used for the research. It focused primarily on the application of SERVQUAL questionnaire as a reliable tool for collecting and analysing the research data. The questionnaire was aimed at answering the research objectives. The researcher is of the opinion that the data collected from respondents was accurate and correctly analysed. The results obtained rightfully address the research objectives.

CHAPTER 5 RESEARCH FINDINGS

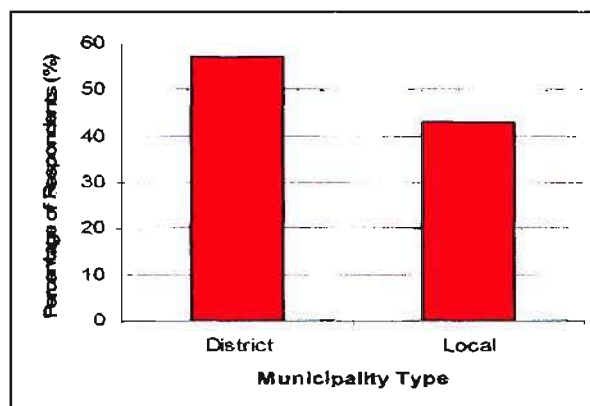
5.1 Introduction

This chapter covers the findings that emerged from the SERVQUAL survey conducted for this study. Firstly, the profile of the target population is discussed in terms of employment type and rate of response per municipality type. The chapter further discusses the findings of respondents' rating of both expectation and perception statements relating to the five service quality dimensions as already discussed in Section 2.5.2 of this dissertation. The summary result of gap scores per each service quality dimension is discussed.

5.2 Profile of the Sample

As previously indicated, there are 61 municipalities in KwaZulu-Natal Province (i.e. 1 Metro, 10 District Municipalities and 50 Local Municipalities). Thirty (30) of these municipalities (i.e. 10 District Municipalities and 20 Local Municipalities) have received conditional grant funding from DLGTA since 2001 for the establishment of GIS in their respective institutions. Municipal officials from the funded municipalities who are dedicated to GIS implementation program thus constitute the sample for this study.

5.2.1 Graph 5.2.1 Rate of Response per Municipality Type



A total of 30 SERVQUAL survey questionnaires were distributed to 10 District municipalities and 20 local municipalities in KwaZulu-Natal, and 14 useable questionnaires were returned to

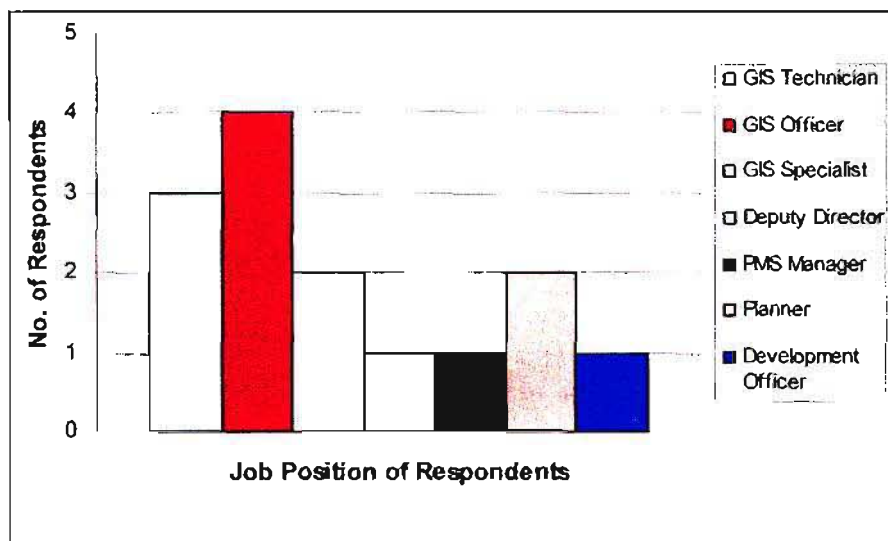
the researcher from 8 District municipalities and 6 local municipalities (30%), resulting in a 46 %t response rate.

As depicted in Graph 5.2.1, 57.1% of respondents were District officials while Local officials accounted for the remaining 42.9%. Since the District municipalities are well capacitated in terms of GIS usage, it could be inferred that the research has a good representation from District municipalities (80%). Most of the Local municipalities in KwaZulu-Natal do not have fully dedicated GIS personnel and thus the 30% response rate from the Local officials is more than enough.

Table 5.2.1 Frequency of Respondents per Municipality Type

	Frequency	Relative Percent (%)	Cumulative Percent (%)
District	8	57.1	57.1
Local	6	42.9	100
Total	14		

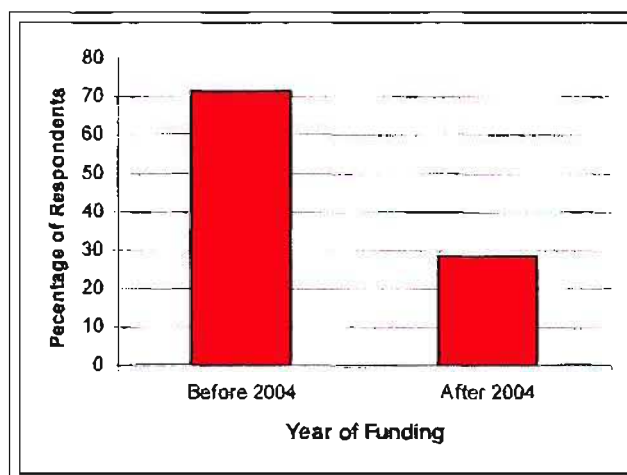
5.2.2 Graph 5.2.2 Employment Type of Respondents



71.4% of respondents are employed as full time GIS personnel in their respective municipalities. Their primary function is to manage GIS related projects within

municipalities. The other 28.6% of respondents are involved with GIS as their secondary function.

5.2.3 Graph 5.2.3 Percentage of Respondents employed by municipalities funded before and after 2004.



71.4% of respondents are employees of municipalities that received GIS Capacity-Building funding from DLGTA prior to 2004. All the 10 District municipalities in KwaZulu-Natal were fully capacitated as at 2004 (DLGTA GIS Strategy Report, 2006:4). 28.6% of respondents are employees of municipalities that received GIS capacity building funding from DLGTA after 2004.

