UNIVERSITY OF SOUTHERN QUEENSLAND

AN EXPLORATORY STUDY ON THE QUALITY OF SERVICE IN THE PUBLIC SECTOR IN TONGA

A dissertation submitted by
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ABSTRACT

The Government of Tonga embarked for the first time in a public sector reform program starting in 2001 with the objective, among others, to improve the quality of service delivery to the public. This was the government's response to address the growing concerns from the public and the media over the integrity and quality of the overall public services, and relating in some instances with alleged malpractices and corruptions in the government's ministries, including the Ministry of Revenue Service (MRS). The quality of the service delivery of MRS was expected to be improved greatly as a result of the public sector reform program in providing a holistic approach to developing the capacity, and modernisation of the processes in the operations, of the organisation. Eleven years have lapsed from the implementation of the public sector reform program. This research has assessed the level of expectation and perception of external customers over the quality of the service delivery of the government, focussing on the performance of MRS.

The analysis has identified notable critical gaps between the level of expectation and level of perception of customers for the factors of service dimensions in the customer service of MRS. This research used MRS as the case study, and conducted field work through questionnaire survey, with 92 participants responded, and a follow up interview with 22 interviewees to clarify their responses to the survey. The field work focused on the three principal external customer sub-groups of MRS, which are: individual customers, business customers and government department customers, and they are also importers and taxpayers interacting with MRS on an on-going basis.

The research findings have shown that all three customer group overalls rated a high level of expectation over the service of MRS. They have also indicated that the level of perception over the service of MRS was lower than the level of expectation, revealing gaps in most of the factors of service dimensions. In addition, there were no significant differences existed in the expected level and perceived level of the service of MRS among the three customer groups' overalls, and within the three customer sub-groups. These results indicate the consistency of rating across the levels of expectation and perception in all customer groups' overalls and within three customer sub-groups. However, there were significant differences observed in the expected level within the three customer sub-groups in the customer group overall interacting with MRS within 10 years, showing customers different levels of expectations on the ability of the public sector reform to deliver its goal of providing quality service with efficiency. There were also significant differences in the perceived level of the service of MRS within three customer sub-groups in the aggregate customer group overall. These differences in customers' perceptions reflect their different experiences with the performance of MRS. There were further significant differences found between the expected performance level and perceived performance level of MRS customer services in all categories of customer groups' overalls, and also within all customer sub-groups indicating critical performance gaps. Moreover, significant differences were shown up

between the expected level and perceived level for all twenty two factors of service dimensions for MRS customer service in all categories of customer groups overalls and within customer subgroups. In terms of critical gaps there were nineteen critical gaps identified out of twenty two factors of service dimensions altogether across all customer group overalls. These critical gaps indicate the serious concerns of the customers with almost all aspects of the service of MRS. These critical gaps are clustered into the five broad service dimensions. The highest performance gaps were associated with reliability of MRS performance with five critical factors, followed by responsive and empathy with four critical factors each, and then assurance and tangible with three critical factors each. MRS has to address as top priority the serious concern with the reliability of its customer service.

The research concludes that there are significant differences existed between the level of expectations and level of perceptions of customers over the factors of service dimension of the MRS performance. These critical gaps need to be eliminated or reduced so as to improve the quality of the current customer service and its credibility to, and relation with, the public at large. The results of the research reveal that the public sector reform has somewhat failed to meet the high expectation on its objective to deliver a better customer service. Actually, the customer service of MRS has been weighed and found wanting. MRS has therefore had to devise a strategy as a matter of urgency to address the customers prevailing low perception over its customer service.

CERTIFICATE OF DISSERTATION

I certify that the ideas, case study work, results, analyses, software, and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

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LIST OF ABBREVIATIONS

ADB   Asian Development Bank

AUSAID   Australian Agency for International Development

EIPA   European Institute of Public Administration

MRS   Ministry of Revenue Services

OECD   Organisation for Economic Corporation and Development

PSC   Public Service Commission

TCC   Tonga Communication Corporation

TTI   Tupou Tertiary Institute

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CHAPTER 1.   INTRODUCTION

The purpose of this dissertation is to identify the factors of service dimension with critical gaps adversely affecting the quality of the customer service of MRS in the public sector in Tonga. This chapter is an introduction to the dissertation and consists of several sections. It covers the background to the research, its objective and the research questions, justification and significance of the research, a brief description of the research methodology, and outline of the structure of the study, the delimitation of the research and the conclusion of this chapter.

1.1   Introduction

The public sector reform has been implemented in Tonga since 2001 with the objective, among others, to improve the quality of service delivery to the public. This is the government's response to address the growing concerns from the public over the integrity and quality of public services, relating in some instances with alleged malpractices and corruptions in the government's ministries.

Included in the list of those ministries heavily scrutinized by the media and the public was the Custom Division of the Ministry of Revenue Services (MRS), with the allegations of unfair treatments of importers including the illegal practices of releasing containers of some businessmen from the wharf with subsequent payment of custom duties (Kele'a, 2005). This illegal practice has been continuing and is not known when it would stop (Kele'a, 2006). The Ministry of Police has also been questioned about its failure to act on time on investigating a case in relation with an alleged breaching by a member of the Parliament of the law for parliamentary election during the election campaign in 2010 (Kele'a, 2011).

'The dissatisfaction with the government's performance and lack of response to the needs of the public and prevalent of poor services has added force for staging of the political reform. The call for political change has been influenced by events since 1980s, including mismanagement of the public service, allegations of corruption by members of government and the Royal family, and evidence of poor policy decisions. Even in a conservative, Christian society, democracy campaigners like 'Akilisi Pohiva have won support because of frustration that there were limited avenues for participation in governance – even the Kingdom's current Strategic Development Plan acknowledges that there is a widespread dissatisfaction with the accountability, transparency and predictability of government' (Maclellan 2008).

The former government had acknowledged the importance and urgency to satisfy the public concerns with the poor level of public services and the need to meet their expectations. The measures taken to address this challenge included the formulation of an institutional framework for a performance-oriented public service, and promoting efficient and effective performance management to provide a better services and outcomes to the public (Asian Development Bank2002). Specifically, with weak service delivery in key sectors like water, health and transport, the Sevele government responded with a major program to restructure and downsize the public service (Maclellan 2008).

The commitment to lift the standard of the public service delivery has been highlighted by the previous government in various government policy documents such as the National Strategic Planning Framework, adopted in 2009. 'This plan set out the intention to achieve a better service delivery through continuing to implement the public sector management reforms, and specifically through analysing the effectiveness of government services focusing on service delivery, as the measure of public sector success and increasing the adaptation of program-based budgeting and matching resources to services in order to better serve Tongans. It will also mean an overhaul in the way ministries prepare budgets, and the budget process must be linked to concrete goals and outputs (Ministry of Finance 2009). The new government has maintained this policy priority in its national strategic planning framework' (Ministry of Finance 2010) indicating its intention to work toward improving the current situation on service delivery.

The government ministries intention to work toward improving customer services to the public are explicitly stated in their corporate plans. For instance, MRS has acknowledged in its mission for financial year 2009-10 the effort to promote compliance with the tax and customs legislation through quality service, communication and responsible enforcement (Ministry of Revenue Services 2009).In addition, customer focus is one of the four key result areas it has established to achieve in the next two years, with the specific objective, among others, to establish an effective partnership with customers and set to achieve a target of 95 per cent responsiveness to customer needs (Ministry of Revenue Services 2009). Likewise the Ministry of Health has put customer services at the heart of its mandate (Ministry of Health 2009).

Further, Tonga is not alone in affecting by the wind of change that has swept across the globe demanding a more proactive and responsive government for better customer services. Many countries have recently undertaken initiatives placing the citizen/customer at the centre. This tendency is described as a shift from a producer point of view to a citizen/customer point of view (Pollitt and Bouckaert 1995). The dynamic way of getting citizens/customers of public services involved in order to enhance their perceptions, expectations and commitment through active participation, has been a common strategy to obtain a legitimate level of quality and satisfaction of public services (OECD, 2001b). Thus, where the traditional relationships were bureaucratic and hierarchical, the new relationships are instead more pluralistic (Peters and Savoie 2000).

The government has been supported for implementing of the public sector reform by various external donors through financial and technical assistances. These external agencies have assessed the impact of their assistance which includes the examination of the quality of the government's customer services in the broader context of the public sector reform and that in the specific government ministries who have received their assistance.

The Ausaid review had indicated that MRS has substantially improved in both taxation compliance and service delivery. A new Guide to Tongan Income Tax has been published

and internet tax return lodgement system is in the final stage of testing. Service standards have improved markedly, with all key standards consistently met or exceed (for example, all consumption tax returns are processed within 42 days (Australian Government Ausaid 2010).

These external assessments have revealed only a glimpse of what the government has achieved in its performance for serving the public. However, a formal study is needed to conduct an in-depth analysis of the current situation with the standard of customer serves to gauge the public expectation and perceptions of what the government has done to progress this reform agenda, and to identify those critical services dimensions and services gaps that government should address going forward. This is so crucial for improving the new government's public image and credibility to deliver on its commitments and to devise a specific strategy for the whole of government to manage and sustain a continuous public service improvement culture.

For practical purpose, a case study approach is used to explore the research problem. The government department selected to use for this study is the Ministry of Revenue Services (MRS). This decision is based on this department's direct involvement in the government's public sector reform program. MRS is strategically important for the financial wellbeing of the government since it provides the bulk of about 84 per cent of the government's revenue (Ministry of Finance 2010), and improving its revenue performance based on its healthy interactions with the public is critical to the success of the public sector reform for strengthening of the government's fiscal situation.

This research studied the views of the external customers about the quality of the customer services of MRS through measuring their expectations and perceptions level about the services they have received and then identify the resultant gaps that MRS needs to bridge in order to lift and sustain a better service performance going forward. Understanding the needs and expectations of the customer and responding to those needs and expectations with activities, products and services designed to satisfy those needs and expectations is important for providing a quality customer service (Kotler, Hayes & Bloom 2002).

There are a number of different constructions of the service factors that are most important in influencing perceptions of the service. Service quality literature usually attempts to categorize the factors that influence attitudes towards the service at a number of different levels (Thijs & Staes 2008). Service quality involves perceived quality, or the user's judgment about an entity's overall excellence and superiority (Parasuraman, Zeithaml & Berry 1988). Five service dimensions identified by Parasuraman, Zeithaml & Berry (1985) were considered to relate to distinctive features of public-service quality and will therefore be incorporated into the theoretical framework using for this research to measure the quality of the customer services rendered by MRS, and they are shown in Table 1.

TABLE 1: FIVE SERVICE DIMENSION FACTORS THAT INFLUENCE PERCEPTIONS

Service Dimension	Description
Tangible	Refers to the physical aspects of the service such as equipment, facilities, staff appearance; and how easy it is to understand communication material.
Reliability	Relates to performing the promised service dependably and accurately such as meeting the standards defined in service charter, and accuracy in providing consistent and dependable records.
Responsiveness	Relates to helping customers and providing a prompt service
Assurance	Concerns with inspiring trust and confidence
Empathy	Concerns with providing a caring and individual service to customers

(*Source*: **Parasuraman, Zeithaml & Berry 1985**)

Having introduced the importance of quality services in the public sector reform program in Tonga in response to the public demand for better customer services, the next section discusses the background to this research.

1.2   Research Background

The public sector reform driven generally by public demands for better government's services, quick and meaningful responses and full accountability has been a global phenomenon.

The public sector has to cope with numerous challenges and has to respond to many new needs and demands in society (OECD 1993, 1995, 2000). Due to these challenges and pressure, the public sector is an object of large reforms (Lane 2000; Kickert 1997; Kettl 2000). "Over the last two decades there appears to have been a huge amount of public management reform. Although there was also reform in earlier periods, the changes since 1980 have – in many countries – been distinguished by an international character and a degree of political salience which marks them out from the more parochial or technical changes of the preceding quarter century" (Pollitt & Bouckaert 2004).

Indeed, different countries have responded to the challenges in different ways. Nevertheless, these reforms are characterized by the introduction of new principles and common grounds: a growing focus on efficiency and effectiveness, attention to transparency and accountability, awareness of public service delivery and the role and place of the citizen/customer (Doherty &Horne 2002; Shand 1999; Flynn & Strehl 1996; Schick 2000).

The citizen and customer nowadays are at the top of the agenda in most countries. This is the case in most of the European countries illustrated by the results of the 2007 survey

conducted amongst the different member states under the Portuguese presidency (EIPA 2007). In almost two thirds of the countries, the topic of "customer insight" is high on the public administration agenda (Thijs & Staes 2008).

The public sector reform has been used as a means to improve the quality of the public sector. This is important because the quality of the public sector has a strong relationship with growth and poverty reduction (World Bank 2008). The quality of the public sector—accountability, efficiency in service delivery, transparency, and so forth—correlates strongly with—and is thought by many to contribute to—long-term growth and poverty reduction, although causality probably runs both ways (Bates 2001; Kaufmann, Kraay & Mastruzzi 2005; Przeworski & colleagues 2000; van de Walle 2001).

The effectiveness and efficiency of a country's public sector is vital to the success of development activities. Delivery of good public services requires sound financial management, an efficient civil service and administrative policy, efficient and fair collection of taxes, and transparent operations that are relatively free of corruption (World Bank 2008).

1.2.1 Public Sector Reform in Tonga

Turning to the local situation, the motivations that have set off the public sector reform in Tonga in 2000 generally resemble to that occurred around the world. The government was concerned with the poor economic performance and weakened fiscal situation; and the public was disheartened with the government's accountability and quality of services delivery (Asian Development Bank 2002). The public sector reform has devised strategies to ensure an overall macroeconomic stability and to contribute to enhanced private sector-led economic growth through achieving a sustainable fiscal balance, and improving the efficiency and effectiveness of service delivery by the public sector (Asian Development Bank 2002). The political structure was reformed to address the concerns with accountability and service delivery. The delivery of the public service is the transaction that interact the government with the public and the reform set out to improve that mutual relationship.

The needs for changes to the political system have come at a time when many Tongans seek greater access to information, and improved communication by government to citizens. The Tongan Constitution promotes freedom of the press, with the liberty of all people to speak, write and print their opinions. But in practice, the democracy movement and media have struggled for more than twenty years to protect freedom of expression, with the newspaper *Taimi 'o Tonga* and 'Akilisi Pohiva's news sheet *Kele'a* facing repeated bans and defamation suits (Maclellan 2008). The political reform has been seen as an avenue for making the government more responsive to the public desire for better services and better communication and accountability.

It was the parliamentary election in late 2010 that for the first time the members of parliament elected the prime minister and consequently established a democratic form of government starting from January for a term of four years. The new democratic government gives considerable power and responsibilities to the people, who have almost 70 per cent of the members in the parliament. This will mean greater accountability of government to parliament and the electorate and an ever increasing opportunity for more public participation in government and politics (Koloamatangi 2010). This change to democratic form of government offers a higher expectation to the public for a more responsive government that is sensitive and accountable to public demands for a better and quality customer services.

1.2.2 Government Strategy for Service Delivery

The public service reform measures that seek to improve public service delivery to the private sector and the general public included the establishment of the institutional framework for a performance-oriented public service, and the promotion of efficient and effective performance management (Asian Development Bank 2002). The non-renewal of contracts for senior public servants due to concerns about their performance is an evident of the government stronger emphasis to performance management. Collectively, these moves to improve professionalism within the public services are expected to deliver a higher level of performance (Australian Government Ausaid 2010).

1.2.3 Obstacles for Government Performance

Notwithstanding the government declarations in various public documents of the commitment for enhancing of the customers services the results have not been all encouraging. There have been various reasons offered to explain the underlying causes of the limited progress that has been achieved.

The rigid culture of hierarchy within the public sector is a critical factor that has stalled the improvement on public services. Although middle level managers have benefitted from leadership and management training provided by Ausaid-funded programs, they have found it difficult to use their new skills without the support of senior managers (Australian Government Ausaid 2010). In addition, the lack of efficiency in the public service cannot be alleviated by the current structure of the government in which the authority for making decision is vested with those at the higher positions in the organization hierarchy, causing delays for making and carrying out decisions at the top cascading to the lower levels in the organizational hierarchy (Kele'a 2006).

The lack of review and monitoring of the performance of the heads of departments by the Public Service Commission (PSC) has caused slack in government performance, notwithstanding the introduction of the performance management system in public services (Asian Development Bank 2005). There is therefore a need for PSC to review and monitor

the performance of the heads of departments. The government may wish to revisit and adjust the performance agreement, which is report oriented. The government may want to set clear mandates service delivery objectives and targets for heads of departments and focus them more on actions to achieve delivery objectives by evaluating the performance against delivery targets (Asian Development Bank 2005).

The lack of financial incentive in place to recognize and reward good performer has hindered the government effort to improve the service delivery. 'The government should use incentives to motivate workers to perform so that they can feel respected with the skills and experience they have and would provide encouragement to achieve higher performance, act promptly and treat everyone fairly in their service to the public. This can make the government's employees and the public service - the executive arm of the government - a body that can act cooperatively and collectively with the aim to make the service more efficient and fair to the public, and share information and advise the ministers correctly' (Kele'a, 2006).

The Ministry of Finance (2010, p. 34) observed that the major challenges facing the public sector for improving the service delivery are ensuring that public servants have appropriate incentives to perform their functions to the best of their ability and that performance reporting and management systems exist that correctly and consistently identify and encourage a high performance culture. It is also important that government maintains the public accountability and transparency through publication of information on ex ante and ex post ministry performance so that government can be held accountable for the use of taxpayer funding. Government should organize the public sector in a way that best facilitates the effective and efficient delivery of services to the public. These reforms will take some time to become ingrained in the public service. However, over time they are expected to significantly raise public sector performance and effectiveness in delivering services to all Tongans.

1.2.4 Preliminary Review of Reform on Service Delivery

The success of the public sector reform in achieving what it set out to accomplish has been mixed. The Asian Development Bank – who had provided technical and financial assistance for the government public sector reform - concluded in its assessment that the achievement of most of the performance targets for the five outputs did not lead to the achievement of a sustainable fiscal balance and improved public service delivery to the private sector and the general public (Asian Development Bank 2005). Public sector reform laid down the institutional and legal framework for efficient and effective public service, but it was unclear whether this had translated into improved public service. Few signs indicate that public service delivery has been improved and that private sector-led growth is materializing (Asian Development Bank 2005).

1.2.5 Public's Perceptions on Public Services

The public has been expressing serious concerns over the integrity and quality of the services being delivered by some of the Government ministries and has called for immediate and serious action by government to resolve the perceived performance gaps.

One of the most criticized public service has been the Custom Service division of MRS. It was criticized for releasing of containers from the wharf without collecting the money for payment of duties on time. 'We were thinking that this matter would have been investigated by the Ministry of Police after the publication of this fraudulent case previously. But no action has been done. If this is the situation with what we have known, then what about the other cases that the individual shareholder of this company could have been imported under the name of the same company without paying any duty. That is the very reason that change is required as the current system that runs and manages the country is paralyzed and not able to carry out its function justly' (Kele'a, 2006a).

It was further alleged that the state of revenue collection by the Custom division of MRS on duty from imported goods has been worsened. A senior officer of the Custom Department was punched causing a serious injury while carrying out his official duty at the place of the owner of a container in order to reconcile the goods inside the container with what was listed in the invoice. This incident was taken place at the home of the importer and the injury was caused by a worker of the importer. This episode demonstrated the critical situation the department is in, which is the subject that had been seriously discussing several times in the Legislative Assembly up to last year (Kele'a, 2006b).