Table 5.2.3 Frequency of Respondents employed by municipalities funded before and after 2004

	Frequency	Relative Percent (%)	Cumulative Percent (%)
Funding before 2004	10	71.4	71.4
Funding after 2004	4	28.6	100
Total	14	100	

5.3 Questionnaire Discussion

As previously indicated in section 4.5.1, there are two parts to SERVQUAL survey questionnaire, and each part comprise 21-item statements relating to the five service quality dimensions, namely; tangibles, reliability, responsiveness, assurance and empathy. The ensuing subsections show the gap scores for each statement pair for each of the five dimensions. Interpretation of the computed gap scores for each of the five dimensions will be addressed in chapter 6. For clarity, respondents are numbered from 1 to 14.

5.3.1 Expectation Statement Survey Results

5.3.1.1 Statements 1 to 5 (Reliability Dimension)

Subsequently, statements 1 to 5 of SERVQUAL questionnaire are related to the *reliability* dimension which is the ability to perform the promised service dependably and accurately. Table 5.3.1.1 overleaf depicts the survey results of the expectation statements 1 to 5.

Table 5.3.1.1 Survey results of Expectation Statements 1 to 5

Reliability Dimension : Expectation Statements						
Respondents		1	2	3	4	5
	1	6	6	5	5	3
	2	6	7	7	6	5
	3	7	7	7	7	7
	4	6	6	5	5	6
	5	5	5	6	5	4
	6	5	7	5	6	6
	7	3	7	5	3	5
	8	6	7	6	4	3
	9	7	7	6	6	7
	10	6	7	5	6	7
	11	6	6	7	6	6
	12	6	5	5	6	6
	13	5	4	5	5	3
	14	7	7	6	6	6
Total Statement Scores		81	88	80	76	74
Average Statement Scores		5.79	6.29	5.71	5.43	5.29
Dimension Score		5.70				

As shown in Table 5.3.1.1 above, the reliability dimension score for expectation statements 1 to 5 is computed as 5.70. In this instance, respondents' average statement scores for the expectation statement 2 (i.e. 6.29) is relatively significant meaning that municipal officials expect GIS service providers to show sincere interest when addressing their GIS related problems. On the other hand, the average statement scores for the expectation statements 1 and 3 (i.e. 5.79 and 5.71 respectively) indicates that municipal officials reasonably expect GIS service providers to deliver on their promises and must do so right the first time. The results of expectation statements 4 and 5 (i.e. 5.43 and 5.29 respectively) also reflect that municipal officials expect GIS service providers to provide GIS services at the time they promise to do, and more so they expect to be informed about when GIS services will be rendered to them.

5.3.1.2 Statements 6 to 8 (Responsiveness Dimension)

Statements 6 to 8 of SERVQUAL questionnaire are related to the *responsiveness* dimension which depicts service provider's willingness to help customers and provide prompt service. Table 5.3.1.2 below shows the survey results of the expectation statements 6 to 8.

Table 5.3.1.2 Survey results of Expectation Statements 6 to 8

Responsiveness Dimension: Expectation Statements				
		6	7	8
Respondents	1	7	4	5
	2	6	7	6
	3	7	7	7
	4	6	6	5
	5	7	5	3
	6	6	7	6
	7	7	7	7
	8	6	7	4
	9	7	7	6
	10	6	7	2
	11	6	7	6
	12	6	7	5
	13	3	6	5
	14	7	7	7
Total Statement Scores		87	91	74
Average Statement Scores		6.21	6.50	5.29
Dimension Score		6.00		

As shown in Table 5.3.1.2 above, the responsiveness dimension score for expectation statements 6 to 8 is computed as 6.00. In this study, respondents' average statement scores for the expectation statements 6 and 7 (i.e. 6.21 and 6.50 respectively) is relatively significant meaning that municipal officials expect prompt services from GIS service providers. Furthermore, the average statement score for the expectation statement 8 (i.e. 5.29) shows that municipal officials reasonably expect GIS service providers to respond promptly to their GIS-related requests.

5.3.1.3 Statements 9 to 12 (Assurance Dimension)

Statements 9 to 12 of SERVQUAL questionnaire are related to the *assurance* dimension which deals with knowledge and courtesy of employees of the service firm and their ability to convey trust and confidence. Table 5.3.1.3 below shows survey results of the expectation statements 9 to 12.

Table 5.3.1.3 Survey results of Expectation Statements 9 to 12

Assurance Dimension: Expectation Statements					
		9	10	11	12
Respondents	1	5	6	6	7
	2	7	6	7	7
	3	7	7	7	7
	4	6	6	7	5
	5	5	5	7	7
	6	6	6	7	7
	7	7	5	7	7
	8	6	6	7	7
	9	7	7	6	7
	10	3	5	6	7
	11	6	7	4	6
	12	6	6	6	7
	13	5	5	5	7
	14	7	6	6	7
Total Statement Scores		83	83	88	95
Average Statement Scores		5.93	5.93	6.29	6.79
Dimension Score		6.23			

As shown in Table 5.3.1.3 above, the assurance dimension score for expectation statements 9 to 12 is computed as 6.23. In this study, respondents' average statement scores for the expectation statements 11 and 12 (i.e. 6.29 and 6.79 respectively) is relatively significant meaning that municipal officials expect GIS service providers to be courteous and must have the knowledge to answer their GIS related questions. On the other hand, the average statement scores for the expectation statements 9 and 10 (i.e. 5.93 in both cases) shows that municipal officials certainly expect GIS service provider to instill confidence in them on GIS matters and also to feel safe in their transactions with the service provider.

5.3.1.4 Statements 13 to 16 (Empathy Dimension)

Statements 13 to 16 of SERVQUAL questionnaire are related to the *empathy* dimension which involves the caring and individualized attention that the service firm provides to its customers. Table 5.3.1.4 below shows the survey results of the expectation statements 13 to 16.

Table 5.3.1.4 Survey results of Expectation Statements 13 to 16

Empathy Dimension: Expectation Statements					
		13	14	15	16
Respondents	1	7	4	1	1
	2	6	6	7	7
	3	7	7	7	7
	4	5	6	6	5
	5	6	5	6	5
	6	7	7	7	7
	7	7	7	7	7
	8	7	7	7	5
	9	6	7	7	7
	10	7	6	6	5
	11	2	6	6	6
	12	7	7	7	5
	13	7	7	7	5
	14	7	6	7	7
Total Statement Scores		88	88	88	79
Average Statement Scores		6.29	6.29	6.29	5.64
Dimension Score		6.13			

As shown in Table 5.3.1.4 above, the empathy dimension score for expectation statements 13 to 16 is computed as 6.13. Here, respondents' average statement scores for the expectation statements 13, 14 and 15 (i.e. 6.29 in each case) is relatively significant meaning that municipal officials expect GIS service providers to give them individual attention or care, and have their interests at heart. However, the average statement score for the expectation statements 16 (i.e. 5.64) indicates that municipal officials certainly expect GIS service provider to instill confidence in them on GIS matters and also to feel safe in their transactions with the service provider.

5.3.1.5 Statements 17 to 21 (Tangibles Dimension)

Statements 17 to 21 of SERVQUAL questionnaire are related to the *tangibles* dimension which deals with appearance of physical facilities, equipment, personnel and communication materials. Table 5.3.1.5 below shows the survey results of the expectation statements 17 to 21.

Table 5.3.1.5 Survey results of Expectation Statements 17 to 21

Tangibles Dimension : Expectation Statements						
Respondents		17	18	19	20	21
	1	7	4	4	7	7
	2	6	4	5	5	5
	3	7	7	7	7	7
	4	6	6	6	7	7
	5	6	5	6	7	6
	6	7	7	7	7	7
	7	7	4	4	4	7
	8	4	2	3	5	6
	9	7	5	5	7	7
	10	7	5	7	7	5
	11	7	7	7	7	7
	12	7	7	7	6	6
	13	7	3	3	7	7
	14	7	6	6	7	7
Total Statement Scores		92	72	77	90	91
Average Statement Scores		6.57	5.14	5.50	6.43	6.50
Dimension Score		6.03				

As shown in Table 5.3.1.5 above, the tangibles dimension score for expectation statements 17 to 21 is computed as 6.03. In this case, respondents' average statement scores for the expectation statements 17, 20 and 21 (i.e. 6.57, 6.43 and 6.5 respectively) is relatively significant meaning that municipal officials expect the GIS service provider to have modern equipment, visually appealing materials associated with the service, and lastly to have convenient business hours. However, the average statement scores for the expectation statements 18 and 19 (i.e. 5.14 and 5.50 respectively) indicates that municipal officials reasonably expect GIS service providers to have visually appealing facilities and also to have professional appearance.

5.3.2 Perception Statement Survey Results

5.3.2.1 Statements 1 to 5 (Reliability Dimension)

Table 5.3.2.1 overleaf depicts the survey results of the perception statements 1 to 5.

Table 5.3.2.1 Survey results of Perception Statements 1 to 5

Reliability Dimension: Perception Statements						
Respondents		1	2	3	4	5
	1	6	3	4	3	3
	2	6	6	5	6	4
	3	6	6	5	6	6
	4	5	6	5	6	6
	5	6	6	5	6	5
	6	5	7	6	6	7
	7	4	4	3	2	5
	8	5	6	4	5	3
	9	7	7	7	7	6
	10	5	6	5	5	4
	11	2	6	3	3	5
	12	5	6	5	5	6
	13	5	4	4	5	4
	14	5	6	6	6	5
Total Statement Scores		72	79	67	71	69
Average Statement Scores		5.14	5.64	4.79	5.07	4.93
Dimension Score		5.11				

As shown in Table 5.3.2.1 above, the reliability dimension score for perception statements 1 to 5 is computed as 5.11. In this study, respondents' average statement scores for the perception statement 2 (i.e. 5.64) is relatively significant meaning that municipal officials perceived DLGTA staff as showing sincere interests in solving their GIS-related problems. Similarly, the average statement scores for the perception statements 1 and 4 (i.e. 5.14 and 5.07 respectively) indicates that municipal officials perceived DLGTA as reasonably fulfilling their promises by accomplishing tasks on time. Nonetheless, the municipal officials perceived DLGTA as not providing some services right the first time, and also fail sometimes to inform municipal officials when services will be provided to municipalities.

5.3.2.2 Statements 6 to 8 (Responsiveness Dimension)

Table 5.3.2.2 below shows the survey results of the perception statements 6 to 8.

Table 5.3.2.2 Survey results of Perception Statements 6 to 8

Responsiveness Dimension: Perception Statements				
		6	7	8
Respondents	1	3	4	5
	2	5	5	1
	3	6	6	1
	4	6	6	2
	5	6	6	3
	6	6	6	1
	7	3	4	6
	8	4	7	4
	9	7	7	6
	10	6	6	2
	11	6	6	4
	12	4	6	3
	13	6	6	5
	14	5	6	5
Total Statement Scores		73	81	48
Average Statement Scores		5.21	5.79	3.43
Dimension Score		4.81		

As shown in Table 5.3.2.2 above, the responsiveness dimension score for perception statements 6 to 8 is computed as 4.81. In this study, respondents' average statement scores for

the perception statements 6 and 7 (i.e. 5.21 and 5.79 respectively) is relatively significant meaning that municipal officials perceive DLGTA as providing prompt GIS services to municipalities, and also show some level of willingness to help them on GIS issues. However, the average statement score for the perception statement 8 (i.e. 3.43) shows that municipal officials perceive DLGTA staff as being too busy to respond promptly to their GIS related requests.

5.3.2.3 Statements 9 to 12 (Assurance Dimension)

Table 5.3.2.3 below shows survey results of the perception statements 9 to 12.

Table 5.3.2.3 Survey results of Perception Statements 9 to 12

Assurance Dimension: Perception Statements					
		9	10	11	12
Respondents	1	3	4	5	2
	2	5	6	6	6
	3	4	6	6	6
	4	5	5	6	6
	5	6	6	6	4
	6	6	6	7	6
	7	5	7	7	5
	8	7	4	5	3
	9	7	7	7	7
	10	5	6	5	5
	11	6	6	4	5
	12	4	3	6	3
	13	4	4	4	5
	14	4	6	5	5
Total Statement Scores		71	76	79	68
Average Statement Scores		5.07	5.43	5.64	4.86
Dimension Score		5.25			

As shown in Table 5.3.2.3 above, the assurance dimension score for perception statements 9 to 12 is computed as 5.25. In this study, respondents' average statement scores for the perception statements 10 and 11 (i.e. 5.43 and 5.64 respectively) is relatively significant meaning that municipal officials perceive DLGTA as making municipalities feel safe in their dealings on GIS issues, and DLGTA staff are reasonably courteous with municipal officials.