The Custom division was also criticized for granting credit transaction to a company in excess of five hundred thousand pa'anga without complying with the legislation for the government public fund. An importer was allowed by the custom officers to deliver its containers from the wharf without paying the fund for tariff on the spot, even though such practice is not allowed by government policies. A similar case occurred where the Custom division released goods from the wharf without instantaneous payment of duty amounting to over hundred thousand pa'anga. 'The main reason to be stressed in these serious cases is that other companies can try in the future to get the same treatment from the Custom office based on the same precedents. This is what is going on now' (Kele'a, 2006a).

Notwithstanding the intense scrutiny of the services of the Custom Division of MRS and the numerous allegations that have been brought to the surface, it has been recognized that there is a great challenge inherent in the nature of its services. The production of false invoices understating the value and distorting the content of imported goods is a common problem. 'A frozen container was consigned from overseas and found upon inspection at the wharf that the container is actually filled with chicken and tobacco, which is contrary to what was stated in the consignment document that it is only contained chicken meat...This is the kind of evasive practice that has cost the government a substantial amount of revenue

foregone' (Kele'a, 2005). There is a suspect that this practice is sometime gone undetected due to corruption and bribes of Custom officials.

The integrity of the Custom service is a critical factor for maintaining a fair business competition and has still been doubtful. 'The action for manipulating and cheating to pay a smaller duty by under invoicing the correct value of imported goods has greatly affected the business situation in Tonga. Those businesses that are honest to declare the correct values of their imported goods are suffered from paying a higher duty than their dishonest counterparts who are making huge profits from paying less duty based on using fabricated invoices to understate the actual value. This situation has created an uneven playing field for businesses. At the same time government has lost substantial fund from false invoices, and yet no action has been taken to eradicate this fraudulent practices. This problem has adversely affected those businesses who are trying to conduct their trades in an honest manner' (Taimi 'o Tonga, 2011).

The public scrutiny has also been directed at the service of other government ministries such as the Ministry of Police, with criticism for an unreasonable delay in its investigatory services. 'The Ministry of Police is still working on the case relating with Lisiate 'Akolo and asked why it has taken that long …This raises the question about which case that the law is applied to quickly and which one that is slowly? This allegation was submitted in December last year and yet investigation has not been completed…'(Kele'a, 2011). The Ministry of Police has not publicly responded to this newspaper article, aggravating the public concerns with its customer services.

1.2.6 Ministries Strategies for Service Delivery

In recognition of its importance the Ministry of Health has established as a priority the improvement of the quality of health service to the public to accomplish (Ministry of Health 2009). In reviewing the ministry's performance it was found that the service delivery on the main island as well as in rural areas and the outer islands suffered. Calls for upgraded and new health centres staffed by qualified health workers in these localities became more and more persistent. The Ministry is already heavy dependence on donor and other external funding sources for sponsorship of overseas training and for equipment and facilities escalated further (Tu'itahi 2008).

At the main hospital in the capital, Nukualofa, the situation was severe as actual staff shortages led to long queues and prolonged waiting times. Patients from rural areas also flocked to the main hospitals, swelling the number as public complaints mounted (Tu'itahi 2008).

A number of critical concerns had compelled the Tongan government to contemplate serious changes in health sector. Over the preceding few decades, the Ministry of Health's capacity to cope with the demand for its services had declined noticeably. High staff

turnover and attrition rates led to staff shortages and deprived the health sector of essential specialized skills. Many of the qualified and experience doctors, nurses, and other staff had migrated abroad (Tu'itahi 2008).

In the 1980s and early 1990s, the country's regressing economy aggravated the brain drain. The Ministry could hardly cover the on-going staff costs let alone higher remuneration or other incentives to retain staff. Money for training and development of replacement staff; procurement of essential equipment, drugs, maintenance, and repair of existing facilities; or even to provide for much needed additional facilities was scarce (Tu'itahi 2008).

In his opening address at the 7 June 1999 "Visioning Workshop", the Minister of Health said 'the Ministry of Health is now being reviewed with the objective of restructuring and reorganizing it to achieve a quality service and to be more efficient, effective and productive. There is a need to create a more positive image through practical examples and results to improve the confidence of the public in the Ministry of Health, its staff and services provided' (Tu'itahi 2008).

The full effects of the project on the wider public and non-government sectors will take some time to become fully evident (Tu'itahi 2008). 'Opinions gathered from observation and informal exchanges with and among clients waiting for services around consulting rooms and other public areas at the main hospital were mixed. One group expressed gratitude and spoke of being pleased with the obvious tangible progress in development and improvement of physical facilities. A few preferred to wait and see whether or not these changes for the better would trickle through to other less obvious quality aspects, including changes in professional attitudes and performance standards. And one often heard expression of a somewhat philosophical only time will tell sentiment, echoing a general scepticism born of past experience' (Tu'itahi 2008).

The commitment for improving of the quality of service delivery in response to the public demands has also been seen in the mission statement of the Ministry of Justice. Its annual report stated that it will uphold the values of respect, integrity, services and excellence (Ministry of Justice 2009). The services that it aims to deliver are results based; understand and meet the needs of those to whom the services are provided; take good care of relationships and meet the time frame that have agreed to. It focuses on quality to achieve excellence (Ministry of Justice 2009).

The Ministry of Justice took the initiative to conducted regular training programs in 2009 to enhance the services provided to external customers. 'These include the training for all denominations in the Kingdom to ensure that registered church ministers or marriage officers receive appropriate information in order to fulfil their functions and to consistently maintain a high standard of service to the public. This is to address an on-going problem with the failure of the church ministers officiating marriages to return and register marriage certificates. Training session also provided opportunity to discuss issues of concern to the

churches and seek their support for future procedural review and changes planned by the registry in this area' (Ministry of Justice 2009).

The Ministry also ran radio programs for the public to know the current developments. 'The re-commencement of radio programs and introduction of TV programs has been a welcome step in the effort to disseminate information about the Court to the public. There has been positive feedback from members of the public especially in the outer-islands' (Ministry of Justice 2009).

The public concern for improving of the public services is also raised in relation with the performance of the Ministry of Labour, Commerce and Industries. 'The ministry has received complaints from consumers on their concerns with the enforcement of the Consumer Protection Act 2001. Over fifty per cents of forty four complaints received from consumers were on goods sold in the market. This high percentage suggests that Tonga is increasingly exposed to fraudulent and unconscionable business conducts and behaviour, especially from the retailing and wholesaling sector. The Ministry responded to this situation by working closely with other government ministries to prevent the smuggling of counterfeit and prohibited products to the country. In addition, it collaborated with the Custom Division of MRS since early 2009 to ban the import of goods that are prohibited under the Customs Prohibited and Restricted Goods Act and the Consumer Protection Regulations' (Ministry of Labour, Commerce and Industries 2009).

Thus, the calls by the public for lifting of the standard and integrity of the government services have been acknowledged and stipulated in the government ministries' corporate plans and the challenge is their ability and sustained commitments to make the desired improvements and to monitor their progress over time.

1.2.7 National Strategic Planning Framework for Improving of Public Services

Improving of the performance of the public sector has been equally emphasized as an important objective in the Government National Strategic Planning Framework. 'The plan aims to achieve this goal through the continuation of the implementation of the public sector management reforms and specifically through analysing the effectiveness of government services focusing on service delivery, as the measure of public sector success and increasing the adaptation of program-based budgeting and matching resources to services in order to better serve Tongans. It will also mean an overhaul in the way Ministries prepare budgets, and the budget process must be linked to concrete goals and outputs' (Ministry of Finance 2009).

Using information technology as a tool to improve accountability, transparency and government's service delivery, and forging links between the government and the citizens of Tonga have been embarked upon by the government. 'The government has made

commitment over the coming years to increasing the amount of information available on its websites, creating websites for ministries and agencies that currently are not available, and creating interfaces for the public in areas such as business licensing, procurement, and social services to better enable service delivery. The government will also solicit consultation with the public via IT, as well as seek to improve the ability of outer islands to utilize the internet to communicate with government' (Ministry of Finance 2009).

The government has further committed to continuing the progress to smaller and more efficient government through decentralization as a means to enact and deepen democratic governance and to improve the effectiveness of service delivery and ensure the effective maintenance of resources. The decentralization process will involve transferring of resources, power and authority from the central government to the local authorities, and will play a key role for improving the efficiency and effectiveness in the delivery of public services (Ministry of Finance 2010).

1.2.8 Civil Service Environment for Service Delivery

The civil service environment has been reviewed to foster the climate of delivering better services for the public. This has involved the enactment of a Public Service Act in 2002 which lays out the arrangements for the engagement and management of the public service and is supported by a *Public Service Policy Manual* that outlines the administrative arrangements applying to all employees of the Public Service, as well as the 2004 *Public Service Code of Conduct* (Public Service Commission 2009)*.* This legal framework provides an environment for a better government services to the public.

This Code of Conduct is the first that has been put in place setting out the principles to guide the operation of the public services. The Code specifically provides guidance to employees on the desired standard of behaviour, and the basis on which more detailed codes may be required to meet the particular circumstances of individual departments (Public Service Commission 2009). This set the expectation of the government on the standards of services its employees are desired to deliver to the public.

Four principles that underpin the Code of Conduct are: (i) the requirement for employees to fulfil their lawful obligations to the Government with professionalism and integrity; (ii) the requirement to perform their official duties honestly, faithfully and efficiently, respecting the rights of the public; (iii) the desire to contribute to a consultative and harmonious work environment and relationships to their colleagues; (iv) and the commitment not to bring the public service into disrepute through their private activities (Public Service Commission 2009).

These principles provides clarity in the relationship between employees and the Government in the performance of their official duties; define the general obligations of employees to the public, which entails giving satisfactory service and respect the rights of

the public and department colleagues, and to refrain from conduct that might lead to conflicts of interest or integrity; obligate the employees to give satisfactory service and respect the rights of government and departmental colleagues; and explain employees personal behaviour, where it requires employees not to compromise their department or the Public Service through their personal behaviour (Public Service Commission 2009).

Concerning with the employees relationship with the public the Code desires the delivery of services fairly, impartially and courteously to the public and to visitors to Tonga, respecting equality of opportunity in employment and treating everyone with respect and courtesy and without coercion or harassment of any kind, disclosing and taking reasonable steps to avoid any conflict of interest (real or apparent) in connection with their employment. Asking or accepting a gift from any person concerned with any matter connected with the employee's official duties is not allowed. Wearing work attire appropriate for their work environment is required (Public Service Commission 2009). These imperatives are essential for delivery of quality services to the public and needed to be reinforced both by the Public Service Commission and government's ministries in order to ensure full compliance and making headway.

1.2.9 MRS Strategy for Delivery of Quality Services

Turning to MRS, its stated mission for the next three years starting from 2009/10 focused on promoting compliance with the tax and customs legislation through quality service, communication and responsible enforcement (Ministry of Revenue Services 2009). This focus shows MRS commitment for providing a better quality for its public services. In addition, MRS indicated of its consciousness of the need to be responsive to the changing expectations of the community and helping taxpayers, importers, exporters, custom agents and brokers to understand their rights and obligations and believes that through better services and a much stronger infrastructure it will be able to achieve its mission (Ministry of Revenue Services 2009).

The four key result areas that MRS has identified to measure its performance on are customer, finance, internal business process, and learning and growth (Ministry of Revenue Services 2009). These key result areas are based on the Balance Scorecard Framework developed by Kaplan and Norton (1996). The targets for its customer key area are, among others, the establishment of an effective partnership with customers and provision of 100 per cent accurate and complete tax and customs advisory services at all times (Ministry of Revenue Services 2009).

The major specific reforms that have been implemented from the inception of the reform include the introduction of the self-assessment of tax returns in 2009/10; the computerization of the trade documentation under the Customs Management System (CMS); the publication of a Revenue Services Charter outlining the standards of service aims to achieve including specified times for responding to complaints and queries; and the

development and publication of the Tax rulings for consumption and income taxes in its website to inform the tax payers about how their taxes are being assessed in accordance to the laws ((Ministry of Finance 2010).

The feedback from external assessments revealed some positive receptions of the developments for improving of the services to the public. The new Customs Management System (CMS) computerized all custom documentation which has improved the quality, accuracy and availability of data (Asian Development Bank 2010). The introduction of a tax appeals mechanism and the management of arrears have improved noticeably from earlier years, reflecting substantive administrative reforms (Public Expenditure and Financial Accountability 2010). The production and distribution of a bi-monthly tax newsletter by email and posts to tax clients, containing updated information on tax obligations, liabilities and procedures is generally clear and user-friendly (Public Expenditure and Financial Accountability 2010).

Aside from making information available online and through newsletters, MRS routinely conducts a wide range of educational initiatives for different types of taxpayers. For example, over the month of October 2009, MRS officials undertook several activities to educate and remind taxpayers about their tax obligations under the self-assessment approach and the relevant Tax Forms that were due by the end of October 2009 (Public Expenditure and Financial Accountability 2010).

 A second opinion on MRS taxpayer education campaigns have been obtained from other organizations. For instance, the opinion of the Audit Office was that large businesses generally understand the tax system, but small businesses sometimes struggle and are not always complying with the rules. Soles traders in particular fall into this latter category (Public Expenditure and Financial Accountability 2010).

The Tongan Chamber of Commerce (TCC) commented that the Deputy Tax Commissioner would often invite businesses to forums to explain tax requirements, which was a good initiative; the new consumption tax introduced in 2005 had placed a big burden on small businesses, but feedback was that the requirements were still manageable; and big businesses had a good understanding of their tax obligations and liabilities (in any case there are many tax consultants in Tonga to draw upon) so it would be better if the Ministry of Revenue Services tax education campaigns were aimed more at the small business level (Public Expenditure and Financial Accountability 2010).

Further, communication within the Tonga Customs Division Service was improved. Inspections and compliance were also improved. Chamber of Commerce members commented that processes have been streamlined and that there has been a substantial improvement in clearance times to get goods off the wharf, although further improvements are still needed such as clarity about the need for agents (Australian Government 2010).

The Tax Tribunal has been established in late 2008 and two formal appeals have been lodged. One of these appeals has been decided and another is in process, with the possibility of a third to come. The Public Expenditure and Financial Accountability (2010) is of the opinion that the fact that only a few formal appeals have been lodged to date may be an indication that the system is not accessible or there is a general lack of awareness of how it works, or that people lack confidence in the system. It may also be an indication that Ministry of Revenue Services is very good at resolving issues at the operational level. It is difficult to say at this stage when the system has only been operational for a year or so (Public Expenditure and Financial Accountability 2010).

The opinion of the officials in the Audit Office verified that the tax appeals mechanism was not used much, and their understanding was that the Tax Tribunal was not yet fully established and operational. It has been unable to ascertain for certain whether the Tax Tribunal has or has not been established; however given that some appeals have been lodged and decided, it has been decided to give MRS the benefit of the doubt in this instance (Public Expenditure and Financial Accountability 2010).

The Tongan Chamber of Commerce confirmed that most tax concerns were resolved at the lower levels and that legal appeals were rare. According to the Tonga Communication Corporation , companies who were known to comply with the rules in the past and were polite to tax officials were unlikely to encounter any major issues in having their case heard (Public Expenditure and Financial Accountability 2010).

The Public Expenditure and Financial Accountability (2010) assessment indicated that legislation and procedures for all major taxes are comprehensive and clear, with strictly limited discretionary powers of the government entities involved. Taxpayers have easy access to comprehensive, user friendly and up-to-date information tax liabilities and administrative procedures for all major taxes, and the RA supplements this with active taxpayer education campaigns. Tax appeals system of transparent administrative procedures is completely set up and functional, but it is either too early to assess its effectiveness or some issues relating to access, efficiency, fairness or effective follow up on its decisions need to be addressed.

 Discussions with the local business community, as represented by the Tongan Chamber of Commerce, suggest that, although the TIN registration process is not seen as particularly quick, most of the concerns in the private sector are more around the time it takes to register for the annual business licenses. The Tonga Communication Corporation has suggested that MLC should put the whole license system on-line so that companies could register for licenses over the internet, or even remove the requirement for business licenses altogether (Public Expenditure and Financial Accountability 2010).

There have been substantial changes to taxation policy and revenue administration, including the move for reducing the number of customs rates and thus as administrative

discretion associated with applying them, and a reduction in corporate income taxes. Ministry of Revenue Services has made very good progress in dealing with arrears, bringing more and more businesses into the tax system and markedly improving relations with business taxpayers. Solid progress has been made regarding the plan to online filing for tax returns and customs entries. These on-going reforms to streamlining revenue administration are a key part of improving the business environment, to expand private sector development as envisaged in the National Strategic Plan Framework (Public Expenditure and Financial Accountability 2010).

The reviews of the performance of the public sector with regard to service delivery in general and that of MRS in particular have revealed a mixture of improvement in some areas and serious concerns over the others, especially with those issues that have been depicted by the media. This overview therefore strengthens the justification to conduct this research to diagnose in a systematic and comprehensive manner the public opinions on where they perceive the standard of the customer services of MRS is at in this point of time compare to their expectation, and to pinpoint exactly the critical service dimension factors that MRS should focus on for priority and continuous improvements going forward.

Having discussed the background to the research, the next section outlines the research problem.

1.3 Research Problem

The underlying research question for this study is:

What are the critical gaps in the expectation and perception of the customers on the level of quality of the services being delivered by MRS affecting its services to the public and are important to address in order to manage and sustain a higher standard of quality customer service in the public sector going forward?

This question was underpinned by a number of research objectives to determine:

1. The current expectation level and perception level of the customers over the quality of service being provided by the MRS to its external customers namely, individual customers, business customers and other government departments customers;

2. The critical gaps between expectation and perception of the level of the service quality provided by MRS to external customers namely, individual customers, business customers, and other government departments customers; and

3. The service dimension factors that demonstrate the critical gaps between expectation level and perception level on the quality of service being provided by the MRS to external customers namely, individual customers, business customers, and other government departments' customers.

The information gathered from these research objectives will obtain the crucial data to analyse and identify the critical gaps between expectation and perception over the level of the quality of service rendered by MRS to its selected external customers, together with the implications of the critical service dimension factors for improving to, and sustaining a, higher level of the service quality delivered by MRS to its external customers.

Having outlined the research problem and the objective of this research, the next section provides the justification for selecting of the research problem.

1.4   Justification for the Research

There are various reasons that merit undertaking this research to assess the level of the quality of customer services prevailed in the public sector in Tonga based on studying of MRS performance in this respect.

This research is very important to be conducted. This is because the improvement of the efficiency and quality of the public sector services was one of the primary motivations of the public sector reform program initiated in 2000. The quality of customer services has also been mainstreamed into the Government National Strategic Planning Framework (Ministry of Finance 2009). The government serious attention to improving the quality of customer's services has been prompted by various criticisms from the public over the dissatisfactory conditions of government services displayed by some ministries. Custom Service division of MRS has received serious accusations including the incident of allowing some importers to take their containers out from the wharf without paying the fund for custom duties, contravening its law and has caused unfair advantages to some businesses over the others (Taimi 'o Tonga 2011).

This research is further justified because there has not been any comprehensive study conducted to examine the expectation and expectation of the public on the level of quality service provided by government ministries in Tonga. Previous studies on this subject have been based on anecdote evidences conducted by external organizations with the purpose to assess the impact of their assistance and to justify to their taxpayers the investment decisions they had made. For example, the Ausiad assessment of the performance of MRS concluded that MRS has substantially improved both taxation compliance and services delivery (Australian Government 2010). This conclusion was based on feedback from limited organizations such as chamber of commerce (Australian Government 2010). What is needed now is a wider stakeholders view representing those who have regular interactions with the service of MRS. In that regard, this research is the first study to provide the necessary scope and coverage that is needed. The results from this study will provide policy implications to address the overall quality of the public services across government ministries in order to increase and sustain the level of public satisfaction with the delivery of the public services going forward that the public sector and political reforms have aimed to achieve.