However with the average statement score for the perception statement 12 computed as 4.86, municipal officials perceive some of the DLGTA staff as not fully knowledgeable when answering their GIS related questions, but their behavior does instill some level of confidence in some of these municipalities. This is evident in the average statement score for the perception statement 9 (i.e. 5.03)

5.3.2.4 Statements 13 to 16 (Empathy Dimension)

Table 5.3.2.4 below shows the survey results of the Perception statements 13 to 16.

Table 5.3.2.4 Survey results of Perception Statements 13 to 16

Empathy Dimension: Perception Statements					
		13	14	15	16
Respondents	1	2	3	4	2
	2	5	5	7	5
	3	6	6	6	6
	4	6	6	6	6
	5	5	5	4	4
	6	7	7	7	6
	7	3	3	3	2
	8	7	7	4	2
	9	7	7	7	7
	10	6	5	5	6
	11	6	5	6	6
	12	5	5	6	6
	13	5	5	5	4
	14	5	6	6	5
Total Statement Scores		75	75	76	67
Average Statement Scores		5.36	5.36	5.43	4.79
Dimension Score		5.23			

As shown in Table 5.3.2.4 above, the empathy dimension score for perception statements 13 to 16 is computed as 5.23. In this instance, respondents' average statement scores for the perception statements 13, 14 and 15 (i.e. 5.36, 5.36 and 5.43 respectively) is relatively significant meaning that municipal officials perceive DLGTA staff as giving personal attention to some municipal officials and to some extent these staff have some of the municipalities best interests at heart. However, with the average statement score for the

perception statements 16 computed as 4.79, it is perceived that DLGTA staff does not fully understand specific needs of some of the municipalities concerning relevance and use of GIS in local government environment.

5.3.2.5 Statements 17 to 21 (Tangibles Dimension)

Table 5.3.2.5 below shows the survey results of the perception statements 17 to 21.

Table 5.3.2.5 Survey results of Perception Statements 17 to 21

Tangibles Dimension: Perception Statements						
Respondents		17	18	19	20	21
	1	6	4	5	7	6
	2	5	4	5	5	5
	3	6	5	6	5	6
	4	6	6	6	7	7
	5	6	5	6	5	7
	6	6	6	7	6	7
	7	6	2	6	7	2
	8	4	5	6	6	6
	9	6	5	5	5	7
	10	4	5	5	4	6
	11	5	4	5	6	6
	12	4	3	6	5	6
	13	5	4	5	4	7
	14	6	4	5	3	5
Total Statement Scores		75	62	78	75	83
Average Statement Scores		5.36	4.43	5.57	5.36	5.93
Dimension Score		5.33				

As shown in Table 5.3.2.5 above, the tangibles dimension score for perception statements 17 to 21 is computed as 5.33. In this study, respondents' average statement scores for the perception statements 19 and 21 (i.e. 5.57 and 5.93 respectively) is relatively significant meaning that municipal officials perceive DLGTA staff as reasonably well-dressed and the DLGTA has operating hours which are convenient to most municipal officials. More so, the average scores for perception statements 17 and 20 given as 5.36, it indicates that DLGTA is perceived as having modern IT equipments and marketing materials that reflect the nature of their business. Nonetheless, the physical facilities (or offices in this case) are not visually

appealing to some of the municipal officials, thus an average score of 4.43 is noted for the perception statement 18.

5.3.3 Gap Scores Per Service Quality Dimension

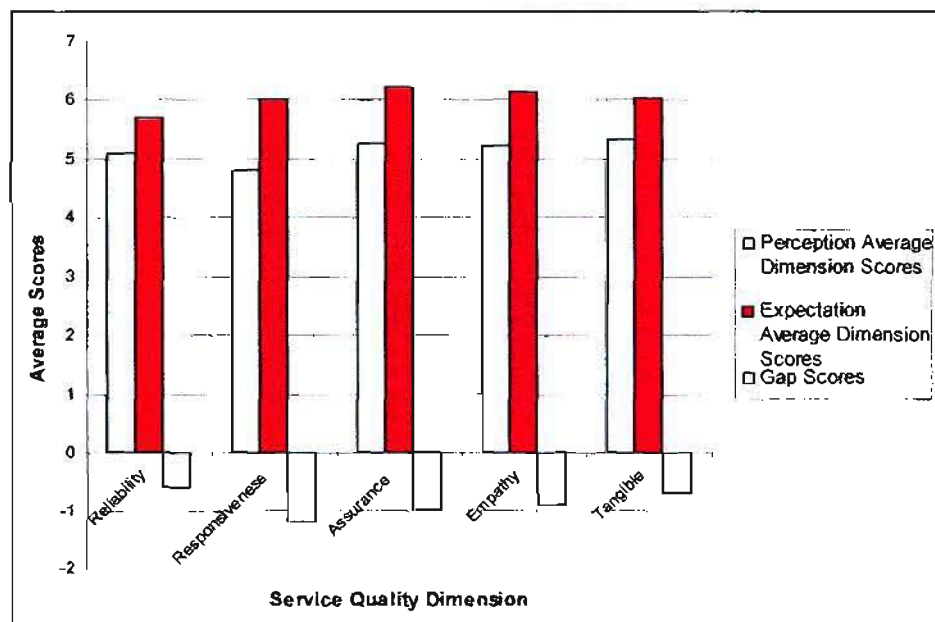
The Table 5.3.3 below shows the summary of the gap scores for each of the five dimensions.

Table 5.3.3 Summary of Gap Scores per Dimension

Service Quality Dimensions	Perception Average Dimension Scores	Expectation Average Dimension Scores	Gap Scores
Reliability	5.11	5.70	-0.59
Responsiveness	4.81	6.00	-1.19
Assurance	5.25	6.23	-0.98
Empathy	5.23	6.13	-0.90
Tangible	5.33	6.03	-0.70

As shown in Table 5.3.3 above, the gap scores for each of the five dimensions are tabulated. This result will be analysed further in chapter 6.

Graph 5.3.1 Average Score per Service Quality Dimension



5.4 Conclusion

This chapter covered the profile of the sample used in the survey and the results for each of the 21-item statement pairs (i.e. perception and expectation statements) which relate to the five dimensions of service quality. The results were summarised in various tables and bar charts in order to give a clear picture of the research's findings. The key finding of the survey is that expectations of the municipal officials concerning GIS support service have not been met in all the five service quality dimensions. In this study, differences between District and Local municipalities' expectations and perception is not significant in that the nature of support is similar. Similarly, the differences between full-time municipal GIS staff and part-time municipal officials managing GIS in these municipalities are not relevant in this study. This is because some of the non-GIS staff extensively depend on GIS for spatially related information and thus are equally committed to GIS activities in their respective municipalities. The next chapter analyses the outcome of the survey in detail.

CHAPTER 6

DISCUSSION AND CONCLUSION

6.1 Introduction

In order to make use of the various findings presented in the previous chapter, it becomes vital to look at the findings in relation to the specific research objectives. Hence the focus of this chapter is a discussion of the findings in relation to the research objectives. The research main objectives were:

- To determine municipalities' expectations of the services rendered to them by the Department with respect to GIS implementation and technical support (for each of the service quality dimensions).
- To determine municipalities' perceptions of the services rendered to them by the Department with respect to GIS implementation and technical support (for each of the service quality dimensions).
- To determine the average gap score between municipalities' perceptions and expectations for each of the service quality dimensions.
- To determine which dimensions have poor service quality (i.e. poor perceptions by municipalities relative to expectations)
- To determine which dimensions have superior service quality (i.e. perception meets or exceeds expectation of service quality)

To attain these objectives, the results for each of the five service quality dimensions (i.e. reliability, responsiveness, assurance, empathy and tangibles) which relate to the 42 SERVQUAL statements are discussed below.

6.2 To determine municipalities' expectations of the GIS support service (for each of the five dimensions)

Tables 5.3.1.1 to 5.3.1.5 show the expectation scores for each of the five dimensions. The research results have shown that responsiveness, assurance, empathy and tangibles dimensional statements are significantly important to municipalities as far as GIS support service is concerned. These dimensions all have average dimension scores of over 6 on the 7-

point Likert scale. In the case of reliability dimension, although the average score is below 6, it is still of value to municipalities. The average score of 5.7 confirms this view.

Since the GIS technology is relatively new in local government in KwaZulu-Natal Province, few of the municipal officials really understand the application and benefits of GIS and thus most municipalities with low human resource capacity will rely extensively on the technical know-how or expertise of DLGTA staff for answers to their various GIS-related questions. The high ratings for assurance dimension confirms the fact that some of the municipal officials have had engagement with some external service providers and thus are knowledgeable of what can be considered as excellent service offerings. As a result, they expect the GIS Service Provider to inspire trust and confidence in them, and also to be consistently courteous towards them concerning GIS issues especially due to its complexity and high-tech in nature. Zeithaml and Bitner (2003:97) have asserted that “assurance appears to be important for services that the customer perceives as involving high risk or where they feel uncertain about their ability to evaluate outcome”. In this regard, it is absolutely necessary for municipalities to seek loyalty between themselves and the GIS service provider.

Furthermore, with the expectation average scoring of 6.13 for the empathy dimension, municipalities have indicated their strong desire to receive individual attention and caring from a GIS service provider, and municipal officials expect employees of this company to understand their spatial information needs or requirements, and also to have their best interests at heart. Zeithaml and Bitner (2003:98) have remarked that “the essence of empathy is to convey through personalized or customized service, that customers are unique and special”. In other words, customers generally want to be understood or feel important to firms that provide services to them. In this regard, Rogers et al (1994:14) have added that “understanding and prediction make empathy a potential tool for developing effective communications and relationships between employees of a company and its customers”. On this note, it is in order that municipalities want to be understood and demand individual attention from a GIS service provider.

On the other hand, municipalities have indicated their strong desire to be attended promptly by GIS service providers. Seemingly, access to service delivery information is vital to municipality decision-making process, hence it is absolutely necessary for municipal officials to have easy access to spatially related information when planning to provide basic services to

the local communities, or attending to natural disaster. For instance, in the event of natural disaster, easy access to information pertaining to geographic locations and information of certain service infrastructure such as boreholes, dams, schools, police stations, hospitals, roads, etc. is crucial to municipal officials and other relevant stakeholders. According to Fitzsimmons and Fitzsimmons (2001:45), “keeping customers waiting particularly for no apparent reason can create unnecessary negative perceptions of quality”. To excel on this dimension, Zeithaml and Bitner (2003:97) state that “companies must view the process of service delivery and handling of requests from the customer’s point of view rather than from the company’s point of view”. They also alert companies to the fact that responsiveness perceptions diminish when customers wait to get through to a company by telephone or are put on hold or have trouble accessing the firm’s website.

With regards to tangible and reliability dimensions, respondent’s expectations are not over-emphasised. Accordingly, most research studies carried out by SERVQUAL’s authors, have found reliability dimension to be the most influential determinant of overall service quality or for customer satisfaction with the service (Mittal and Lessar, 1998:177). Siu *et al* (2001:719) have expressed a similar view based on a research study conducted by them. In their studies, respondents rated reliability as the most significant variable out of the five determinants of service quality. It is not surprising that municipal officials expect a GIS service provider to perform the promised services dependably, accurately and timeously. Furthermore, they expect a service provider to be reasonably equipped with modern IT infrastructure, and the employees of this company to be neat and presentable.

In the nutshell, considering the average scores of each of the expectation statements as outlined above, assurance dimension seemingly is rated higher by municipal officials than the other dimensions. The average score of 6.23 is relatively higher on the Likert 7-point scale. This result affirms the view that municipalities are more concerned about feeling safe in their transactions with the GIS service provider on GIS issues, and that the employees of these companies have the technical knowledge to answer all their questions pertaining to utilising spatially-related information. Although, reliability dimension had the lowest average score (i.e. 5.70), it must be stressed that 5.7 rating on the Likert 7-point scale affirms their drive for reliable services from a service provider.

6.3 To determine municipalities' perceptions of the GIS support service (for each of the five dimensions)

Tables 5.3.2.1 to 5.3.2.5 show the perception scores for each of the five dimensions. The research results have shown that DLGTA are perceived by municipalities as performing reasonably well even though the average scores for reliability (5.11), assurance (5.25), empathy (5.23) and tangibles (5.33) dimensional statements are relatively lower than the corresponding expectation statements.

As already indicated, GIS technology has just been implemented in some of these municipalities and thus it is expected that these officials will depend extensively on the technical know-how or expertise of DLGTA staff for managing the GIS system and related issues. The average perception score for tangibles dimension (i.e. 5.33) confirms the view that most of these municipalities perceive DLGTA as having access to modern IT equipments, offices that are visually appealing, staffs that are neat and presentable and lastly the operating hours of DLGTA (i.e. 07h30 to 16h30) seem to be convenient to most of these municipalities.