In addition, there has not been any formal study carried out in the small island states in the Pacific employing the SERVQUAL framework. This framework has been used worldwide especially in the developed and large developing countries to study the quality of services in the service sectors including education, health and revenue collection agencies services. This research provides the opportunity to test the applicability of the SERVQUAL model in the cultural context of a small island state such as Tonga to determine the prevalent service dimensions valued by the public. This study can be replicated across the small island states in the South Pacific to contribute toward their effort to improve the delivery of public services for the satisfaction of their public and help to stem the unhealthy political instability in some island states in the pacific due to lack of confidence on the quality of public services.

This study also provides an important insight into the management of service quality in the public sector in the small island states and identifies those service quality factors that satisfy customers' expectation and perception in Tonga. This will also enhance the understanding of the customer satisfaction by measuring and matching the customer expectation and perception, and how to manage customer satisfaction.

The service sector has the highest share of about 55 per cent in Tonga Gross Domestic Product (GDP) (Ministry of Finance 2010). The improvement of the customer service is paramount for the progress of the economy and this study will make an important contribution toward that aim.

The research findings will encourage further study on this field in the public sector in the near future and provide a comprehensive framework for an on-going assessment of the performance of the Tonga and small island states public service organization on service quality.

Having justified the rationale for undertaking this research relating to determining the critical gaps between expectation and perception in the level of the quality of services in the public sector, the justifications for conducting this research into the quality of customer services in MRS are discussed next.

MRS is selected as the case study for this research because it has played a pivotal role in the public sector reform started in 2001. About 80 per cent of the government revenue is generated by MRS from tariffs and taxes and having a better relation with its customers and taxpayers is a very important factor for achieving a strong government fiscal position. This ministry has taken several measures to improve its service to the public. These included producing a new *Guide to Tongan Income Tax* which has been published and also having an internet tax return lodgement system which is being developed. Service standards have improved markedly, with all key standards consistently met or exceeded, for example, all consumptions tax returns are processed within 42 days (Australian Government 2010).

The additional justification is that the services of MRS have been frequently criticized by the media for inconsistent applications of its law to importers and taxpayers, favouritism, and slowness in processing of documents and tax returns (Kele'a, 2011). MRS has responded to these allegations through taking measures to improve its relation with, and services to the public. It is therefore important at this juncture to research the expectation and perception of the public about the service of MRS, considering the impact of the measures it has taken to win over the confidence and heart of the public about the integrity and professionalism of its services.

Further, MRS has an active interaction with the public in clearance of goods imported through wharves and airports, and processing of tax returns. This is the ideal condition for the application of the SERVQUL model for assessing the public views on the service quality of the organization.

This research will contribute to assessing the gaps in the level of the quality of services disposed by MRS to its external customers. The study provides a theoretical framework for managers in the various divisions of the MRS to assess their customer's expectation and perception toward their services to identify what can be done further to better their scorecard on customer services. This framework can also provide the chief executive officer of MRS with the tools and crucial findings to develop a strategy to eliminate or diminish the critical gaps identified in relation with the service dimension factors in order to dramatically improve its services to the public in line with the objective of the public sector reform and its commitment stated in its corporate plan.

This research is further justified because no study using the SERVQUAL framework has ever been undertaken in Tonga or in small island states in the Pacific to assess the gaps between expectation and perception of the public regarding the government services to them. This study of MRS will discover the critical gaps that may exist in the factors of the service dimensions that are critical for improving and sustaining to achieve a higher level of services to the public going forward.

Having justified this research, the next section explains the research methodology employed in this study.

1.5   Research Methodology

The research methodology for this study is managed in three stages.

The first stage is an in-depth literature review on the theories of service quality in the service sector within the public sector. This will be followed by a case study to be conducted using the SERVQUAL framework. The scientific paradigm used in this research methodology is critical realism, which is the preferred paradigm for case study research (Hunt 1991).

The second stage involves a case study research, which will use a case study protocol that involves a structured quantitative and qualitative interview questionnaire. The interview questionnaire will be used in the one case study interview, which will be carried out by personal face to face interviews with 120 members each of MRS external customers such as individual customers, business customers and other government departments. The structured quantitative interview questionnaire used in the face to face interviews focus on the theory of service quality in the service sector in the government's Ministry for Revenue Services. The qualitative section will involve open-ended questions for the interviewer to clarify and explain the reasons for their response to the survey questionnaire.

The third stage deals with the analysis of the data collected from the case study related with MRS. The data from the qualitative open unstructured questions is coded and then entered into SPSS (Statistical Packages for Social Science) for Windows version 14 to enable the data to be manipulated and to produce frequency distribution. The data from the quantitative closed structured questions will also enter into the SPSS for Windows version 14. The data entered into SPSS will be manipulated to perform statistical testing for significant difference using t-test, paired t-tests and One-way Anova tests to assess the level of expectation and perception from the external customers and to test for significant different between the level of expectation and perception of MRS customers.

The differences between the mean level of expectation and perception on the twenty two service dimension factors will be calculated. This will provide the mean gaps for the gap analysis undertaken for the service dimension factors in the MRS.

This research will use three methods of analysis to identify the critical gaps between expectation and perception on the service dimension factors in relation to the service of MRS. These three methods are: the statistical testing for significant difference, the mean weighted gap analysis, and the mean un-weighted importance performance analysis (IPA) for matrix analysis. The results from these three methods of analysis will be used to formulate a selection criterion to less subjectively identify the critical gaps in the service dimension factors in the services of MRS to the public.

Having discussed the research methodology used in this study, the next section explains the delimitations that have been decided to manage this research.

1.6 Delimitation of Scope for Research

A number of delimitations have been set to manage this research within the constraints set out for this dissertation.

The first delimitation is to focus this research on the public sector in Tonga and to use only one case study, which is that of MRS, to explore the quality of services delivered by a government department. The interview will be limited to the external customers of MRS, represented by 40 individual customers, 40 business customers, and 40 employees from

other government departments. These three specific customers of MRS are importers and taxpayers and they are selected to obtain an equal coverage of the types of importers and taxpayers that are involved. The selection of MRS as the case study is based on its direct involvement in the government public sector reform, the frequent criticisms of its services by the media, and the actions it has taken to address the concerns with the customer's services and the need to rehabilitate its poor public image.

The second delimitation is the selection of the geographic area of Tongatapu. This is the main island of Tonga where 60 per cent of the population of the country are resided and consequently most interactions between MRS and customers are taken place. This geographical focus is also made based on easy access to customers for interviewing and for managing of the time available for this dissertation.

The third delimitation is related to general case study limitations faced in any research. The general limitations managed in this research include: the constraints of time and money available, the number of case study that could be managed properly, unexpected interruptions and reduced time available during face to face interviews, cancelled and rescheduled appointment times, restricted disclosure of information, and absence of respondents due to other commitments, and reliance on availability of suitable people for the interview.

Having explained the delimitations that managed this research, the next section is the conclusion to chapter one.

1.7   Conclusion

This chapter has highlighted the significant emphasis placed by the government on the need for enhancing of the quality of services delivery to the public. This recognition has been reflected in the core areas of the public sector reform program that started in 2001. The government may not have centred stage the need for improving of the delivery of public services had the pressure from the public and media on this issue would not have been mounting. The recent establishment of a democratic form of government was prompted by the public pressure for a better government requiring a more proactive and accountable attitudes for meeting the public needs for a better services. Improving the public perception toward government performance on service delivery is crucial for maintaining of the political stability and for regaining the people's confidence on the government averting the recurrence of the 2006 riot.

The public sector reform has been occurring globally in response to the public demands for a more responsive and accountable government. The public has become more aware of what the government is doing and wanted to hold its accountable for its perform to increase the efficiency and effectiveness of the services to the satisfaction of the public.

The scope of the research has been outlined in this chapter to focus on the public sector, represented by MRS due to its involvement on the public sector reform programs, the intensive interactions it does have with the public and the close scrutiny of its services by the media over the years.

This chapter has explained the importance of measuring the public's expectation and perception toward the services delivered by MRS to identity the critical gaps that need to be eliminated or reduced going forward.

This research focuses on case studying of MRS through face to face interviews to obtain the necessary data to compare the expectation and perception of the external customers – individual customers, business customers and other government departments customers who are importers and taxpayers - to establish the critical service factors that the department should concentrate on to improve its customer services and its public image.

The research will address the fundamental question of: What are the critical gaps in the level of expectation and perception on the quality of the customer services delivered by MRS affecting its services to the public, and are important to address in order to manage and sustain a higher standard of quality customer service in the public sector going forward?

Finally, the government must embrace the need for an urgent action to alleviate the concerns with the low quality of the service delivery to the public in order to demonstrate to the public that their concerns do matter. This introduction explains the importance for measuring of the expectation and perception of the external customers on the services dimensions of MRS using SERVQUAL framework to identify the critical factors to address, and this will be expanded in the literature review that follows.

CHAPTER 2.   LITERATURE REVIEW

This chapter starts with the explanation of the drive for quality service in the public sector reform taken place globally, and is followed by the discussion of the issues of the quality of service delivery in public sector reform in Tonga. The chapter continues with the discussion of the standard of the quality of service in the reforming of the operations of MRS, explanation of the rationale behind the selection of MRS as the case study for this research, definition of quality services and its relation to the concept of satisfaction, the characteristic of quality service in public sector, differences between public and private sector service delivery, and the examination of the role of customer expectations and perception concerning quality service. This chapter concludes with the discussion of the measuring techniques for service quality and outlining of research methodology.

2.1   Introduction

Chapter one provided an overview of the public sector reform that has taken place in Tonga since 2001, which aims, among others, to improve the quality of service delivery to the public and to address the growing concern from the pubic over the deterioration of the integrity and quality of public services in relation with the allegations of corruptions in the government's ministries including MRS. In addition, the reform programs being undertaken by MRS in the effort to improve the quality of services provided to the taxpayers and the public was discussed. It also reviewed the current public perceptions on the quality of service delivery of MRS.

Chapter two provides a literature review relating to service quality in the public service in the context of public sector reform in Tonga. The related theory used in this research refers to the factors that determine the gaps between expectation and perception for quality of services rendered in the public sector, as represented by MRS, which are measured by the gap theory including statistical analysis, SERVQUAL and Importance Performance Analysis. Section 2.2 explains the drive for quality service in the public sector reform that has taken place globally. Section 2.3 describes the issue of the quality service delivery in the general public sector reform program that has been implemented in Tonga. Section 2.4 discusses the standard of the quality of service delivery in the reforming of the operation of MRS. Section 2.5 sets out the scope of the research and explains the rationale behind the selection of MRS as the case study to use for this exploratory study of service quality in the public sector in Tonga. Section 2.6 defines quality services. Section 2.7 discusses the concept of quality service and satisfaction and their relationships. Section 2.8 deals with the characteristics of quality service in public sector, with section 2.9 discuss the differences between public and private service delivery. Section 2.10 explains the concept of satisfaction and expectation for quality service. Section 2.11 examines the role of customer expectation and perception in determining quality, with section 2.12 discusses the measurement of service quality. This will be followed by Section 2.13, which outlines the research methodology using the Gap Analysis theory, as the method this research uses to measure the gaps between the expected level and perceived level of the quality of services rendered MRS to its external customers, covering three customers subgroups including

individual customers, business customers and the government ministries who are importers and taxpayers using the service of MRS. Section 2.14 deals with the gap in the literature, with conclusion in section 2.15

It now turns to the discussion of the importance of the quality of service in the context of the global public sector reform.

2.2 Quality Service in the Global Public Sector Reform

The public sector reform has been taken place around the world due to various reasons. One of the fundamental reasons is that the governments have to be more responsive to society's needs and demands. Public sector organizations are being reformed in order to provide better, faster and more services. The citizen/customer has a prominent place in these reforms (Thijs & Staes 2008).

'Over the last two decades there appears to have been a huge amount of public management reform. Although there was also reform in earlier periods, the changes since 1980 have – in many countries – been distinguished by an international character and a degree of political salience which marks them out from the more parochial or technical changes of the preceding quarter century' (Pollitt & Bouckaert 2004). Nevertheless, these reforms are characterized by the introduction of new principles and common grounds: a growing focus on efficiency and effectiveness, attention to transparency and accountability, awareness of public service delivery and the role and place of the citizen/customer (Doherty &Horne 2002; Shand 1999; Flynn & Strehl 1996; Schick 2000).

The dynamic way of getting citizens/customers of public services involved in order to enhance their perceptions, expectations and commitment through active participation, has been a common strategy to obtain a legitimate level of quality and satisfaction of public services (OECD 2001b). Thus, where the traditional relationships were bureaucratic and hierarchical, the new relationships are instead more pluralistic (Peters and Savoie 2000).

The citizen and customer nowadays are at the top of the agenda in most countries. This is the case in most of the European Countries illustrated by the results of the 2007 survey conducted amongst the different Member States under the Portuguese presidency (EIPA 2007). In almost two thirds of the countries, the topic of "customer insight" is high on the public administration agenda (Thijs & Staes 2008).

The public sector reform has been used as a means to improve the quality of the public sector. The quality of the public sector— accountability, efficiency in service delivery, transparency, and so forth—correlates strongly with—and is thought by many to contribute to—long-term growth and poverty reduction, although causality probably runs both ways (Bates 2001;Kaufmann, Kraay & Mastruzzi 2005; Przeworski & colleagues 2000; van de Walle 2001).

Following the discussion of the quality service in the context of the global public sector reform is the consideration of the importance of the quality of service delivery in the public sector reform program in Tonga.

2.3   Quality Service Delivery in Public Sector in Tonga

Enhancing the efficiency and effectiveness of the delivery of quality service to the public is an important objective in the Government National Strategic Planning Framework adopted by Government of Tonga in 2009. 'The Plan aims to achieve this goal through further reforming the public sector management practices and analysing the effectiveness of government services focusing on service delivery, as the measure of public sector success and increasing the adaptation of program-based budgeting and matching resources to services in order to better serve Tongans. It will also mean an overhaul in the way ministries prepare budgets, and the budget process must be linked to concrete goals and outputs' (Ministry of Finance 2009).

The new Government has also expressed its determination to improve the quality of service delivery in its Strategic Development Framework for the financial year 2012/13 highlighting the 'continuing progress to a more efficient and effective government by focussing on its core functions; improving coordination, service delivery and optimising use of resources' (Ministry of Finance 2012).

The government has declared the using of information technology as a tool to improve accountability, transparency and government's service delivery, and forging links between the government and the citizens of Tonga. 'The government has made commitment over the coming years to increasing the amount of information available on its websites, creating websites for ministries and agencies that currently are not available, and creating interfaces for the public in areas such as business licensing, procurement, and social services to better enable service delivery. The government will also solicit consultation with the public via IT, as well as seek to improve the ability of outer islands to utilize the internet to communicate with government' (Ministry of Finance 2009).

The government has further indicated its intention to continuing the progress to smaller and more efficient government through decentralization as a means to enact and deepen democratic governance and to improve the effectiveness of service delivery and ensure the effective maintenance of resources. The decentralization process will involve transferring of resources, power and authority from the central government to the local authorities, and will play a key role for improving the efficiency and effectiveness in the delivery of public services (Ministry of Finance 2010).

2.3.1 Public Perceptions on Quality of Services

The public has been expressing serious concerns over the integrity and quality of the services being delivered by some of the Government ministries and has called for immediate and serious action by government to resolve the perceived performance gaps.

The Custom Service division of MRS has been criticized for several reasons. These include releasing of containers from the wharf without collecting the payment of duties beforehand. 'We were thinking that this matter would have been investigated by the Ministry of Police after the publication of this fraudulent case previously. But no action has been done' (Kele'a, 2006b).

It was further alleged that the state of revenue collection by the Custom division of MRS on duty from imported goods has been worsened. 'A senior officer of the Custom Department was punched causing a serious injury while carrying out his official duty at the place of the owner of a container in order to reconcile the goods inside the container with what was disclosed in the invoice. This incident was taken place at the home of the importer... This episode demonstrated the critical situation the department is in, which is the subject that had been seriously discussing several times in the Legislative Assembly up to last year' (Kele'a, 2006b).

The public scrutiny has also been directed at the service of the Ministry of Police, with a criticism for an unreasonable delay in its investigatory services. The local newspaper reported that 'the Police is still working on the case...and asked why it has taken that long' (Kele'a, 2011).

2.3.2 Political Reform and Quality Services

The political reform facilitates the opportunities for many Tongans to seek greater access to information, and improved communication by government to citizens. The Tongan Constitution promotes freedom of the press, with the liberty of all people to speak, write and print their opinions. But in practice, the democracy movement and media have struggled for more than twenty years to protect freedom of expression...facing repeated bans and defamation suits (Maclellan 2008). The political reform has been seen as an avenue for making the government more responsive to the public desire for better services and better communication and accountability.

The new democratic government, which was elected on 25 November 2010, gives considerable power and responsibilities to the people, who have almost 70 per cent of the members in the parliament. This will mean greater accountability of government to parliament and the electorate and an ever increasing opportunity for more public participation in government and politics (Koloamatangi 2010). This change to democratic form of government offers a higher expectation to the public for a more responsive government to meet the public demands for a better and quality customer services.

The Tongan parliamentary system has been changed in the political reform. These changes include the alteration of the size and the composition of the members of the parliament, starting from the election of the members of parliament in November 2010. This is a central feature of the political reform that the late King HM Tupou V had consented to implement. This reform was made in response to the mounting pressure from the public to adopt a democratic form of government. The political reform has made the following changes to the parliament: (i) the numbers of parliamentarian have been reduced from 30 to 26 members. Of the 26, the nobles are given 9 seats and the people representatives with 17 seats; (ii) the election of the Prime Minister by the 26 members of parliament from one of them; (iii) the appointment by the Prime Minister of the Cabinet ministers from the 25 members of the parliament; (iv) The Prime Minister can appoint four cabinet ministers from outside of the parliament members, primarily if there are required expertise that do not possess by the elected members of parliament; (v) the King would formalise the appointment of the designated Prime Minister and the cabinet ministers; (vi) the Prime Minister would preside over the Cabinet, and assume the executive power previously held by the King in the old regime when he was presiding over the Privy Council; and (vii) the term of the members of parliament has been increased from 3 to 4 years since the election in November 2010.

2.4   Quality Service Delivery in MRS

Turning to MRS, the strategies for its operations are set out in its three year Corporate Plan 2009/10-2011/12. Figure 1 shows the link between MRS vision and mission to the National Strategic Planning Framework adopted by the Government in 2009. The mission of MRS emphasizes the provision of quality service to the public. The values of the department are placed on integrity, professionalism, respect, commitments and expectations and cooperation (Ministry of Revenue Services 2010). There are four key result areas that MRS has identified to focus its operation on, namely customer, finance, internal business process, and learning and growth. These key result areas are based on the Balance Scorecard framework developed by Kaplan and Norton (1996) and the Ministry of Revenue Services is using this performance measure tool.

National Strategic Planning Framework

Enabling theme: "Improve the effectiveness of revenue services to ensure a level playing field and that services to the people can be appropriately funded"

Vision

For an efficient and effective tax and custom administration

Mission

To promote compliance with the tax and customs legislation through quality service, communication and responsible enforcement.