In terms of reliability, assurance and empathy dimensions, the average scores of over 5 depicts that DLGTA is currently providing a reasonable level of GIS support services to these municipalities. Nonetheless, there is still a room for improvement on each account that the average perception scores are all below corresponding average expectation scores for these dimensions resulting in having negative gap scores. The gap scores which reflect these differences between perception and expectation scores will be discussed in the next section.

The key area of concern is the fact that municipal officials perceive DLGTA staff as not currently providing prompt services to them, and also some of the staff are less willing to help municipalities on GIS issues. On this note, taking into account that municipal officials require easy access to spatially related information when providing basic services to the local communities, or attending to natural disaster (i.e. fulfilling their constitutional mandates as set out in Section 152 of the Republic of South Africa Constitution, Act No 108 of 1996), it is essential that these concerns are attended to urgently.

6.4 To determine the average gap score between municipalities' perceptions and expectations for each of the service quality dimensions

With reference to the survey result as shown in Table 5.3.3, the average gap score between municipalities' perception and expectation for each of the service quality dimensions is computed as follows:

- Reliability: -0.59
- Responsiveness: -1.19
- Assurance: -0.98
- Empathy: -0.90
- Tangible: -0.70

Considering the above ratings, there is a wide gap between municipalities' perception and expectation for responsiveness (-1.19), assurance (-0.98) and empathy (-0.90). Accordingly, this gap arises as a result of influences exerted from the customer side and the shortfalls (gaps) on the part of the service provider (Parasuraman *et al*, 1985:48, Curry, 1999:180, Luk and Layton, 2002:109, Kotler, 1994:274 and Messinger, 2004: paragraph 2). As already indicated, this study focuses on this gap (i.e. Gap 5) as it is the only one that can be determined solely from data collected from customers.

The gap scores above indicate that responsiveness, assurance and empathy require extensive service improvement. These results affirm the earlier view that the GIS concept is new to some of these municipalities (especially the smaller ones), hence for the GIS to be successfully implemented, DLGTA needs to provide the necessary support by providing prompt service to municipalities on GIS issues, by instilling trust and confidence in municipal officials about the benefits of GIS, and by understanding their spatial information needs and give individual attention where necessary. On this basis, it is necessary to minimise these gaps.

In the case of reliability and tangible dimensions, the gaps are relatively narrowed (-0.59 and -0.70 respectively). This means that DLGTA is currently providing services as promised in some of these municipalities and at the promised time. According to Zeithmal and Bitner (2003:97) "customers want to do business with firms that keep their promises". Secondly, it appears that municipal officials perceive DLGTA of having modern equipments and thus are able to provide spatial information products timeously to municipalities. This finding is much

satisfying. According to Fitzsimmons and Fitzsimmons (2001:45) “the condition of the physical surroundings (e.g. cleanliness) is tangible evidence of the care and attention exhibited by the service provider”. On this basis, one can be inferred that companies that do not pay attention to the tangible dimension of the service strategy can destroy an otherwise good strategy. Lastly, DLGTA staff seems to appear professionally when dealing with some of these municipal officials. Nonetheless, the gap score of 0.7 for the tangible dimension still calls for some level of service improvement.

6.5 To determine which dimensions have poor service quality (i.e. poor perceptions by municipalities relative to expectations)

According to Jain and Gupta (2004:27), “the difference between the expectation and perception ratings constitutes a quantified measure of service quality”, and they continued by stating that “the higher the perception minus expectation score (i.e. more positive), the higher is perceived to be the level of service quality”. As per the survey results, all five dimensions have negative gaps. Responsiveness dimension appears to have wider gap (-1.19), followed by assurance (-0.98) and empathy (-0.90). Reliability dimension seems to have the least gap (i.e. -0.59) which means that DLGTA is able to perform the promised service dependently and accurately. In terms of the findings, responsiveness dimension has the widest negative gap and thus can be classified as the poorest service quality. To address this gap, DLGTA staff need to provide prompt services to these municipalities, and also respond readily to their requests.

6.6 To determine which dimensions have superior service quality (i.e. perception meets or exceeds expectation of service quality)

As indicated above, all five dimensions have negative gap scores and thus service quality has not been achieved in this case. According to Siu et al (2001:719), citing Shugan (1994:223), “provision of services is viewed in terms of the worth that the service brings to customers in terms of satisfaction, production and motivation”. Thus, as far as these municipalities are concerned, DLGTA is currently not satisfying some of the municipal officials with respect to provisioning of much needed GIS support service. Failure to achieve service quality in this case is a worrying factor in the sense that as discussed in Section 3.6, GIS can play a vital in local government sphere by revealing important information that may lead to a better

decision-making. The essence of having GIS in local government, among other things as indicated in Section 3.6, is to help improve service delivery in local communities by providing accurate and relevant spatially related information to decision makers at municipalities. This initiative by DLGTA is in line with public service delivery principles (i.e. Batho Pele) which seek to achieve the ultimate goal of the public service transformation programme – *improving service delivery*. For DLGTA to minimise or eliminate these gaps, it has to be guided by the eight principles of Batho Pele which is discussed in Section 3.7 of this dissertation. The eight principles include consultation, service standards access, courtesy, information, openness and transparency. These principles, to a greater extent, take care of the key requirements of the five service quality dimensions as discussed in Chapter 2 of this dissertation.

It must however be emphasised that some of the gaps identified are relatively smaller than others. For instance, reliability dimension has the least gap (i.e. -0.59) and thus requires relatively less service improvement as opposed to responsiveness dimension which has the biggest gap (i.e. -1.19). Having much smaller gaps as in the case of reliability dimension, gives an indication that DLGTA has the potential of improving its GIS support services to municipalities with respect providing access to GIS information products and sharing GIS best practices among municipalities. In this context, reliability dimension with the narrow gap could be classified as the dimension close to superior service quality.

6.7 Conclusion

This chapter discussed the findings from the survey in relation to the research objectives. The research discovered that responsiveness; assurance, empathy and tangible dimensions are significant to municipalities in that they all have average expectation statement scores above 6 on the Likert 7-point scale. The average expectation score for reliability dimension is below 6. The research result has shown that DLGTA is perceived by municipalities for rendering a desirable level of services to municipalities with respect to aspects relating to reliability, assurance, empathy and tangible dimensions. However, DLGTA seems not to provide prompt service to most of these municipalities and not showing signs of readiness to respond to their requests on GIS matters.

It is also noted that there is a wide gap between municipalities' perception and expectation for responsiveness (-1.19), empathy (-0.90) and assurance (-0.98), and this seems to confirm the view that responsiveness and assurance dimensions are the most significant variables out of the five determinants of service quality, and thus require service improvement attention. The outcome of the survey reflects that the GIS concept is relatively new to some of these municipalities, and thus municipal officials want to feel safe in their transactions with DLGTA on GIS matters. As a result, they expect DLGTA officials to attend to them promptly and must have the knowledge to answer their GIS related questions. They strongly require DLGTA staff to give them individual attention and possibly have their best interest at heart.

In this study, the responsiveness dimension is classified as having a poor service quality while the reliability dimension (with a narrow gap) has the superior service quality. To minimise or eliminate these gaps, it has been mentioned that DLGTA should be guided by the eight principles of Batho Pele which seem to take care of the key requirements of the five service quality dimensions as discussed in this dissertation.

CHAPTER 7

RECOMMENDATIONS

7.1 Recommendations: Service Quality Dimensions

In light of what has been discussed in the previous chapter, it is absolutely necessary that DLGTA addresses the gaps which reflect municipalities' differences between perception and expectation scores pertaining to responsiveness, assurance and empathy dimensions. The research results have shown that responsiveness, assurance, empathy and tangibles dimensional statements are significantly important to municipalities as far as GIS support service is concerned. This is the reason why these dimensions have average expectation scores of over 6 on the Likert 7-point scale.

Since the GIS technology is relatively new in some of these municipalities, municipal officials with require extensive technical support from DLGTA staff. Considering the fact that respondents indicate average perception score below 6 in all dimensions, and the gap score for assurance dimension is given as -0.98, it is recommended that DLGTA must inspire trust and confidence in the municipal officials, and also to be consistently courteous towards them when attending to their GIS information needs. Their rating support the view that they feel uncertain about their ability to evaluate outcome and that is why municipal officials are strongly seeking loyalty between themselves and DLGTA staff. They desire to feel safe in the dealings with DLGTA staff.

Furthermore, with the expectation average scoring of 6.13 for the empathy dimension, municipalities have indicated their strong desire to receive individual attention and caring from a GIS service provider, and municipal officials expect employees of DLGTA to understand their spatial information needs or requirements, and also to have their best interests at heart. Zeithaml and Bitner (2003:98) support this view by indicating that "the essence of empathy is to convey through personalized or customized service, that customers are unique and special". In other words, municipalities want to be understood or feel important to firms that provide services to them. In this regard, the gap score of -0.90 for empathy is an indication that DLGTA staff is failing to provide individual attention and also having municipalities GIS interest at heart. Rogers et al (1994:14) assert that "understanding

and prediction make empathy a potential tool for developing effective communications and relationships between employees of a company and its customers". On this note, it is recommended that DLGTA staff must strive to satisfy individual expectations regarding the GIS information needs. They must put systems in place to improve communication between themselves and relevant municipal officials.

On the other hand, municipalities have indicated their strong desire to be attended promptly by GIS service providers. This is reflected in their average expectation score of 6 for the responsiveness dimension. Seemingly, their rating for the perception statement relating to responsiveness dimension was the lowest (4.81) of all giving rise to the biggest gap score of -1.19. Seemingly, access to service delivery information is vital to municipality decision-making process, hence it is absolutely necessary for municipal officials to have easy access to spatially related information when planning to provide basic services to the local communities, or attending to natural disaster. According to Fitzsimmons and Fitzsimmons (2001:45), "keeping customers waiting particularly for no apparent reason can create unnecessary negative perceptions of quality".

To excel on this dimension, Zeithaml and Bitner (2003:97) state that "companies must view the process of service delivery and handling of requests from the customer's point of view rather than from the company's point of view". From this point of view, it is strongly recommended that DLGTA must put in place monitoring mechanisms to ensure that municipalities GIS requests are promptly attended to by DLGTA staff. This could be incorporated into DLGTA staff performance appraisals where certain individual will account for progress on monthly basis. In essence, regular report back meetings should be encouraged by DLGTA to identify shortfalls.

In the case of reliability dimension, although the average expectation score is below 6, it is still of concern to municipalities in that they expect service providers to perform promised service dependably and accurately. The average expectation score of 5.7 thus confirms this view. Accordingly, most research studies carried out by SERVQUAL's authors, have found reliability dimension to be the most influential determinant of overall service quality or for customer satisfaction with the service (Mittal and Lessar, 1998:177). Siu *et al* (2001:719) have expressed a similar view based on a research study conducted by them. In their studies, respondents rated reliability as the most significant variable out of the five determinants of

service quality. According to Zeithaml and Bitner (2003:97) “customers want to do business with firms that keep their promises”. It is not surprising that municipal officials expect a GIS service provider to perform the promised services dependably, accurately and timeously. Since the gap score is lowest in this case (-0.59), it is recommended that DLGTA to deliver on their promises with respect to accomplishing on time, without errors at all times.

7.2 Conclusion

In conclusion, while this study provides some perspectives to the field of GIS service quality, it is recommended that DLGTA undertake similar study by incorporating all 61 municipalities in the province to identify service areas where improvement of service quality may be required. The results of the study illustrate that the Department can at least assess the five dimensions of service quality to ascertain the level of services provided to municipalities on GIS issues, and to determine which dimension need service quality improvement.

CHAPTER 8

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

8.1 Limitations

The researcher encountered several limitations during the research but only the main ones will be mentioned here.

8.1.1 Time Constraint

Time constraint was a limitation to the research because the researcher, due to other constraints, could not have sufficient time to engage with respondents on one-on-one basis. The researcher feels that more time would have allowed for gathering of a bigger sample that would be more representative of the population. Nonetheless, the researcher tried his best to secure primary data that is accurate and relevant for this study.

8.1.2 Participants Biasness

There were instances where some of the respondents were intercepted at Provincial GIS Forum meetings, and thus they did not have enough time to think through the statements. Furthermore, because these questionnaires were completed by respondents in the presence of the researcher whom they relate to very well, they tended to be biased when completing the perception statements. Essentially they could not reveal their true feelings or perceptions about DLGTA's services.

There are also cases where respondents in remote towns or cities could not seek clarification of confusing statements from the researcher. For this reason, their responses may not have reflected their actual responses if clarity was sought. Lastly, few of the respondents are junior municipal officials and thus do not have a close working relationship with service providers. As a result, they are not sure of what is expected of the service providers.