FIGURE 1: LINKAGE BETWEEN MRS VISION AND MISSION TO THE NATIONAL STRATEGIC PLANNING FRAMEWORK.
(*Source*: **Ministry of Revenue Services 2010)**

The first key result area highlights the customer orientation of the ministry with the aim to establish an effective partnership with customers through providing 100 per cent accurate and complete tax and customs advisory services at all times (Ministry of Revenue Services 2010).

The organizational structure of MRS is shown in Figure 2 below. The ministry has five divisions, namely Large Business division, Small Business division, Custom and Trade division, Technical Services division, and Compliance and Audit division.
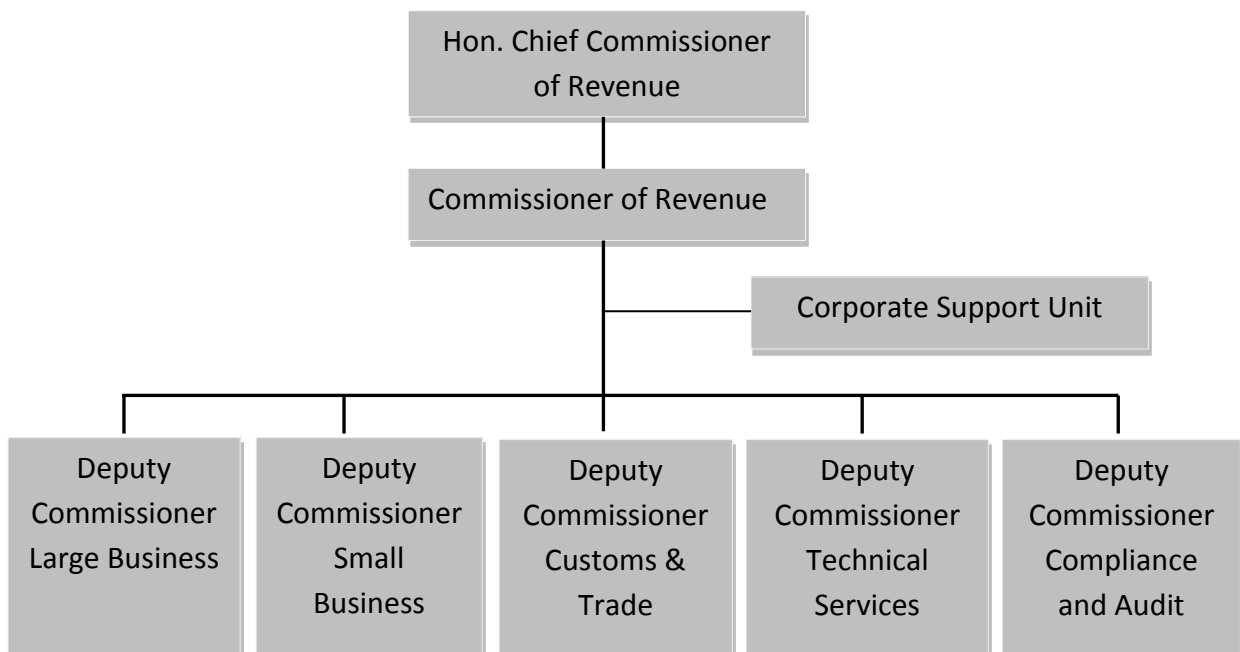
FIGURE 2: ORGANIZATIONAL STRUCTURE OF MINISTRY OF REVENUE SERVICES.
(*Source:* **Ministry of Revenue Services 2010)**

The Large Business division is responsible for administering and collecting the appropriate revenue from income tax and consumption tax from large taxpayers in accordance with taxation laws and regulations. The large business is meant for business whose annual turnover is equal or greater than US$50,000 or T$100,000. However, the Small Business division is responsible for administering and collecting the appropriate revenue from income tax and consumption tax from large taxpayers in accordance with taxation laws and regulations. The small business is meant for business whose annual turnover is below US$50,000 or T$100,000 (Ministry of Revenue Services 2010).

The Customs and Trade division is responsible for facilitating legitimate trade, improving compliance with customs legislations, and ensuring improved revenue correction and border security. The Technical Services Division is tasked with facilitating and assisting the performance of revenue administration by providing timely and accurate legal services; and providing legal advisory services, legal services and legislative services. The Corporate Service Unit has the role of facilitating and assisting the performance of revenue administration by providing timely and accurate human resource management, financial management and information technology services (Ministry of Revenue Service 2010).

2.4.1 MRS Measures for Improving of Tax Services to the Public

It was the view of the government that the Tax Reform program continued with the successful implementation of the Income Tax Act 2007 effective from 1st February 2008 as well as the installation of the new reports on RMS (Revenue Management System) and the testing of potential Internet lodging of tax returns. The Income Tax Act 2007 replaced Cap. 68 and introduced self-assessment for income tax. Under self-assessment a taxpayer assesses their own tax liability and pays when they lodge their return. Under the Act individuals are no longer required to lodge tax returns if their only income is employment and/or interest income. A new regime of withholding tax on payments to non-residents came into force on 1st February 2008 (Ministry of Finance 2010).

In order for the successful implementation the advisors from Australia assisted staff in bringing taxpayers tax affairs up to date in readiness for self-assessment. This has led to a significant increase in income tax revenue, as more difficult cases were resolved in a cooperative approach with taxpayers. It was included the profiling of taxpayers to identify those taxpayers who were the largest risk to the revenue. The first Tax Tribunal case was also heard during the year and the Commissioner was successful in a tax avoidance case involving a substantial amount of revenue (Ministry of Finance 2010).

Some of the measures that MRS has put in place to achieve the improved tax service and accountability in a self-assessment environment was (Ministry of Revenue Services 2008):

(i)   creation of a taxpayer charter and service standards including standards such as large business PAYE reconciliations with a target of 70 per cent to be

completed within 30 days, Income Tax returns targeting 70 per cent to be assessed within 42 days, Consumption Tax returns aiming at 85 per cent to be processed within 42 days, and large business audits planned to achieve 80 per cent completed within 9 months of commencement;

(ii) further development of the RMS including more reports being available and internet lodging of returns on consumption tax and income tax and PAYE;

(iii) creation of a specific debt and lodgement team;

(iv) providing newspaper and radio public notices informing of due dates for lodging returns and other important tax news items;

(v) publishing of Inland revenue division newsletters in every two months and disseminated electronically;

(vi) revamping of website for on-going improvements and all information is on website – www.revenue.to;

(vii) developing a 'Guide to Tongan Income Tax' to be published in loose-leaf form but currently available on internet;

(viii) conducting public seminars to explain self-assessment and the new Income Tax Act; and

(ix) Strengthening of the tax system integrity with improved large business collection performance through increased number of large business clients risk profiled by the department and collecting a significant portion of large business tax arrears outstanding.

External assistance has been provided to equip MRS with appropriate technology to cope with the challenge of their work. The Australian government has provided funding for improving the electronic communication capability of the service plus investment in x-ray technology with contracts signed for the supply of static and mobile x-ray capability. The formalization and licensing of Customs Brokers also occurred as a result of the new legislation, which has impacted on custom's independency in carrying out its customs functions, independent customs check of customs clearance papers from importers and exporters (Ministry of Revenue Services 2010).

It was the expectation that the acquisition of x-ray technology will have a positive effect on the effectiveness of the CTD. The introduction of risk assessment techniques will assist in identifying high risk passengers and cargo consignments for intervention activity (Ministry of Revenue Services 2010).

MRS is responsible for collecting of income tax, consumption tax and custom duties and excise tax. The processes for collecting of these taxes are explained next.

2.4.2 Process for Consumption Tax Returns

The taxpayer must apply for a refund in writing and the refund must be made within 45 days of the application being received if the excess is not credited. This period is often longer because taxpayers do not lodge the necessary documents and some taxpayers lodge refund applications for more than one month at a time (.i.e. apply for a whole year refund at once) and given that they are allowed 45 days for each consumption tax period this takes much longer. Consumption tax returns are due on the 28th of each month following the month of collection. If it is a debit return, the payment is due on the date of lodgement. If it is a credit return, the excess is carried forward and allowed as input tax in the following period (Ministry of Revenue Services 2010). This research will seek the view of the taxpayers about the efficiency of this process.

2.4.3 Process for Income Tax Returns

Tax returns must be lodged within 4 months from the end of the financial year. The due date for PAYE is the same for consumption tax returns where they are due on the 28th of the month following the month of collection. Taxpayers whose only source of income is employment income such as salaries, wages, benefits, director's fees are not required to lodge income tax returns at the end of the year as PAYE is a final tax under section 6 of the ITA 2007. The employers have to lodge a withholding tax statement within 2 months after the financial year and give the employee as statement of the tax deducted. If the tax was overpaid, the employee can apply for a refund under section 92, and likewise a debit notice will be given to an employee from whom the proper tax was not deducted (Ministry of Revenue Services 2010).

2.4.4 Process for assessment of Custom Duties and Excise Tax

Payment of duty for imported goods follows the process whereby custom brokers have been selected by the Commissioner of Revenue in according with Custom Administration legislation. Brokers are required to prepare the necessary documents on behalf of importers and then submit them to the custom administration for consideration and finalizing the appropriate amount of duty and tax to be paid before clearance of the goods from the warehouse.

The Commissioner of Revenue observed that MRS meets its crucial tasks by having the required operational systems for the new legislations. Being in the front-line implementing tax and customs policies is always a challenge, especially where major changes are involved. MRS always carries out its responsibilities and take on board the shots, both positives and negatives, with utmost due respect to both the policies and the public. And we continue to improve our administrative procedures from time-to-time taking into account matters from the consultations with all our customers as well as our limited resources (Ministry of Revenue Services 2010).

2.4.5 Human Resources of MRS

At the end of 2010, MRS had about 101 permanent employees in Tongatapu and outer islands with un-established staff. It had over 12 vacant positions and some of those are critical posts yet to be recruited due to the short supply of qualified candidates in the local market. Figure 3 shows the staffing situation of MRS in the fiscal year 2010-11. The effectiveness of MRS in discharging its mandate depends very much on the quality of the staff it has. It is therefore important that MRS recruit the important technical positions that are still vacant so that the quality of its services is not compromised risking the government financial stability and soundness as well as its reputation as efficient and effective ministry.
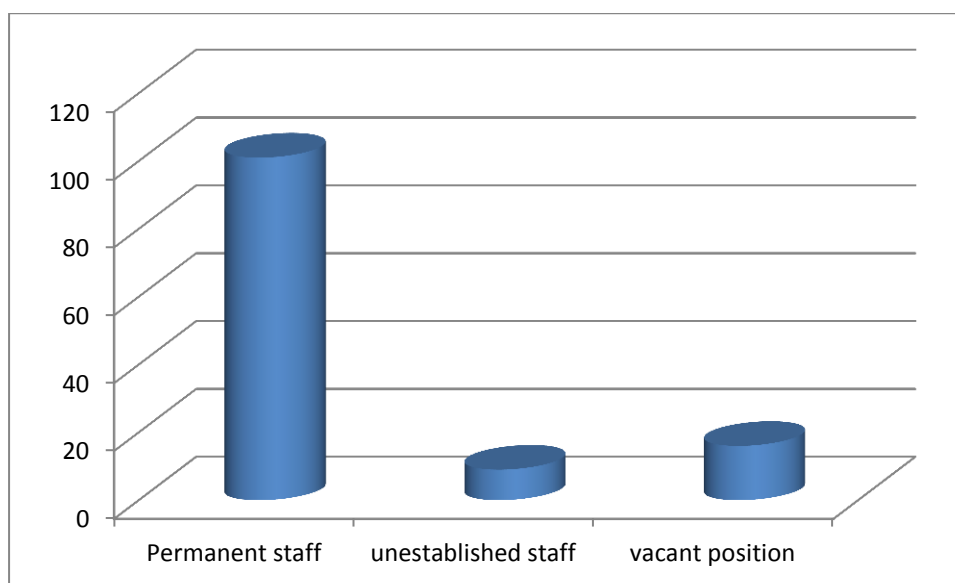
FIGURE 3: STAFFING POSITION AT MRS
(Source: **Ministry of Revenue Services 2010)**

2.4.6 Code of Ethics and Conduct for Customs and Trade Services Division

The Customs and Trade Division has developed its own Code of Ethics and Conduct[1] in March 2009 which laid out nine principles, namely personal responsibility, compliance with the law, complaint and investigation, relations with the public, acceptance of gifts, rewards

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[1]The code of conduct was developed by Custom officials in consultation with the private sector at the Code of Conduct Development workshop held from 16 to 20 February, 2009, at Nuku'alofa, hosted by the Tonga Revenue Service, facilitated by the World Customs Organization, in cooperation with the Oceania Customs Organization (OCO), and sponsored by the Japan Customs (CCF Japan).

and hospitality, avoiding conflict of interest, political activities, conduct in money matters and confidentiality and use of official information (Ministry of Revenue Services 2009).

In the aspect of relation with the public it emphasizes the officials responsibilities to use all reasonable means to help the public to comply with the provisions under the Custom Acts, fairness and impartiality, personal identification to identify officials to the public, ensure safety in undertaking their duties, and avoid any attempts by members of the community to offer any form of inducements in exchange for favour and special treatment.

The officials are required to perform their duties in compliance with the Code with care, diligence, professionalism and integrity. It also desires the official to strive for the highest ethical standards, not just the basic legal requirements and to behave at all times in a manner that maintains and enhances the reputation of Customs.

The supervisors are required to lead their work by examples; ensure staff familiarity with the relevant legislation, required standards, departmental procedures and instruction; and take appropriate action when staffs fall short of the required standards (Ministry of Revenue Services 2009)

2.4.7 Perceptions on MRS Service Delivery

The feedback from external assessments revealed some positive receptions of the developments that MRS has done for improving of its services to the public. The new Customs Management System (CMS) computerized all custom documentation which has improved the quality, accuracy and availability of data (Asian Development Bank 2010). The introduction of a tax appeals mechanism and the management of arrears have improved noticeably from earlier years, reflecting substantive administrative reforms (Public Expenditure and Financial Accountability 2010). The production and distribution of a bi-monthly tax newsletter by email and posts to tax clients, containing updated information on tax obligations, liabilities and procedures is generally clear and user-friendly (Public Expenditure and Financial Accountability 2010).

Aside from making information available online and through newsletters, MRS routinely conducts a wide range of educational initiatives for different types of taxpayers. For example, over the month of October 2009, MRS officials undertook the following activities to educate and remind taxpayers about their tax obligations under the self-assessment approach and the relevant Tax Forms that were due by the end of October 2009 (Public Expenditure and Financial Accountability 2010).

The Audit Office indicated that large businesses generally understand the tax system, but small businesses sometimes struggle and are not always complying with the rules. Sole traders in particular belong to the latter category (Public Expenditure and Financial Accountability 2010).

The Tongan Chamber of Commerce (TCC) commented that the Deputy Tax Commissioner would often invite businesses to forums to explain tax requirements, which was a good initiative; the new consumption tax introduced in 2005 had placed a big burden on small businesses, but feedback was that the requirements were still manageable; and big businesses had a good understanding of their tax obligations and liabilities (in any case there are many tax consultants in Tonga to draw upon) so it would be better if the Revenue Services Department tax education campaigns were aimed more at the small business level (Public Expenditure and Financial Accountability 2010).

Further, communication within the Tonga Customs Service was improved. Inspection and compliance were also improved. Chamber of Commerce members commented that processes have been streamlined and that there has been a substantial improvement in clearance times to get goods off the wharf, although further improvements are still needed (for example, clarity about the need for agents) (Australian Government 2010).

Notwithstanding the intense scrutiny of the services of the Custom Services and the numerous allegations that have been brought against it, it has been recognized that there is a great challenge inherent in the nature of its services. The production of false invoices understating the value and distorting the content of imported goods is a common problem. '... a frozen container was consigned from overseas and found upon inspection at the wharf that the container is actually filled with chicken and tobacco, which is contrary to what was stated in the consignment document that it only contained chicken meat. This is an attempt to pay minimal duty by falsifying the document to pay duty based on chicken meats and save the payment of 400 per cent duty imposed on tobacco. This is the kind of evasive practice that has cost the government a substantial amount of revenue foregone' (Kele'a, 2005). There is a suspect that this practice is sometime gone undetected due to corruption and bribes of Custom officials.

The integrity of the Custom service is a critical factor for maintaining a fair business competition and has still been doubtful. 'The action for manipulating and cheating to pay a smaller duty by under invoicing the correct value of imported goods has greatly affected the business situation in Tonga…There is a substantial amount of money that government has lost from using by importers of false invoices in order to pay a lower amount of duties, and yet no action has been taken to eradicate this fraudulent practices. This problem has adversely affected those businesses who are trying to conduct their trades in an honest manner' (Taimi 'o Tonga, 2011).

Having discussed the public perception about the service of the Revenue Services Department, the next section outlines the scope of the research.

2.5   Scope of the Research

The scope of the research focuses on the implementation of the public sector reform in MRS with the objective, among others, to improve the quality of services supplied to the taxpayers and the general public.

2.6   Defining of Quality

Quality is defined as how well a product does what it is supposed to do – how closely and reliably it satisfies the specifications to which it is built. Managers in successful organizations are quality conscious and understand the link between high-quality goods and/or services, and competitive advantage. The quality viewpoint emphasizes achieving customer satisfaction through the provision of high quality goods and services. Thus, the focus of the quality viewpoint is the customer, who ultimately defines quality in the marketplace. Providing high-quality products is not an end in itself. Successfully offering high-quality goods and services to the customer typically results in important benefits to the organization, namely a positive company image, lower costs and higher market share, and decreased product liability (Hellriegel et al. 2001).

Although the most popular definition of quality relates to meeting/exceeding expectations, there is neither an accepted nor a best definition of quality for every situation. Definitions focusing on excellence, conformance to specifications, and fitness for use and loss avoidance have all been severely criticized in the service quality literature (Reeves & Bednar 1994). Corporations have tried several different approaches to measuring service quality. FedEx developed 12 Service Quality Indicators (SQI) to determine the level of customer satisfaction. The company tracks these indicators daily and weights each according to the impact on customer satisfaction (George & Weimerskirch 1987). Enterprise Car Rental developed a customer survey that reflected that major concerns of its customers. The company monitored scores and, with several improvements in service driven by customer feedback, finally saw its rating rise. Other service companies, like manufacturing concerns, have adopted the Malcolm Baldridge National Quality Award criteria as guidance to achieve a quality service organization (Taylor 2002).

While the evolution of quality has progressed from the manufacturing sector to the service sector in the private sector and on to the services ministries in the public sector, a definition of quality has not taken such a linear approach. Despite the amount of discussion in both academic and popular publications, the meaning of the term 'quality' remains elusive. The original meaning of the word, as a defining characteristic, carried no meaning of worth, but has evolved to the point where it is used to imply some form of value judgment (Holbrook 1994). In these cases the quality of a service or product rates it against a standard, whether real or implied. This standard may be defined by the producer, the consumer, or set by other products or standards to which it is compared.

There are two broad approaches to evaluating quality. These approaches are characterized as 'hard', i.e. there exists objective quality, measured against a standard by a third party in some way, and 'soft', i.e. the quality is based on subject (Gabbott & Hogg 1998). However, a model was developed to evaluating service quality that customers compare the service they expected with the services they perceived they received. Factors were identified other than outcomes, including the process itself, as important parts of service quality. Managing perceived service quality involved managing the gap between expected and perceived services (Gronroos 1983).