8.2 Possible Future Research

- DLGTA currently provides GIS support services to all 61 municipalities in KwaZulu-Natal, thus a similar study could be carried out by incorporating all municipalities in order to obtain a more realistic reflection of the quality of DLGTA's GIS support services to these municipalities.
- Future study could also be carried out by focusing on other DLGTA's municipal sub programmes or Chief Directorates within the Department in order to identify service areas that need performance improvement within DLGTA.
- Lastly, a similar study using a different service quality measuring model such as SERVPERF could be of great value to the body of knowledge.

8.3 Conclusion

In this study, service quality and its model of gaps were reviewed. SERVQUAL methodology as an analytical approach for evaluating the differences between municipalities' expectations and perceptions of quality was also discussed. In conclusion, knowing how customers perceive the service quality and being able to measure service quality using the prescribed measuring tools can benefit service organisations such as DLGTA in quantitative and qualitative ways. The outcome of this study has proving that the measurement of service quality can provide specific data that can be used in quality management, hence service organisations such as DLGTA would be able to monitor and maintain quality service. Assessing service quality and better understanding how various dimensions affect overall service quality would enable organisations to efficiently design the service delivery process. By identifying strengths and weaknesses pertaining to the dimensions of service quality, DLGTA can better allocate resources to provide excellent services to municipalities and other stakeholders with the view of contributing to providing effective delivery of services to local communities in the Republic of South Africa.

CHAPTER 9

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SERVQUAL Survey GIS Questionnaire (Expectation Statements)

Job Position: Municipality Type (Please Tick (✓)): District Local Funded by DLGTA (Please Tick (✓)): Before 2004 In 2004

Hello, I am doing academic research on customer's expectations and perceptions of service quality and I would appreciate it if you could please take few minutes of your valuable time and indicate the extent to which you agree or disagree with the following expectation items (Page 112). For each Expectation statement, please circle the number that best describe your expectations about GIS Service Providers (or Organisations) offering SUPERIOR GIS SERVICES to their customers. If you STRONGLY AGREE that these organisations offering superior GIS services should possess the attributes described by each Expectation statement, then circle No. 7. If you STRONGLY DISAGREE, then circle No. 1. Otherwise circle one of the middle numbers (Note: circle No. 4 for NEITHER AGREE NOR DISAGREE). There are no right or wrong answers.

Similarly, for each Perception statement on Page 113, please circle the number that best describes your perceptions or feelings about Department of Local Government & Traditional Affairs (DLGTA) GIS implementation SUPPORT SERVICES offering to your municipality (Please fax complete Questionnaire to SAM YIRENKYI : 033 - 355 6425)

- | | | |
|--|--|--|
| <p>1. When these organisations promise to do something by a certain time, they do so.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>2. When customers have GIS-related problems, these organisations show sincere interests in solving them.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>3. These organisations perform GIS services right the first time.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>4. These organisations provide GIS services at the time they promise to do so.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>5. These organisations keep their customers informed about when GIS services will be provided to them.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>6. It is realistic for customers to expect prompt GIS services from employees of these organisations.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>7. Employees of these organisations are always willing to help their customers.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> | <p>8. Employees of these organisations are never too busy to respond promptly to customer's GIS-related requests.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>9. The behavior of employees of these organisations instills confidence in customers.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>10. Customers feel safe in their transactions with these organisations on GIS matters.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>11. Employees of these organisations are expected to be consistently courteous with customers.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>12. Employees of these organisations are expected to have the knowledge to answer customers GIS-related questions.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>13. These organisations are expected to give customers personal attention.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>14. These organisations are expected to have employees who will give customers individual attention.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> | <p>15. It is realistic to expect these organisations to have their customers' best interests at heart.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>16. It is realistic to expect employees of these organisations to know specific GIS needs of their customers.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>17. These organisations should have up-to-date GIS hardware equipment.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>18. Physical facilities of these organisations should be visually appealing.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>19. Employees of these organisations should be well-dressed and appear neat.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>20. Materials associated with these organisations (such as pamphlets) should depict the type of services provided by them.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>21. These organisations are expected to have operating hours convenient to all their customers.
1 2 3 4 5 6 7 (Strongly Agree)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> |
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SERVQUAL Survey GIS Questionnaire (Perception Statements)

If you **STRONGLY AGREE** that DLGTA & its DIS (or GIS) staff possess the attributes described by each perception statement, then circle No. 7. If you **STRONGLY DISAGREE**, then circle No. 1. Otherwise circle one of the middle numbers (Note: circle No. 4 for **NEITHER AGREE NOR DISAGREE**).

(PLEASE USE YOUR EXPECTATION STATEMENT OPTIONS (i.e. PAGE 1 OF 2) AS BENCHMARK). **THANK YOU.**

<p>1. When DLGTA DIS staff promises to do something by a certain time, they do so. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>2. When municipalities have GIS-related problems, DLGTA DIS staffs show sincere interests in solving them. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>3. DLGTA DIS staff provides GIS support services right the first time. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>4. DLGTA DIS staff provides GIS support services at the time they promise to do so. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>5. DLGTA DIS staffs keep municipalities informed about when GIS services will be provided to them. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>6. DLGTA DIS staff provides prompt services to municipalities on GIS matters. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>7. DLGTA DIS staff are always willing to help municipalities on GIS matters. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>8. DLGTA DIS staff are never too busy to respond promptly to municipalities' GIS-related requests. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>9. The behavior of DLGTA DIS staff instills confidence in municipalities. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>10. Municipalities feel safe in their transactions (or dealings) with DLGTA DIS staff on GIS matters. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>11. DLGTA DIS staff are consistently courteous with municipal officials. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>12. DLGTA DIS staff have the knowledge to answer municipalities' GIS-related questions. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>13. DLGTA DIS staff gives personal attention to municipal officials. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>14. DLGTA has DIS staff who give municipalities' individual attention. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>15. DLGTA DIS staff have the municipalities' best interests at heart. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>16. DLGTA DIS staff understand the specific needs of municipalities regarding relevance and use of GIS information. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>17. DLGTA DIS staff have up-to-date GIS hardware equipment. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>18. DLGTA physical facilities (i.e. offices) are visually appealing. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>19. DLGTA DIS staff are well-dressed and appear neat. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>20. Materials associated with DLGTA (such as pamphlets) depict the type of services they provide to municipalities. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>21. DLGTA has operating hours convenient to all municipalities. 1 2 3 4 5 6 7 (Strongly Agree) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
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