Consumers do not purchase goods or services but a bundle of benefits that the buyer expects to deliver satisfaction. Therefore, only the buyer can assess the quality of the product or service (Enis & Roering 1981). Other approaches to quality include the transcendent, product-based, user-based, manufacturing-based and the value-based. Product- and manufacturing –based definitions view quality as a precise and measurable entity and its conformity to pre-set requirements. Value-based quality is dependent on adding worth to a product, or exceeding the product's cost. Transcendent quality is readily recognizable but almost impossible to achieve. Transcendent quality is of the nature "I'll know it when I see it." User-based quality is most distinctive for use in service-based organizations and has been the most widely adapted in service organizations (Martin 1993). This defines quality strictly from the viewpoint of the customer.

While researchers discuss the implementation of service quality and base definitions of quality, there is discussion over what exactly service quality is. Consumers make two evaluative judgments about a service: 'Is it of good quality? 'Am I satisfied?'). It is the relationship between these two constructs that is the basis of disagreements (Gabbott & Hogg 1998). While both of these concepts are derived from two different research theories, both use expectations and perception as key antecedent constructs (de Ruyter, Bloemer & Peeters 1997). In addition, customer satisfaction is related to prior expectations and conceptualized as an evaluation that the experience was at least as good as it was supposed to be. This disconfirmation, or a post-evaluation of the experience that either confirms or disconfirms expectations, is framed in terms of expectancy and unites service quality and satisfaction. So, there are three determinants of customer satisfaction/dissatisfaction: expectation, perceptions and (dis)confirmation (Oliver 1993).

Other antecedents to consider are the halo or reputational effect that may influence customer satisfaction and the value of information. Several types of satisfaction have been identified: satisfaction-as-contentment, satisfaction-as-pleasure, satisfaction-as-relief, satisfaction-as-novelty and satisfaction-as-surprise. Satisfaction in the sense of service quality is viewed as post-consumption evaluation (Oliver 1989). However, there were cautions that the elimination of customer dissatisfaction (negatively unconfirmed expectations) is necessary, but not sufficient in attaining customer satisfaction (Kondo 2001). Four dimensions of service quality have been further identified: excellence as

uncompromising standards and high achievement; value as incorporates multiple attributes; conformance to specifications as reducing errors; and meeting or exceeding expectations which evaluate service from the customer perspective (Reeves & Bednar 1994).

This research will examine the quality of the service of MRS in meeting and satisfying the customers' expectations to fulfil their needs.

It now turns to the relationship between quality service and satisfaction.

2.7   Quality Service and Satisfaction

Quality service is an overall evaluation similar to attitude, and satisfaction as a specific service transaction (Parasuraman, Zeithaml & Berry 1988). Customer satisfaction is also seen as an antecedent to service quality, which is the accumulation of satisfying or dissatisfying experiences (Bitner1994; Bolton & Drew 1991; Zeithaml, Parasuraman & Berry 1988). There are focuses on transaction-specific assessments and suggest that high service quality leads to satisfied consumers (Anderson, Fornell & Lehmann 1994; Anderson & Sullivan 1993; Brady, Cronin & Brand 2002; Cronin & Taylor 1992; Hernon, Nitecki & Altman 1999).

Further, relationship is situation specific and depends on the context of the service encounter. For customers that think cognitively about the encounter, service quality precedes satisfaction. If the customer approaches the encounter emotionally, satisfaction is the antecedent of service quality (Dabholkar 1995).

The difference between satisfaction and quality can be defined from the disconfirmation perspective (Oliver 1993). There are a number of differences between service satisfaction and service quality. Satisfaction is directly influenced by the intervening variable of disconfirmation. In order to achieve satisfaction customers must have experienced a service. Satisfaction expectations are predictive, whereas service quality expectations are based on an ideal standard. Satisfaction can result from a large variety of dimensions, whereas service quality dimensions are specific. Satisfaction is influenced by cognitive and affective processes, whereas service quality is influenced solely by forms of communication (DeRuyter, Bloemer & Peeters 1997).

This research will identify the satisfaction and dissatisfaction of the customers on the service of MRS on the basis of comparing their expectation level against perception level which, the latter, is derived from actual experience in encountering the service of MRS over the years.

The explanation of the characteristics of quality service in the public sector is followed.

2.8   Characteristics of Quality Service in Public Sector

Most public sector organisations are delivering services. Services have some clear characteristics (or sometimes a lack of them) which makes them special (Ross 1999).

It is useful at this point to define the word customer and/or customer service (the process). In general terms the word customer is typically used to describe someone who purchases a product from a business but the breadth and complexity of customer/business transactions makes it difficult to define more specifically (Thijs & Staes 2008).

The general definition treats consumer behaviour as consisting of only a discrete transaction. What is lacking in this perspective is how that discrete transaction relates to other purchases that comprise the individual's consumption behaviour. In this sense the term customer is unsatisfactory and should reflect the authorizing role, influencing role and the user. Consumer behaviour includes '…a wide range of activities and behaviours, the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas or experiences' (Gabbott & Hogg 1998). Process is simply as 'synonymous with interactive quality, which relates to the interaction between the customer and the contact person' (Lehtinen 1991).

A customer can be defined as 'an entity that interacts with the company' (Weston 1999). Customer is the most important part of the production line. Quality should be aiming at the needs of the consumer, present and future' (Deming 1986). While service organizations attempt to use the same methods to achieve service quality as goods manufacturers, services and service quality are differentiated from goods in several ways and a variety of definitions of services have emerged over the years. Most of these definitions attempt to capture one or another characteristic without encompassing all aspects of services.

One of the most comprehensive descriptions is the view that a service is an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and/or systems of the service provider, which are provided as solutions to customer problems (Gronroos 1983).

Quality service is the "consumer's overall impression of the relative inferiority/superiority of the organization and its services" (Gronroos 1983; Bitner & Hubbert 1994). Services are different from goods in that goods are tangible objects, have great consistency and are produced to meet certain standards). Services are dependent on the interaction between client and service provider (White & Abels 1995). 'The only criteria that count in evaluating service quality are defined by customers. Only customers can judge quality. But all other judgments are essentially irrelevant' (Zeithaml, Parasuraman & Berry 1990a). Service quality can be 'the extent of discrepancy between customers' expectations or desires and their perceptions' (Zeithaml, Parasuraman & Berry 1990b).

Several key factors that shape customers' expectations: word of mouth communications, personal needs, past experience and external communications from service providers (Zeithaml, Parasuraman & Berry 1990). Delivering service quality is an essential strategy for success, and improving service quality can increase favourable behaviour intentions and decrease unfavourable intentions (Zeithaml, Berry & Parasuraman 1996).

Service is a product and there are differences between service and manufacturing, including captive markets, generation of new material, direct transactions with masses of people, a large volume of transactions and many transactions with small amounts of money (Deming 1986). Services is more or less intangible, and are activities or a series of activities rather than things, heterogeneous as service to one customer is not exactly the same as the same service to the next customer, are, at least to some extent, produced and consumed simultaneously, and the customer participates in the production process, at least to some extent (Bowen & Cummings 1990).

In most cases, services have characteristics that distinguish them from the manufacturing products, or goods, that total quality management was originally designed to improve. One property of services is their intangibility. Services are performances rather than objects. In the sense of improving services, it is more difficult for an organization to count, measure, and inventory or verifies services in advance of consumption (Parasuraman, Berry & Zeithaml 1991b).

A second characteristic of services is their heterogeneity. Services are difficult to standardize and can vary between service organizations as personnel and procedures change. In the production process, customers often can influence the production process and their relationship with the producer.

The third critical characteristic of services is the inseparability of production and consumption of services. This means that the customer is most often present when the good is produced and consumed (Martin 1993).

A fourth characteristic of services is their perishability. Unlike goods, which often have a measurable shelf life, services cannot be saved or inventoried If a service is not used it is lost. These characteristics underscore the need to understand and improve customer service and address quality issues (Garvin 1988).

 Other studies have found that between 24 and 99 activities constitute customer service activities (Nayvar 1995), although a review investigating the key dimensions of customer service revealed 17 dimensions (Donaldson 1995). Some researchers argue that there is one underlying dimension, and others argue that there are five major dimensions (Parasuraman, Zeithaml & Berry 1988).

Knowing exactly how customers might be affected by different aspects of a service is also important, particularly if those things that cause dissatisfaction are not the opposites of

those that cause satisfaction. These have been categorized into three factors: hygiene factors as those things expected by the customer and causing dissatisfaction when not delivered; enhancing factors as those things which may lead to customer satisfaction but when not delivered do not necessarily cause dissatisfaction; and dual threshold factors as those things which when delivered above a certain level of adequacy lead to satisfaction but when delivered at a performance level perceived to be below that threshold cause dissatisfaction(Bennington & Cummane 1998).

Citizens and customers have different faces and different roles. Sometimes they are customers of service delivery and sometimes they act like citizens when paying taxes, having to obey the rules. This is also translated in a difference in public and private service delivery. Moreover most public sector organizations are delivering services. Services have some clear characteristics (or sometimes a lack of them) which makes them special and not the same as products (Thijs & Staes 2008).

In this research those who receive the service of MRS is called 'customers' and they are interacting with the service of MRS as importers of goods from overseas for different purposes, and also as taxpayers in paying their tax on imported goods, waged earning and business income. This research recognises that these customers are external to MRS, and they play dual roles of being customers of service delivery, and at the same time or sometimes act like citizen responsible for paying taxes and complying with the rules and laws of the country without the option to do so or not. Thus, this research uses the term 'customers' for those who are using the services of MRS although they are required to pay tax on their imported goods; and their expectations and perceptions over the service of MRS will be used to identify the quality of the service delivery of this government's ministry.

It now turns to the discussion of the concept of public and private service delivery.

2.9 Public and Private Service Delivery

It is important to deal with the difference between public and private services. However, it is possible to overstate the differences between public and private services. Many actually face similar situations and a number of the key lessons are transferable. Perhaps a greater danger is over-simplifying our understanding of public services; they clearly cover an enormous range of types of services, which vary in a number of important respects (Thijs & Staes 2008). The target group can be the public as whole, small sub-sets of the population, businesses, the community/voluntary sector, and other public sector bodies. The nature of use includes regulatory and compulsory versus voluntary services, those that are used on one-off occasions and episodically versus those used regularly, those that are free versus those with costs associated, and the methods of contact and service delivery. The market position such as specialist services versus services that cover a number of functions, and monopoly suppliers versus those who face competitors where alternatives are available.

Citizens/customers are the recipients or beneficiaries of the activities, products or services of public-sector organizations. Citizens/customers need to be defined, but not necessarily restricted to only the primary users of the services provided (EIPA 2006).

In the public sector there are different factors at play (Cabinet Office 2006). Firstly, competition does not play the same role, and the implications of customer choice are different. However, "customers" of public services do have a choice: they can choose to "opt out" (either entirely, or by failing to deal with requirements correctly). The costs of this end up with the government again, which has to enforce compliance, provide the help lines, or deal with the fall-out of a failed intervention. The way in which a public body is organized can disguise the cost of this unless it takes the trouble to find out, for example, how much time its front line staff spends with customers who are confused or lack of confidence that they are being dealt with properly.

Secondly, although people want their needs met as individuals, as citizens and taxpayers they still want a public sector that exists for the whole population and which provides services that are high quality as well as efficient; it is not just parents who are interested in schools.

Thirdly, unlike most of the private sector, public sector organizations do not have the luxury of electing and focusing on their preferred and most profitable customers. They need to cater for the needs of the whole community. Indeed, for many services, the "customers" of greatest concern are often the hardest to identify.

Fourthly, in many cases, the aim of an intervention is long term and reliant on a complex range of interrelated factors. Success relies on engaging a number of people in a coherent way – tackling child obesity or teenage pregnancy, for example, will involve reaching parents, teachers and role models as well as the child or teenager. Often, success will be years in coming and the conventional cost/benefit analysis used in the commercial world will simply not apply.

These factors combine to build a picture which shows that although the customer role is different in the public sector, the citizen has a right to be treated as a customer, and that public service provision must be equitable and fair to all, regardless of background. The gap between the public and private sector, from the citizen's point of view, is narrowing. Competition in the private sector will shape the future service delivery environment, against which the public sector will be judged. Governments need to rise to the challenge with all that this implies (Thijs & Staes 2008).

'Why do we persist in calling taxpayers customers? Taxpayers don't have the option of buying or not buying goods or services from us; they can't shop around for better value from other suppliers of similar goods; they can't ask for their money back if they don't like what we've done. Only customers can do things like that. We treat prisoners like customers!

Of course those people sometimes did terrible things, but it is our task to treat them according to standards and norms. These standards are part of our service delivery' (Thijs & Staes 2008).

As already stated above, this research uses the term "customers" to define those who are using the service of MRS although the services of MRS, prescribed in the laws, include the collection of the payment of taxes from the public. MRS has the objective to improve its service delivery to the users of its services as part of the government public sector reform initiated in 2001. A Service Charter has been produced and sets out the specific time spent to complete specific task. This time scheduled for each task has become the norm and standard for service delivery of MRS to the public, which are also the customers of MRS for the purpose of this research.

The concept of satisfaction and expectation for quality service is important to be considered, which is turned to next.

2.10 Concept of Satisfaction and Expectation for Quality Service

2.10.1 Concept of Satisfaction

Understanding and measuring satisfaction is a central concern. Satisfaction is a widely accepted concept despite real difficulties in measuring and interpreting typical approaches to its assessment. The most common approach is the use of general satisfaction surveys undertaken every few years and designed to track changes over time. There are, however, a number of difficulties with the concept of satisfaction (Communities Scotland 2006).

It is not static, but changes over time; new experiences and levels of awareness will alter the potential levels of satisfaction that could be achieved. It is likely to be complex and the result of a mix of experiences before, during and after the point at which it is measured. It occurs in social contexts which are varied and changing and may be unpredictable or inexpressible to the service user. It may be difficult to express the reasons for satisfaction particularly where less tangible aspects of services are being considered. It may be easier to express the reasons for dissatisfaction, particularly if this is the exceptional state. Without understanding the causes of satisfaction, there is a danger that we might treat a "good result" as a reason not to change anything, seeing it largely as a PR tool (Thijs & Staes 2008). The expectation of the public in Tonga for the service delivery of the government including MRS has been raised when the government has launched its public sector reform program in 2001, which included MRS. At the same time, the frequent travels of most of the public overseas have given them the opportunity to access to different standard of services which would influence their view on the standard of service that should be provided by the government and its ministries. Thus the level of expectation of the public about the service MRS would be varied base on new experiences over time.

Satisfaction refers to the extent in which the results produced for the customer and the process this customer has gone through to obtain these results meets the customer's expectations. It is thus inversely proportional to the gap between customer expectations and perceptions (Harvey 1998). Expectations can be defined as a level of service which the customer hopes to receive (Zeithaml & Bitner 2003). Customers form perceptions that they will use to judge the quality of a service experience and these perceptions change over time and vary from person to person and from culture to culture (LaBay & Comm 2003). If customers perceive the actual delivery of the service as better or equivalent to what was expected, they will be satisfied. Likewise, if the actual delivery of the service falls below expectations, they will be dissatisfied and will judge the quality according to their degree of satisfaction or dissatisfaction with the service (Lovelock & Wright 1999). The importance of understanding the gap between different stakeholders' perceptions is further supported in the services marketing literature on customer service (Krepapa, Berthon, and Webb& Pitt 2003).

In order to get a better view on satisfaction, some key elements of it are described in this part. The model that has underpinned the satisfaction approach is the disconfirmation theory, which suggests that customer satisfaction with a service is related to the size of the disconfirmation experience, where disconfirmation is related to the person's initial expectations. If experience of the service greatly exceeds the expectations clients had of the service, then satisfaction will be high, and vice versa. In the service quality literature, perceptions of service delivery are measured separately from customer expectations, and the gap between the two, P(erceptions) – E(xpectations), provides a measure of service quality and determines the level of satisfaction (Thijs & Staes 2008). The service quality gap is shown in Figure 4 below. Customer has expectation of what the organization should respond to his needs based on previous experiences and feedbacks from others. When expectation is not met from the actual experience a performance gap is mentally created. That is the challenge for MRS and any organization to find out from customers or clients if there is a performance gap or not, and should devise a customer service strategy to respond when critical performance gaps have been identified.
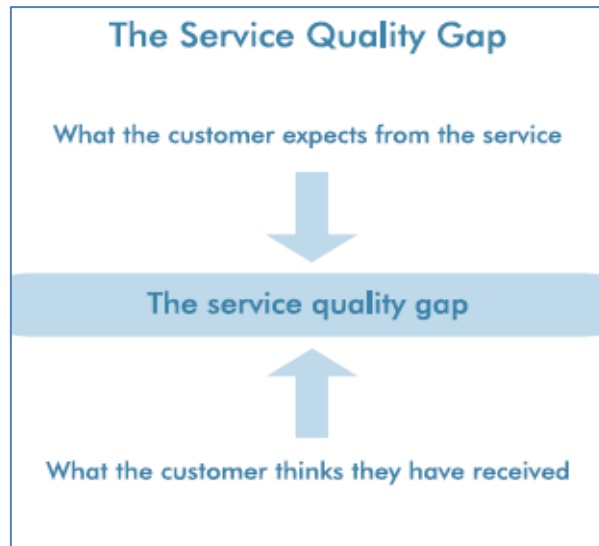
FIGURE 4: THE SERVICE QUALITY GAP
(*Source:* **Adapted from Parasuraman, Zeithaml & Berry 1985)**

Customers have developed a heightened perception of quality, become more demanding, and less tolerant of assumed shortfalls in service and product quality (Douglas & Connor; Frost & Kumar 2000). Customers have become more willing to complain and transfer their allegiances to perceived providers of quality service (Palmer 1998). Customer satisfaction and loyalty, secured through high quality products and services providing value for money, for customer, are essential for long-term survival, let alone long-term success (Robledo 2001). Satisfaction and loyalty are two different concepts; satisfaction is attitudinal and loyalty is behavioural. While customers who are merely satisfied may often purchase from competitors due to sheer convenience, promotions, and/or other factors, loyal customers tend to spend more, are willing to pay higher prices, refer new clients, and are less costly to do business with (Evans & Lindsay 2002). Statistics show that the typical company gets 65 per cent of its business from existing customers and its cost five times more to find a new customer than to keep an existing one happy (Norman 1998). A firm cannot create loyal customers without first creating satisfied customers; this occurs when products and services meet or exceed customer expectations (Evan & Lindsay 2002).

A customer service requirements command the structure of the supply chain, including manufacturing, marketing, and logistics, understanding such requirements is a fundamental step for design of a customer strategy that meets customer expectations (O'Lauhghlin & Capacino 1994). These expectations have been pointed out as the main competitive benchmarks for evaluating customer service, as merely comparing the performance of different suppliers does not lead to the identification of areas of potential improvement (Stock & Lambert 1992).

It is common that customers perceive their suppliers logistics performance as inferior to what the suppliers themselves perceive (Lambert, Stock & Sterling 1990; Hoplins, Strasser,

Hopkins & Foster 1993). Thus, knowing what the expectations of their customers are, allows companies to establish customer service strategies which targets the attributes that are actually important, so as to offer neither more or less than customers expect (Lambert 1994). Central to any effective management of customer service has to be the measurement of service quality performance and the response of customers to that performance (Christopher, Payne & Ballantyne 1993).

In general, product or service quality measures are essential to find out information that is really important to customers about each product or service. This information can help to drive the new product design process, which fits the customers' requirement (Brown 1996). Moreover, measuring product and service quality is identifying information on what customers want as well as what dimensions of products or services need to be measured and controlled. However, since quality alone as a single non-financial measure could not satisfy the need to measure the overall performance of organizations, the call of an integrated measurement system still remains (Thijs & Staes 2008).

This research provides the opportunity to gauge the quality of the customer's service of MRS, based on assessing their level of expectation and perception, after eleven years from the implementation of the government public sector reform to improve its service delivery. The research findings will indicate whether customers are satisfied with MRS Service or not, and what can be done to resolve performance identified, and to enhance those service aspects that are at acceptable level.

Having described the concept of satisfaction the importance of managing customer satisfaction for public service is followed.

2.10.2   Managing of Customer Satisfaction for Public Service

It is very important for government and MRS to manage customer's satisfaction over time. Governments have to be more responsive to society's needs and demands. Public-sector organisations are being reformed in order to provide better, faster and more services. However, quality, quantity and speed are not the only new competences that society requires from its government. Since the pace of societal change is accelerating, government should equally be able to respond to changing demands by offering new solutions. Secondly, governments reform with the purpose of re-establishing trust in government. Governments need to provide more choice, democracy and transparency by interacting with citizens/customers at all stages of the policy and service delivery process. This approach does not mean, of course, that citizen/customers always get exactly what they want (Thijs & Staes 2008).

However, successful organizations use customer needs and expectations as a starting point, developing proposals around their customers' needs and expectations, also meeting other corporate imperatives. Managing satisfaction therefore has to do with

managing services and/or products, but also with managing expectations and perceptions of the citizen/customer (Thijs & Staes 2008).

Driven by global competition, advances in technology and the offerings of leading commercial players have raised the standard of what constitutes an acceptable level of service. If we want our services to be used and our interventions to succeed, we need to meet the public on their terms and manage needs and expectations more clearly along the way to see the results in satisfaction. The dynamic way of getting citizens/customers of public services involved so as to enhance their perceptions, expectations and commitment through active participation, has been a common strategy to obtain a legitimate level of quality of and satisfaction with public services (Thijs & Staes 2008).

These trends are not going to reverse. Indeed, the government has to assume that it will have to work increasingly harder to engage the public over the next decade. And government has to do so with fewer resources. The government's capacity to increase spending is limited by prudence and by an increasingly well informed public demanding the type of high quality and low-cost service, which they get from brand leading airlines and supermarkets (Thijs & Staes 2008). MRS has acknowledged the challenge of resource limitation to carry out its services to the satisfaction of its customers. 'During the year, among other factors, the local economy still experienced the impacts of the global economic downturn, which has provided one of the toughest challenges to the Ministry's overall operations. At a time when resources have been harder to come by for us and for the customers, the demand for our services has been that much greater. In effect, we have had to achieve more with less' (Ministry of Revenue Services 2010).

The citizen/customer has a different relationship with public services than with the private sector. By and large the public are more ambivalent about government services, not giving them much thought at best, and at worst, wanting to have as little to do with them as possible. Nevertheless, the public sector has come under growing pressure to match rising private-sector standards. What has been achieved by leading commercial providers shows what is possible: *I only need to tell my bank once that I've moved, so why do I have to tell the "government" so many times*? The media also encourages citizens to become more vocal and demanding (Thijs & Staes 2008).

Managing customer satisfaction is therefore indispensable for public organizations, to see if they are doing the right things and if they are doing things right. In being a public service, this is not always the easiest thing to do, due to the nature of the "client" on the one hand, and the nature of public services on the other. Citizens/customers have different faces and different roles. Sometimes they are customers of service delivery and sometimes they act like citizens when paying taxes, have to obey the rules. This is also translated by a difference in public and private service delivery. Moreover, most public sector organizations are delivering services. Services have some clear characteristics (or sometimes a lack of them) which makes them special and not the same as products (Thijs & Staes 2008).

The nature and significance of the "customer" needs no explanation in the private sector. The best private sector companies know that a deep understanding of their customers' needs is essential to ensure that they provide the correct "fit" in terms of products and services (Thijs & Staes 2008). Failure to do this will make it difficult for them to compete and as a result, they risk being forced out of the market. Public sector organizations can have a complex relationship with the public. In some cases it can be characterized as a customer relationship – especially in the case of direct service delivery by public sector organizations – and in other cases as a citizen relationship where the organization is involved in determining and creating the environment in which economic and social life is conducted.

The nature of client or customer satisfaction is different, as opposed to citizen satisfaction (Schmidt & Stricklan 2000). The two are distinct. When it is looking at customer satisfaction, it is asking question directly about the delivery of services at an operational level (*doing the things right*). Citizen surveys assess issues such as whether certain services should be provided by the public sector at all (*doing the right things*). The priority of users is for a better service, but as *citizens* they may also recognize that resources may be better used elsewhere (Dinsdale & Marsden 1999).

The challenge for the public sector is to balance the two distinct, and often competing, factors of value for money for citizens, with high quality and accessible services for clients. There are also a number of features of public sector services that make them different from private sector services. Many models of service quality focus on the aim of increasing consumption of services and/or increasing customer loyalty. For many public services these considerations are in theory less relevant, as they are monopoly suppliers, customers are required to consume the services such as regulatory services or they are in fact the opposite of the aims of the service, where a reduction in consumption would be preferred such as health and social services (Dinsdale & Marsden 1999). The service of MRS is not providing by any other institutions and it is therefore a monopoly.

The public sector is changing constantly and rapidly in order to cope with a lot of challenges and to respond to the many new needs and demands in society. The place and the role of the citizen/ customer have become of very high importance in these changes and reforms. Managing customer satisfaction is therefore indispensable for public organizations in order to see if they are doing the right things and if they are doing things right (Thijs & Staes 2008).

Traditionally, the political leaders determine what services are to be provided, on what terms and to whom; bureaucrats and professionals subsequently organize and deliver the services.) The role of the citizens is largely passive. A new setting has emerged and the range of actors involved – institutionally or on an *ad hoc* basis – in the production; delivery and evaluation of public services has grown and the role of the citizen has become more active (Thijs & Staes 2008).

This changing role of citizen/customers of public services has an impact on the policy and management cycle as a whole. Traditionally, the policy and management cycle is dominated and controlled by politicians and administrators. Now, citizens/customers are increasingly involved in this policy and management cycle at different stages (design, decision, implementation and monitoring, and evaluation). Citizen/customers become co-designers, co-deciders, co-producers and co-evaluators. Managing satisfaction is therefore more than only measuring satisfaction at the end of the line in the evaluation stage (Thijs & Staes 2008).

The finding from this research will help MRS knowing the level of expectation its customers has toward its service, and should able to manage that level of expectation to what it can afford to deliver, considering the legal and resources constraints it is operating in.

The role of expectation and perception in determining quality service is explained below.

2.11 Role of Expectation and Perception in Determining of Quality Service

It has been argued that customers form expectations prior to the purchase of a service or product. These expectations are the standard against which the service performance will be judged. A comparison of expectations and perceptions of customers of MRS in this research will result in either confirmation or disconfirmation. The disconfirmation experience can be either negative or positive. When service quality is lower than expectation a negative disconfirmation occurs. Consequently, when a higher than expected service quality transaction is perceived, a positive disconfirmation results. A neutral disconfirmation may occur when expectations are confirmed and perceived service quality is equal to expected service quality (de Ruyter, Bloemer & Peeters 1997).

Satisfaction is viewed as 'the customer's response to the evaluation of the perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance of the product as perceived after its consumption' (Tse & Wilton 1988). The concept of service have been broadened and strengthened as well as the understanding of service quality and the disconfirmation paradigm.

Expectations have a central role in influencing satisfaction with services, and these in turn are determined by a very wide range of factors. It is arguable that the range of influences on expectations is even wider for public services (Thijs & Staes 2008).

Given the central importance of expectations, it is important to understand how they are formed. The basic key factors most commonly seen to influence expectations are as follows (Thijs& Staes 2008):

• *Personal needs.* That is any customer or user of a service will have what they regard as a set of key personal needs that they expect the service to address. These will vary from

service to service and from customer to customer. A clear understanding of these needs is necessary to design an appropriate service.

• *Previous experience.* That is many will have had service encounters before. Their previous experience will in part influence their future expectations of the service. This can include their past experience of the service in question, but also of other services – for public services. Expectations will be influenced by experience of similar private services.

• *Word of mouth communications.* Expectations will be shaped by communications from sources other than the service provider itself. This can include family, friends and colleagues, but more widely the media and other organizations, such as audit agencies.

• *Explicit service communications.* Statements from staff or from leaflets or other publicity material can have a direct impact on expectations. Good examples are customer charters.

• *Implicit service communication.* This includes factors such as the physical appearance of buildings such as renovation which may lead the customer to expect other service aspects to be of higher quality.

The impact of brand image or service reputation covered by word of mouth communications above on expectations is seen as central in a number of public and private sector studies. This would seem to be a particularly important concern for public services, for two key reasons. Firstly, it is argued that in the absence of detailed information about competitor services or alternatives, the importance of image is increased. This is likely to make this factor a central aspect of views of many public services, given the generally more constrained choice and limited benchmarks available to customers (Thijs & Staes 2008).

Furthermore, the range of impacts on the image of public services is likely to be somewhat wider than for private services. In particular, it is argued that expectations of public services can be influenced by views of government and politicians (Thijs & Staes 2008). For example, some contend that '…the distinction between politics, government and the public service may seem blurred in the eyes of many and therefore the public's perception of honesty and integrity in their government will affect their assessment of the services they receive from these institutions' (Dinsdale & Marsden 1999). Figure 5 shows the sources of customer expectation. It is important that MRS recognise how its customers or clients form their expectation about its service, and should deal with those issues that adversely affect its ability to meet their expectations, and manage their expectation on an on-going basis to satisfy their needs. This would create and enhance good social capital for MRS that will serve it well in its customer service and also meeting the annual financial targets for the government budget.

Sources of Customer Expectations
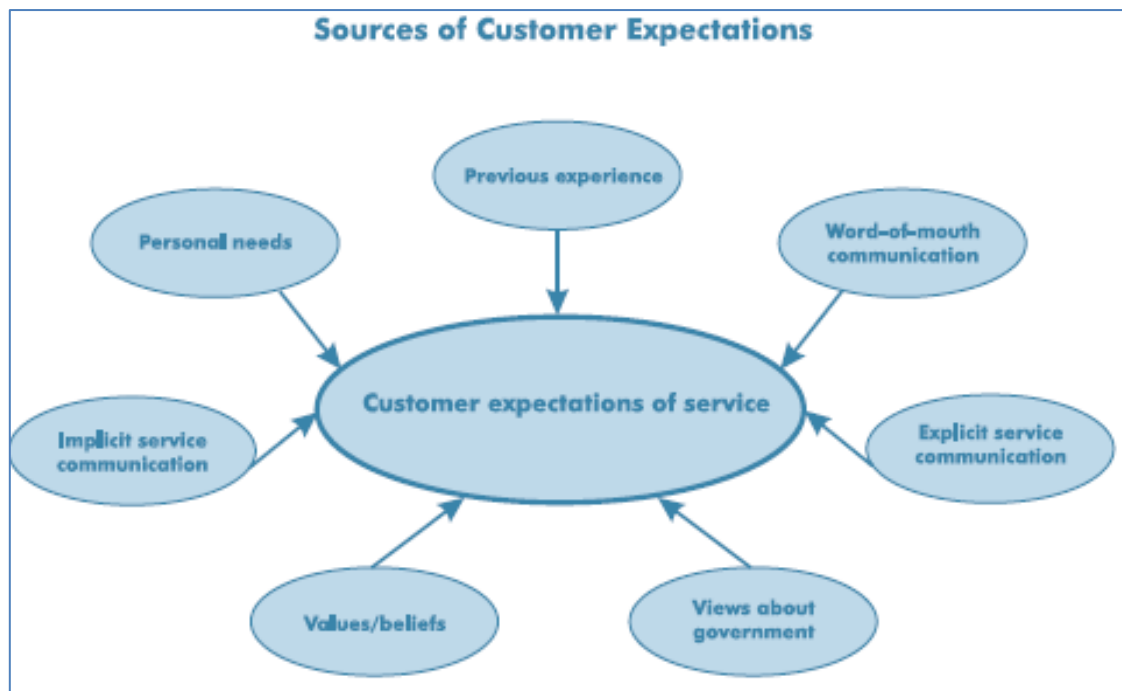
FIGURE 5: SOURCES OF CUSTOMER EXPECTATION
(*Source:* **Adapted from Thijs & Staes 2008)**

Expectations of public services are not only influenced by direct communications from the service, or even what the media says about service itself, but also it is generally thought that the impact of this factor may be relatively minor when asking about very specific service elements, but it is likely to have a major impact in more global ratings (Thijs & Staes 2008). This is reflected in a number of studies. Global assessments of public services were seen to result in stereotypical, critical responses – influenced by the negative connotations of big, inefficient governments. However, the more specific questions are, the more positive perceptions are seen to be. Similarly, in a Canadian study, when researchers compared overall ratings of public services with private services, views of public services were less positive. However, this was much less noticeable when respondents were asked to compare specific public and private services (Bachelet & Brookes 1995).

The service of MRS has been discussed in the media relating to the allegations of corruptions and dissatisfactory practices and that has painted an overall impression that the quality of the service of MRS is poor. However, this research will ask specific questions to the customers to get their collective view to compare with that the local media has run against MRS to see if they are agreed or otherwise.

It would also argue that, in the context of public services in particular, there may be a case for including personal values or beliefs as an influence on expectations, independent of the other factors included in the model. This relates to what people view as the role of public services: reflecting their dual role as clients and citizens (Thijs & Staes 2008).

The overall model of key factors influencing expectations of public services as shown above is widely recognized that the nature and impact of each of these influences will vary for different customers and services. This is not an additional determinant of expectations in the same way as those outlined above, but it is critical to understand when making comparisons between public services as for some services, the greatest influence on the level of expectations is likely to be the nature of the customer group that is being served (Thijs & Staes 2008). This proposition will be tested in this research using the views of three main customers of MRS: individual customers sub-group, business customers' sub-group and government department customers' sub-group, who are using frequently the services of MRS.

It is crucial to understand how customers perceive the quality of the product offering, including the service element, and how these perceptions impact upon the customers' ultimate purchase decision). By understanding such perceptions of quality, the firm will then be better equipped to recognize the gaps (if any) that exist between the customers' expectations and their perception of customer expectations (Douglas & Connor 2003).

A customer's evaluation of service quality and the resulting level of satisfaction are thought to determine the likelihood of repurchase and ultimately affect bottom-line measures of business success(Lacobucci, Grayson & Ostrum 1994). The perception of service quality may be considered as an antecedent to satisfaction, establishing a relationship between these constructs (Parasuraman, Zeithaml & Berry 1988).

The model for measuring of service quality is discussed in the next section.

2.12 Measurement of Service Quality

The perception and the SERVQUAL Model will be used for measuring of the service quality.

2.12.1   Perception and the SERVQUAL Model

The Servqual (Service Quality) model starts from the basic gap between perceptions and expectations (Parasuraman, Zeitham & Berry 1985). Servqual is a service quality measurement tool that assesses both service perceptions and expectations across a range of different service characteristics. Using Servqual, the gap between expectations and perceptions can be analysed to help managers see where to target and prioritize improvement efforts for the best effect. General satisfaction surveys tend to focus on customer perceptions of the services they are currently getting and not their expectations.

The quantity and depth of research into service quality was limited and did not provide a sound conceptual foundation for investigations into service quality. An exploratory research was conducted into developing an instrument, SERVQUAL, which would measure service quality in four service categories: retail banking, credit cards, securities brokerage and product repair. In researching potential causes of service quality shortfalls the team

identified gaps between the company executive's perceptions of service quality and the tasks associated with service delivery to customers (Parasuraman, Zeithaml & Berry 1988).

In additions, the literature shows that SERVQUAL has been adapted to measure service quality in various differing industries (Brown, Churchill & Peter 1993). Table 2 sets out a short list of some of the industries where authors have used the SERVQUAL model in their researches. This model has been adopted in various institutions in both private and public sector, and the experiences with its applications in government services are relevant for the consideration of the SERVQUAL model to employ in this research for assessing the quality of the service of MRS from the customers' perspective.

Table 2: Published Studies on SERVQUAL in Various Researches

Industry	Examples of authors using SERVQUAL
Retail	Mehta, Lalwani & Han 2000; Ma & Niehm 2006; Long & McMellon 2004; Gagliano & Hathcote 1994; Lee &Lin 2005; Carman 1990; Bouman & van der Wiele 1992; Teas 1993a; 1993b
Banking	Newman 2001, Zhu, Wymer & Chen 2002; Blanchard & Galloway 1994; Arasli, Mehtap-Smadi & Katircioglu 2005; Cui, Lewis & Park 2003; Jabnoun & Al-Tamimi 2003; Angur, Nataraajan & Jahera 1999; Kwon & Lee 1994; Wong & Perry 1991
Hospitality and Tourism	Gabbie & O'Neil 1996; Juwaheer 2004; Pawitra & Tan 2003; Wakefield & Blodgett 1996; Atilgan, Akinci & Aksoy 2003; Kvist & Klefsjo 2006; Saleh & Ryan 1992; Johns 1993; Fick & Ritchie 1991
Education	Sahney, Banwet & Karunes 2004; Cook, Heath, Thomson & Webster 2003; Nagata, Satoh, Gerrad & Kytomaki 2004; Soutar & McNeil 1996; Pariseau & McDaniel 1997; Galloway 1998; Anderson 1995; Rigotti & Pitt 1992; Ford & Joseph 1993; McElwee & Redman 1993; Narasimhan 1997
Telecommunication	Van der Wal, Pampallis & Bond 2002; Badri, Abdulla & Al-Madani 2005; van der Wiele, Ball & Millen 2003; Philip & Hazlett 2001; Wang & Lo 2002; Sivabrovornvatana, Slengthai, Kraivit & Paul 2005
Healthcare	Kilbourne, Duffy & Giarchi 2004; Curry & Sinclair 2002; Youssef, Nel & Bovaird 1995; Koorneef 2006; Mostafa 2005; Babakus & Mangold 1992; Mangold & Babakus 1991; Reidenbach & Sandifer-Smallwood 1990; Soliman 1992; Vandamme & Leunis 1993; Walbridge & Delene 1993; Bebko & Garg 1995; Bowers, Swan & Koehler 1994; Clow, Fisher & O'Brien 1995;Headley & Miller 1993; Licata, Mowen & Chakraborty 1995; Lytle & Mokwa 1992; O'Connor, Shewchuk & Carney 1994; Woodside, Frey & Daly 1989
Government	Donnelly, Kerr, Rimmer & Shiu 2006; Donnelly, Wisniewski, Dalrymple & Curry 1995; Brysland & Curry 2001; Scott & Shieff 1993; Fusilier & Simpson 1995
Business-to-Business	Gounaris 2005; Mehta & Durvasula 1998; Green 1998; Durvasula, Lysonski & Mehta 1999, Peterson, Gregory & Mucch 2005; Chumpitaz & Paparoidamis 2004; Yanamandram & White 2006; Kong & Mayo 1993
Transportation	Cavana, Corbett & Lo 2007; Sultan & Simpson 2000; Frost & Kumar 2001; Tripp & Drea 2002; Wisner 1999; Rhoades & Waguespack 2005; Babakus, Pedrick & Richardson 19934

(Source: **Adapted from Yuen 2009)**

The extent to which services meet customers' needs or expectations is one measure of service quality. The fact that frequently little is known about customer expectations makes it difficult to interpret the ratings produced by satisfaction surveys. Servqual is designed as a measurement instrument.

Servqual is a survey tool that calculates "gap scores" to measure the difference between expectations and perceptions for different aspects of services. It provides a useful structure for thinking about which aspects of a service affect the quality. Elements of the SERVQUAL approach still appear in a large number of customer satisfaction studies in both the private and public sector, and when properly applied, can provide some useful insights (Thijs & Staes 2008).

Gap theory (that is Perceived minus Expected) suggests that the difference between consumers' expectations about the performance of a retail sector and their assessments of the actual performance of a specific firm within that sector drive the perception of service quality. The Gaps model categorizes any discrepancy between expectations of service performance and actual service performance as a gap. The Gaps model is designed to measure quality, diagnose quality problems, derive solutions to problems and promote an understanding of service quality and its determinants. It was found in the course of their study that the key to ensuring good service quality was in meeting or exceeding what consumers expected from the service (Zeithaml, Parasuraman & Berry 1988).

The model that is behind the Servqual methodology is shown below in Figure 6. This model provides the framework for the focus of this research to identify any gap in the service of MRS in meeting its customers expected service relative to their perceived service which is GAP 5 in the model.
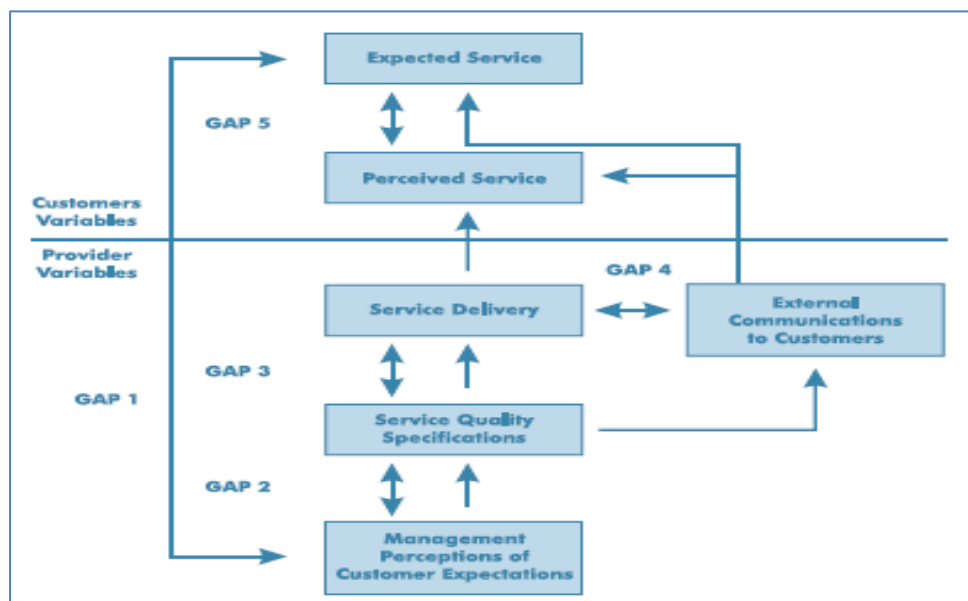
FIGURE 6: PERCEPTION AND THE SERVQUAL MODEL
(*Source:* **Adapted from Parasuraman, Zeithaml & Berry 1985)**

The Servqual-model is also known as the "gap-model" (Zeithaml *et al.* 1996) which is a means of describing customer dissatisfaction in the context of service quality. The model suggests that service quality is affected by lack of communication, lack of performance standards, poor worker skill level and poor leadership. It posits five service gaps that affect the satisfaction of service quality and they are as follows:

- Gap 1 (positioning gap): This pertains to the difference between customers' expectations and management perceptions of the customer's expectations and the relative importance that customers attach to the quality dimensions. The gap could be a result of the lack of a marketing research orientation, inadequate upward communication and too many layers of management.

- Gap 2 (specification gap): Concerned with the difference between what management believes the consumer wants and what the consumers expect the business to provide. This could occur as a result of inadequate commitment to service quality, a perception of unfeasibility, inadequate task standardization and an absence of goal setting.

- Gap 3 (delivery gap): Concerned with the difference between service quality specifications and the service actually delivered. In other word, this is the difference between the service provided by the employee of the business and the specifications set by management. This discrepancy could arise as a result of role ambiguity and conflict, poor employee-job fit and poor technology-job fit, inappropriate supervisory control systems, lack of perceived control and/or lack of teamwork.

- Gap 4 (communication gap): The difference between service delivery and what is communicated about the service to customers. This gap exists when the promises communicated by the business to the consumer do not match the consumer's expectations of those external promises. This discrepancy could occur as a result of inadequate horizontal communications and propensity to over-promise.

- Gap 5 (perception gap): The difference between the customers' expectations of the service and their perceptions of the service performance. This discrepancy could occur as a result of the influences exerted from the customer side and the shortfalls (gaps) on the part of the service provider. In this case, customer expectations are influenced by the extent of personal needs, word of mouth recommendation and past service experiences.

Gaps 1 to 4 are within the control of an organization and need to be analysed to determine the cause(s) and changes(s) to be implemented which can reduce or even eliminate Gap 5.

This research will simply focus on assessing Gap 5 to identify the factors of the service dimensions of MRS that are satisfactory or dissatisfactory to the customers, and devise a customer service strategy to resolve the performance gaps identified and to manage expectation in a systematic ways over times.

The service gaps are normally based on observations of the service providers with limited inputs from the customers (Zeithaml*et al* 1996). Generally, a low mean score reflects a large gap in service quality. Similarly, a higher means score will reflect a smaller service quality gap. With SERVQUAL and Gap Analysis Model, customers are asked to complete a questionnaire on the basis of a seven-point Likert evaluation scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The measures of service quality are then derived by subtracting the expectation scores from perception scores, which can also be weighted to take account of the relative importance of each quality dimension. These importance score allow for managers to gain an invaluable insight and enable them to focus their attention where it is most needed or have the most impact. The scores across all the questionnaires are summed up and averaged to find a score for each question. The results of the questions, within each dimension, are then averaged to obtain a score for each dimension which can then be used to highlight how well an organization is performing in light of customer expectations (O'Neil, Wright & Fitz 2001).

The advantages of adopting such SERVQUAL/ gap analysis model are clear and can be summarized as follows (Yen 2009):

- It provides for a clear indication of the company's performance in the customers' eyes, both individually and en mass.
- It helps prioritize the customers' needs, wants and expectations by identifying what is most important from their perspective.
- It allows the organization to set an expected standard of performance that can then be communicated to all staff and patrons.
- It helps to identify the existence of any gaps between customers and providers, thereby helping to focus improvement efforts by directing organizational energies at closing these gaps.

The SERVQUAl/Gap Analysis Model has been subjected to several criticisms and Table 3 below outlines the major criticisms. It also highlights the various authors supporting such criticism across different sectors. As a result of these criticisms, an alternative method of assessing service quality based on the importance/performance paradigm is highlighted. The consideration of the strengths and weaknesses inherent in the analysis model is relevant to adapt the model to suit the purpose of this research for exploring the quality of the service in the public sector in Tonga based on the performance of MRS.

TABLE 3: CRITICISMS OF SERVQUAL AND GAP ANALYSIS MODEL.

Criticism	Description	Authors
Paradigmatic objections	It is based on an expectations disconfirmation model rather than an attitudinal model of SQ. It fails to draw on extant knowledge in economics, statistics, and psychology.	Cronin & Taylor 1994, Grayson & Omstrom 1994; Oliver 1993.
Gaps model	There is little evidence to show that customers assess SQ in terms of performance minus expectations gaps. It fails to capture the dynamics of chaining expectations.	Churchill & Surprenant 1982; Oliver 1980; Kahneman & Miller 1986; Babakus & Inhofe 1991; Teas 1994; Wotruba & Tyagi 1991; Hardie, Johnson & Fader 1992.
Process orientation	It focuses on the process of service delivery and not the outcomes of the service encounter.	Gronroos 1984; Lehtinen & Lehtinen 1982; Hedvall & Paltschik 1989; Leblanc & Nguyen 1988; Gagliano & Hathcote 1994; Babakus, Pedrick & Inhofe 1993; Spreng & Sing 1993; Ford, Joseph & Joseph 1993; Brown, Churchill & Peter 1993.
Expectations	It fails to measure absolute SQ expectations.	Teas 1993a; 1993b; Gronroos 1993; Andersson 1992.
Item composition	Four or five items are inadequate to capture the variance within, or the context-specific meaning of, each SQ dimension	Carman 1990; Saleh & Ryan 1992; Fort 1993; Babakus & Mangold 1992.
Polarity	The reversed polarity of items in the scale causes respondent error.	Wason & Johnson-Laird 1972; Bolton & Drew 1991; Hope & Muhlemann 1997.
Two administrations	It is tiresome and causes confusion.	Bouman & van der Wiele 1992; Lewis 1993; Clow & Vorhies 1993.

(Source: **Adapted from Yuen C L 2009)**

Although researchers have studied the concept of service for several decades, there is no consensus about the conceptualization of service quality (Cronin & Taylor 1992; Rust & Oliver 1994). Different researchers focused on different aspects of service quality.

The gap model is used in this research to define the gaps that exist between the expectations and perceptions of the customers or the public regarding the quality of services being provided by MRS in the public sector in Tonga. If the customers or public perceived that the actual standard of service is low than their expectation then there is a dissatisfaction that needs to be rectified.

This research will address the following research question:

What are the critical gaps in the level of expectation and perception of the customers on the quality of the customer services of MRS affecting the public service delivery, and are important to address in order to manage and sustain a higher standard of quality customer service in the public sector going forward?

This question will be underpinning by a number of research objectives to determine:

1. The current expectation level and perception level of the customers over the quality of service being provided by the MRS to its external customers namely, individual customers, business customers and other government departments customers;

2. The critical gaps between expectation and perception of the level of the service quality provided by MRS to external customers namely, individual customers, business customers, and other government departments customers; and

3. The service dimension factors that demonstrate the critical gaps between expectation level and perception level on the quality of service being provided by the MRS to external customers namely, individual customers, business customers, and other government departments customers

In summary, three hypotheses are developed base on the modified Zeithaml's gap model. The hypotheses will be tested in Chapter 4 to confirm whether the gap model is applicable in assessing the service quality of the MRS in the public sector in Tonga.

2.12.2   Dimensions and Determinants of Service Quality

There are a number of different constructions of the service factors that are most important in influencing perceptions of the service. Service quality literature usually attempts to categorize the factors that influence attitudes towards the service at a number of different levels. At the highest level this involves a small number of service quality *dimensions.* These can be disaggregated into a larger set of service quality *factors or determinants*, which are then developed into questions for measuring through a structured questionnaire. In the original concept of the Servqual instrument, ten determinants of service quality were described by Parasuraman, Zeithaml & Berry (1985): tangibles, reliability, responsiveness, competence, courtesy, credibility, access, communication, security and understanding the customers.

After extensive research these ten were refined to five as some of them were very closely related. The five determinants are: tangibles, reliability, responsiveness, assurance and empathy. They are defined as follows:

- Tangibles as the physical facilities and equipment available, the appearance of staff, how easy it is to understand communication material.
- Reliability as performing the promised service dependably and accurately.
- Responsiveness as helping customers and providing a prompt service.
- Assurance as inspiring trust and confidence.
- Empathy as providing a caring and individual service to customers.

There has been a great deal of discussion on the comprehensiveness and appropriateness of these dimensions for different services. One particular addition is worth noting: the dimension of recovery (that is how services deal with putting things right when they have gone wrong). This is widely seen to be a particular gap in the list, and has since been added to a number of approaches (Thijs & Staes 2008).

As service quality dimensions and factors have been researched widely for a range of public and private services some amendments and additions have been made to reflect the particular service being researched. Further, a list of 18 quality determinants was compiled by Johnston (1995), based on a study in the banking sector that is often seen to be more helpful and comprehensive than the SERVQUAL list and they are: access, aesthetic, attentiveness or helpfulness, availability, care, comfort, commitment, communication, competence, courtesy, flexibility, friendliness, functionality, reliability, responsiveness, and security.

It is worth noting that for many public services, measuring the effort required by the customer in achieving their aims is likely to be central. It will also be important to include measures that ascertain the nature of the use of the services, as this is likely to modify the salience of factors (Thijs & Staes 2008).

In general, the studies conducted by researchers using the SERVQUAL approach have found that *reliability* is the most important dimension, followed by responsiveness, assurance and empathy, with tangibles being the least important of all (Thijs & Staes 2008).

Using a different construction, a Canadian study on public sector services identified five dimensions as particularly important which are: timeliness, accessibility, reliability, responsiveness and cost. In particular, the two key factors identified are the *number of contacts* required and the *time required* to complete the service episode (Dinsdale & Marsden 1999). The importance of these is reflected in a qualitative study among Benefit Agency customers in Britain, where the amount of contact with the service is seen to be one of the key determinants of satisfaction. Having minimal contact or "hassle" with the Benefits Agency is often equated to a good service. Contact involves cost, effort or challenge to the

customer, and can be seen as a lack of effort or efficiency on the part of the service (Elam & Ritchie 1997).

However, in this research it will use the preliminary conceptual model based on SERVQUAL instrument developed by Parasuraman, Zeithaml & Berry (1985). The proposed model as shown in Figure 7 is founded on four existing service factors: (i) service dimensions, (ii) service quality, (iii) customer perceived service performance, and (iv) customer expected service performance. Five service dimensions identified by Parasuraman, Zeithaml & Berry (1985) were considered to relate to distinctive features of public-service quality and will therefore be incorporated into the theoretical framework. These dimensions are: tangibles, reliability, responsiveness, assurance and empathy. This framework provides the conceptual basis for exploring the quality of the customer service of MRS, and the identification of any performance gap exists between the customer expectation and perception.
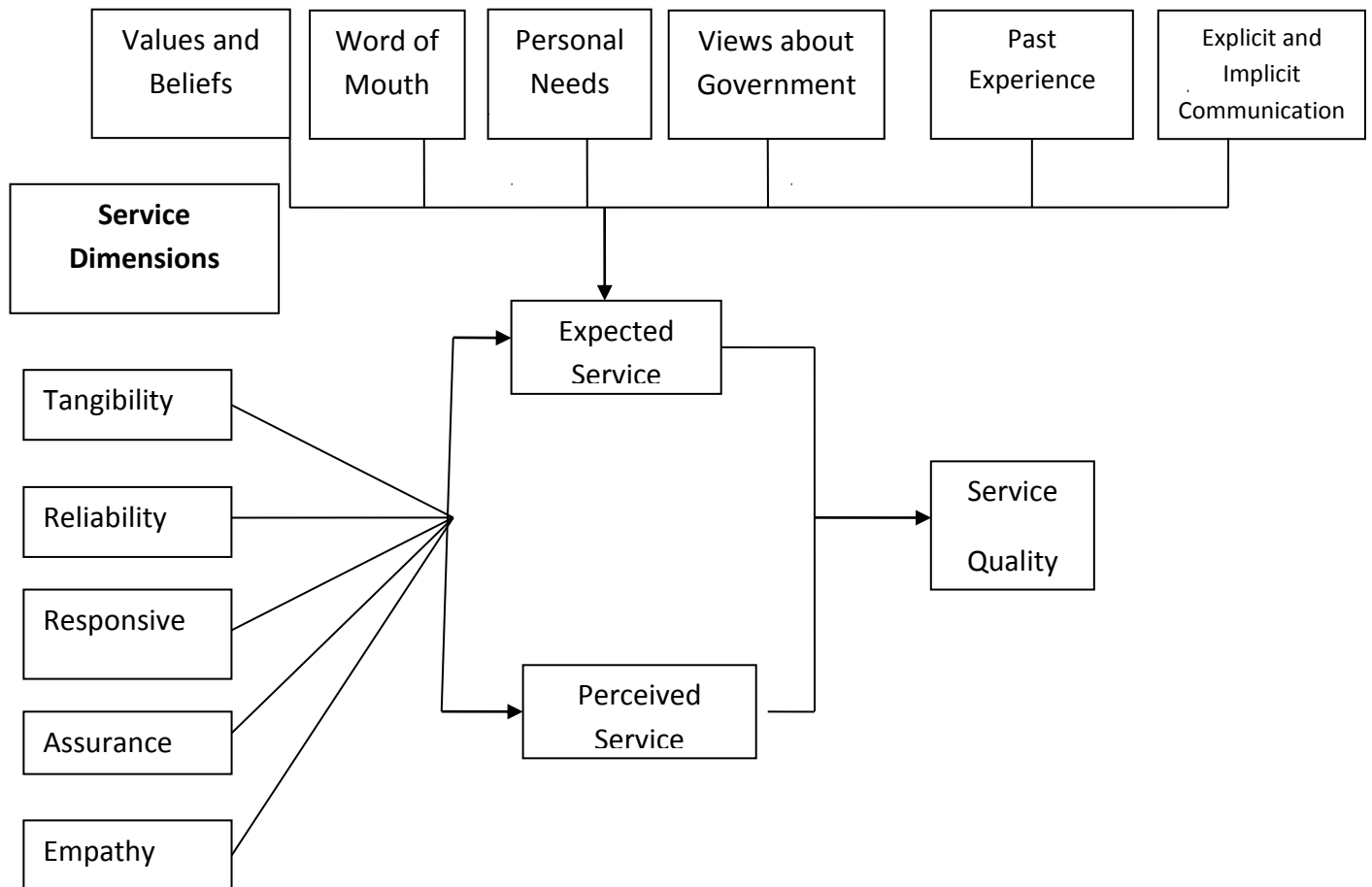
FIGURE 7: CONCEPTUAL FRAMEWORK FOR CUSTOMER ASSESSMENT OF SERVICE QUALITY (*Source:* **Adapted from Zeithaml, Parasuraman & Berry 1990)**

Having explained the model for measuring the service quality and the conceptual framework to be used for the research, the next section describes the research methodology.

2.13 Research Methodology

The difference between the expectation and perception on the quality of services that MRS has been providing to the public will be investigated using the gap theory methodology. The gap theory will measure the gap between the customers' expected performance level and the perceived performance level of the service dimensions of the service quality provided by MRS.

2.13.1   Gap Analysis Theory

An understanding of gap analysis is of interest in theory and in management practices. Understanding of gaps in the relationship between buyers and sellers is important as these gaps affect the development of buyer/seller relationships (Leminen 2001).

Gap theory is useful in identifying the gap or distance between the customer's expectation and perception of service satisfaction in case studies. Increased numbers of gaps or a high number of gaps can illustrate that there are differences and possible problems between companies in terms of their service (Leminen 2001).

This research will use an adaptation of two dual rating gap analysis methods known as SERVQUAL and Importance Performance Analysis (IPA). These two methods measure the gaps between the expected performance level and perceived performance level, which can identify the critical gaps in the quality of services being provided by MRS to the public.

2.13.2   SERVQUAL Model

The SERVQUAL model has become widely recognized, being used by both business and researchers (Silvestro 2005; Zeithaml, Parasuraman & Berry 1990). The SERVQUAL method concentrates on five areas relating to customer service, which are: reliability, responsiveness, assurance, empathy and tangibles (Zeithaml, Bittner & Gremler 2006; Zeithaml, Parasuraman & Berry 1990).

SERVQUAL is used to analyse and research gaps between the perception and expectation of service quality to customers (Chow & Luk 2005; Hwang, Eves & Desombre 2003; LaBay & Comm 2003; Leminen 2001; Narasimhan 1997; Samson & Parker 1994; Silvestro 2005; Zeithaml & Bitner 1996; Zeithaml, Parasuraman & Berry 1990). The SERVQUAL model is designed to seek information from customers or partners concerning their perception of what they believe are the actual situation of service quality at the moment (Chow & Luk 2005; Hwang, Eves & Desombre 2003; Krepapa et al. 2003; LaBay & Comm 2003; Leminen 2001; Narasimhan 1997; Samson & Parker 1994; Silvestro 2005; Zeithaml & Bitner 1996; Zeithaml, Parasuraman & Berry 1990).

The SERVQUAL model then seeks information from customers or partners concerning their expectation or how they believe or desire the service quality should be (Chow & Luk 2005; Hwang, Eves & Desombre 2003; Krepapa et al. 2003; LaBay & Comm 2003; Leminen 2001; Narasimhan 1997; Samson & Parker 1994; Silvestro 2005; Zeithaml & Bitner 1996; Zeithaml, Parasuraman & Berry 1990).

The difference or gap between the perception and expectation concerning service or product quality has a direct relation to the customer's satisfaction (Chow & Luk 2005; Samson & Parker 1994; Silvestro 2005; Zeithaml & Bitner 1996). The greater the divergence between the customer's perception and the customer's expectation, the lower the level of customer service satisfaction (Chow & Luk 2005; Hwang, Eves & Desombre 2003; Krepapa et al. 2003; LaBay & Comm 2003; Leminen 2001; Narasimhan 1997; Samson & Parker 1994; Silvestro 2005; Zeithaml & Bitner 1996).

2.13.3   Importance Performance Analysis Theory (IPA)

Arguably few competitive analysis's techniques have captured the fancy of practitioners, and have examined, described, and celebrated more than the Importance Performance Analysis (IPA) (Sethna 198; Cheron, Mc Tavish & Perrien 1989; Keyt & Yavas 1988; Crompton & Duray 1985; Yavas & Riecken 1998). IPA is a well-documented business marketing research technique developed by Martilla & James (1977). It identifies aspects of the total service experience that matters the most to consumers, as well as those that matters the least (Loudon & Della-Britta 1988; O'Neill, Wright & Fitz 2001; Sampson & Showalter 1999; Joseph, Sekhon, Stone & Tinson 2005). This helps the organization is assessing its own performance in relation to each attribute and identifies its strengths and weaknesses (Keyt, Yavas & Riecken 1994; Yavas & Shemwell 2001) in terms of two dimensions: the relative importance of attributes and consumers' evaluation of the offering in terms of those attributes (Kitcharoen 2004). Martilla & James (1977) suggest that each service attribute can be judged by its "customer importance" and "company performance".

The Importance Performance Analysis (IPA) theory has been widely used and recognized as a simple but effective theory to illustrate customer satisfaction (Duke & Mount 1996; Johns 2001; O'Neill & Palmer 2004; Slack 1994). Lovelock, Patterson and Walker (2001) stated the IPA theory provides information that is invaluable in terms of the development of marketing strategies for management to improve customer satisfaction (O'Neill & Palmer 2004). The use of IPA theory can illustrate to managers areas to direct scarce resources to where performance improvement will have the most effect on improving customer satisfaction (Lovelock, Patterson & Walker 2001; O'Neill & Palmer 2004).

Martilla and James (1977) first introduced IPA theory to measure customer satisfaction relating to an attribute of a good or service. The IPA theory can be used to measure the perceived performance level and the expected performance level of a number of attributes (Duke & Mount 1996; Huang, Hsu & Wu 2006; Hudson, Hudson & Miller 2004; Johns 2001;

Keyt, Yavas & Riecken 1994; Matzler, Sauerwein & Heischmidt 2003; O'Neill & Palmer 2004; Slack 1994; Yavas & Shemwell 2001).

The perceived performance level is concerned with how a customer currently rates the performance of an attribute. In contrast, the expected performance level relates to how a customer rates the importance of the same attribute (Duke & Mount 1996; Huang, Hsu & Wu 2006; Hudson, Hudson & Miller 2004; Johns 2001; Keyt, Yavas & Riecken 1994; Matzler, Sauerwein & Heischmidt 2003; O'Neill & Palmer 2004; Slack 1994; Yavas & Shemwell 2001). IPA theory can be used to obtain market research information through customer satisfaction ratings on a number of attributes by the use of survey questionnaires, focus groups or personal interviews (Huang, Hsu & Wu 2006; Hudson, Hudson & Miller 2004; Johns 2001; Keyt, Yavas & Riecken 1994; Matzler, Sauerwein & Heischmidt 2003; O'Neill & Palmer 2004; Yavas &Shemwell 2001).

The perceived performance level and expected performance level ratings gathered from the market research for the attributes of a product or services provides a paired rating for that attribute which clearly illustrates if a gap exists in the customer satisfaction rating. The data gathered from these market research methods is used to produce a two-dimensional matrix, where the perceived performance level is depicted along the x-axis and expected performance level is plotted along the y-axis (Duke & Mount 1996; Huang, Hsu & Wu 2006; Hudson, Hudson & Miller 2004; Matzler, Sauerwein & Heischmidt 2003; Yavas & Shemwell 2001). This method produces a clear picture to compare the perceived performance level and expected performance level rating for each attribute. The matrix is divided into four quadrants using the scales of the axes and the location of the attributes in the four quadrants is critical as this determines the interpretation of the results (Matzler, Sauerwein & Heischmidt 2003). Sampson and Showeralter (1999) say the placement of the four quadrants on the grid is "somewhat arbitrary" (Matzler, Sauerwein & Heischmidt 2003).

However, Martilla and James (1977) suggest that the means for perceived performance level and expected performance level should be used to divide the matrix into quadrants as the focus is on the relative positioning of the various points (Matzler, Sauerwein & Heischmidt 2003; Yavas & Shemwell 2001). This comment was reinforced by Keyt, Yavas & Riecken (1994) who suggested the quadrant can be divided by the use of a central tendency such as the mean or the median or a ranked order measure. Quadrant one is label 'Keep up the good work' and represents ratings, which have a high perceived performance level and a high expected performance level. 'Keeping up the good work' quadrant requires the service provider to maintain this customer satisfaction rating to provide opportunities to gain and maintain market share for supply chain members.

Quadrant two is label 'Concentrate here' and involves customer ratings with a low perceived performance level and high expected performance level. The 'Concentrate here' quadrant represents an area where customer satisfaction needs to be improved to provide overall customer satisfaction in the supply chain. Quadrant three is label 'Low priority' and

concerns attributes that have a low perceived performance level and low importance rating. The 'Low priority' quadrant requires no additional effort by supply chain members. Quadrant four is label 'Possible overkill' and relates to attributes that have a high perceived performance level rating but a low expected performance level. The attributes that have a 'Possible overkill' rating imply that the resources committed in this area would be better used in other areas of the supply chain (Duke & Mount 1996; Huang, Hsu & Wu 2006; Hudson, Hudson & Miller 2004; Johns 2001; Keyt, Yavas & Riecken 1994; Matzler, Sauerwein & Heischmidt 2003; O'Neill & Palmer 2004; Slack 1994; Yavas & Shemwell 2001).

IPA theory provides a strategy to focus on the attributes with the largest gaps between the perceived performance level and the expected performance level of the attributes or factors which have been researched to improve the efficiency of the supply chain (Duke & Mount 1996; Keyt, Yavas & Riecken 1994; Myers 1999; O'Neill & Palmer 2004; Slack 1994; Vavra 1997; Yavas &Shemwell 2001).

Based on the findings of the IPA matrix, the organization can then devise effective strategies that will help sustain or improve its performance within different areas. It has been observed in several studies with the field of customer satisfaction that when companies deliberately change the performance of an attribute, the importance of this attribute in relation to overall customer satisfaction is changed (Kano, Seraku, Takahashi & Tsuji 1984; Mittal & Baldasare 1996; Oliver 1997; Mittal, Kumar & Tsiro 19999; Mittal & Kamakura 2001; Mittal, Katrichis & Kumar 2001; Kamakura, Mittal, de Rosa & Mazzon 2002), which suggests that there is a need to acknowledge that the relationship between an attribute and overall satisfaction can both liner as well as nonlinear (Mittal, Ross & Baldasare 1998; Anderson & Mittal 2000; Matzler, Sauerwein & Heischmidt 2003; Matzler, Bailom, Hinterhiber, Renzl & Pichler 2003; Eskildsen & Kristensen 2006).

Other authors have modified the IPA matrix. For example, Easingwood & Arnott (1991) used similar idea to present their survey-based study of generic priorities in services marketing. Chon, Weaver & Kim (1988) applied for the visitors Bureau of Norfolk, Virginia and Nitse & Bush (1993) used the same techniques to compare preconceptions of dental practices. Other work has suggested modifications to the IPA matrix both for manufacturing (Slack 1990) and services (Vandermerwe & Gilbert 1991).

Slack (1991) presented an IPA model that considered a relationship between importance and performance and theorized that target level of performance for particular product attributes should be proportional to the importance of those attributes. In other words, importance is seen as a reflection of the relative value of the various quality attributes to consumers. According to Barsky (1950) lower importance ratings are likely to play a lesser role in affecting overall perceptions, while higher importance ratings are likely to play a more critical role in determining customer satisfaction. The objective is to identify which attributes, or combinations of the attributes are more influential in repeat purchase behaviour and which have less impact. The information is valuable for the development of

marketing strategy in organizations (Ford, Joseph & Joseph 1991). This view is confirmed by Lovelock, Patterson & Walker (1998), who stated that IPA is an especially useful management toll to "direct scare resources to areas where performance improvement is likely to have the most effect on overall customer satisfaction."

The traditional IPA, however, has two inherent weaknesses. First, while the technique considers an object's own performance in terms of a particular attribute, it ignores its performance relative to competitors (Burns 1986). The ultimate degree of a differential advantage of a product enjoys is determined by its performance relative to competitors. In other words, the absolute own performance measure of the traditional IPA needs to be augmented with a relative performance measure. Therefore, Burns (1986) added performance of competitor as a third dimension. Dolinsky & Caputo (1991) apply what appears to be Burns extension in a study of health care.

The measurements of IPA and the SRVQUAL model are quite similar. The IPA technique identifies strengths and weaknesses by comparing of two criteria that consumers use in making a choice. One criterion is the relative importance of attributes. The other is consumers' evaluation of the offering in terms of those attributes while the SERVQUAL technique identifies the customer's satisfaction of service attributes by comparing of two criteria that are customer's expectation and customer's perception in the five dimensions. There are numerous studies on SRVQUAL and IPA model but few studies the integration of the models.

Both of these methods follow a similar measurement process and can use the Likert Scale for the dual measurement scales. These measurement scales allow the researchers or management to identify the gap in the factor by deducting the interviewee's perceived level of performance rating from the interviewee's expected level of performance to provide a numeric quantifiable gap (Chow & Luk 2005; Hwang, Eves & Desombre 2003; Krepapa et al. 2003; Samson & Parker 1994; Silvestro 2005; Zeithaml & Bitner 1996). The level of trust in supply chain partnerships has been referred to as a measurement base between supply chain partners (Poirier 1999; Sahay 2003; Wong & Sohal 2002).

SERVQUAL and IPA have been used and adapted for this research concerning the interchangeable use of the term expectation and importance. The use of the term importance rating can be used as an, "alternative to expectation" (Myers 1999, p. 20). However, "there is a question as to the semantic equivalence of the words 'importance' and 'expectation'" (Myers 1999, p. 21). The expectation rating has been interchanged with importance by Huang, Hsu and Wu (2006). The factors that fall into the category of having a high gap and a high importance or high expectation are critical and are in need of improvement to ensure high customer satisfaction and optimal performance in the services provided by MRS. This is similar to the zoning method used by Slack (1994) and Hudson, Hudson and Miller (2004) where four zones were designed drawn on a matrix. Slack (1994) designates the quadrants on the matrix as excess, appropriate, improve and critical.

Hudson, Hudson and Miller (2004) use the terms 'Concentrate here', 'Keep up the good work', 'Low priority and 'Possible overkill'.

The zoning of performance gaps relate to placing factors in zones dependent upon the numeric gap. Factors with positive and low gaps were placed in the excess and appropriate zones. The factors placed in the improve zone had a gap with poor performance but not a high importance and were not treated as a first priority to remedy. The factors with gaps in the urgent zone were critical to be competitive in their business, which were below the acceptable performance rating with a high importance rating. The factors which had gaps that were critical with a high mean gap and a high mean expected performance level (importance) provided MRS management with the opportunity to reduce these critical gaps to improve their supply chain network and relationships.

Both SERVQUAL and IPA have been critiqued for their limitations. Vavra (1997) commented that the use of importance in formal satisfaction models has no theoretical foundation on satisfaction results but is useful for acting on satisfaction results. The Likert scale has been criticized for 'the ability to distinguish between subtle differences in the level of importance and performance' (Hudson, Hudson & Miller 2004). SERVQUAL has been criticized for not gathering information about performance and integrating it into the calculations of the rating. These three criticisms were managed by using a dual seven point Likert scale rather than a five-point scale to add extra preferences in the interviews. The expectation and importance rating have been used interchangeably to provide the SERQUAL method with an importance rating. The expectation importance rating has been used to identify critical gaps that were evident in the urgent zone to improve. The perception performance rating has been further adapted and simplified in this research, referred to as the perceived level of a factor rather than perception or performance.

Having discussed the gap theory, the next section concerns the lack of literature on research conducted about quality services in the South Pacific Island countries, in general, and Tonga, in particular.

2.14 Gaps in Literature

Numerous papers have been written about researches conducted about the customers' perception and expectation on quality services being provided in the private and public sector. However, a limited amount of literature is available on the subject of quality service in the public sector in the South Pacific, and virtually none has been researched in the small islands states in the South Pacific. This is a huge literature gap that this research will contribute to address. This study can also encourage more research on this area as the public sector reform program around the South Pacific region has been emphasising the need to greatly improve the efficiency and effectiveness of the government service delivery to the public. Without any proper research into this area it would be difficult to know if the objective of the service delivery has been achieved or not. There is therefore a great need to

fill the current research gaps. Each government as a whole and its ministries need to know where they are at on this issue currently, and what needs to be done to get to where they wanted it to be. Research is the mean to help them on this respect.

2.15 Conclusion

This chapter has introduced the subject of public sector reform in the global context as well as that in Tonga and explained the rationale behind this global phenomenon. Although the public sector reforms in Tonga has several principal objectives to accomplish, the scope of this research is focused on the reform program that has been pursuing by MRS for improving the quality of services being provided to the public, which is used interchangeably with the term customers in this research.

The review of the literature on the public sector reforms implemented both in the globe and in Tonga context indicated the emerging demand by the public for improvement of the government services and called for a change in the way the government relates with the public. The public attitude to government has changed from being passive to active. The public wanted more participation and contribution toward policy formulations and implementations. This change in the government and public relationship has occurred in Tonga which has led to the political reform to transition to a more democratic form of Government in November 2010.

Most of the specific reform programs that have been assigned to MRS such as tax reform and improving services to taxpayers have been carried out, and the outcome of an independent review of such initiatives concluded that some good progress has been made but at the same time the public perception on its services has been negative. However, the assessment of the view of the taxpayers and the public about the outcome of the reform programs that MRS has conducted is important to carry out now in order to recognize and identify those positive aspects as well as those that are critical for serious improvement going forward.

The theory of expectation and perception and the factors that determine them are important for this exercise. By using the gap analysis and IPA theories, the critical gaps in the services provided by MRS can be identified. The next chapter explains the research methodology used in this study including the research questions and propositions.

CHAPTER 3. RESEARCH METHODOLOGY

This chapter describes the process used for selecting of the research methods, collecting of data and reporting of the results. The rationale behind the usage of the survey questionnaire and the follow up interview for the case study in undertaking the research is explained under the research methodology. The analysis methods for qualitative and quantitative data are employed to triangulate the analysis of the research results and to ensure that the research is done in a rigorous manner.

3.1 Introduction

This chapter explains the steps being taken in the research to ensure the accuracy and rigor of the research data. Both qualitative and quantitative research approaches have been applied. These approaches are necessary for the exploratory study to assess the service quality in the public sector in Tonga using the Ministry of Revenues Services (MRS) as the case study. The triangulation of the research data based on both qualitative and quantitative approaches will provide rigor and validity to the research. Further, the research protocol and field procedure that have been used are explained and assessed to ensure that the samples chosen and the interviewing method used generate an unbiased and accurate research data.

Chapter 3 is divided into six sections. The first section discusses the research questions and the hypothesis, and to be followed by an overview of the application of the theory to this research. The next section explains the research methodology and then followed by a description of the data analysis. The case study limitations are then dealt with. It concludes with the discussion of the ethical considerations of the case study and how they were addressed in this research.

3.2 Research Questions and Hypothesis

This section sets out the research questions and hypothesis to be tested in this study. The research questions focus on exploring the level of expectation and perception of the external customers about the quality of the service of the public sector in Tonga, using the Ministry of Revenue Services as the case study. The questions are designed to identify the critical gaps between expectation and perception of the service dimensions of the customer service of MRS.

The hypothesis that follow the research questions are tested against the data collected from the survey questionnaire and interview to establish the differences between the customers' expectation and perception of the service dimensions of the MRS customer services and the critical gaps.

3.2.1 Research Questions

The underlying research question is: 'What are the critical gaps between the customers' expectations and perceptions on the quality of the service dimensions rendered by the public sector in Tonga based on the performance of MRS?'

To answer the underlying research question, a number of supplementary questions should be addressed. These questions are:

Expectation and Perception

1. What are the customers' expectations on the performance level in the quality of service dimensions delivered by MRS?
2. What are the customers' perceptions on the performance level in the quality of service dimensions rendered by MRS?

Gap between Expectation and Perception

3. What are the critical gaps between the customers' expectations and perceptions in the quality of service dimensions rendered by MRS?

Critical Gaps

4. Which factors of service dimensions that have critical gaps between the customers' expectations and perceptions in the quality of service performed by MRS?

3.2.2 Hypothesis

The following hypothesis will be tested to answer the research questions formulated for this study.

H1: That there are significant differences of expectation level in the quality of service performed by MRS's among aggregate customer group overall and customer group overalls interacting with MRS up to and over ten years, and within three customers subgroups;

H2: That there are significant differences of the perception level in the quality of service performed by MRS's among aggregate customer group overall and customer group overalls interacting with MRS up to and over ten years, and within three customers subgroups; and

H3: That there are significant differences exist between the expectation level and the perception level in the quality of service performed by MRS's among aggregate customer group overall and customer group overalls interacting with MRS up to and over ten years, and within three customers subgroups.

Having defined and explained the research questions and hypothesis for this study, the next section discusses the application of the theories of quality service to this research.

3.3 Applying Theory to the Research

The application and incorporation of theory in this research is crucial in ensuring there is a tight focus of the research design for the case study, data collection and data analysis. The theory in this research has been obtained from the extant literature relating to service quality and Gap Analysis theory.

3.3.1 Stages in Theory Development

There are three stages of theory development in this research. Stage one relates to the exploratory and inductive stage that aims to build the theory for the case study. The first stage involves building theory through an in depth literature review on the theories of Service Quality and Gap Analysis within the context of the Tonga's public sector services to the public. This is followed by studying of the performance of the Ministry of Revenue Services to its external customers as the case study using the theories of Quality Service and Gap Analysis. Those theories help to refine the data collection and research questions with the intention to improving the quality of the theory building process.

Stage two deals with the confirmatory or dis-confirmatory stage of collecting data. Data were obtained through a survey questionnaire distributed to 120 participants and the interviewing of 22 respondents to the questionnaire. The survey questionnaires were distributed to the three principal external customers serving by the Ministry of Revenue Services, namely individual customers - representing importers and taxpayers from the individual households, business customers - representing importers and taxpayers from business private sector, and government departments representing government departments importers and taxpayers other than MRS. The interviewing of the 22 respondents were selected from these three customers subgroups with the purpose to clarify the results of their rankings and comments made on the questionnaire. This case study focuses on the theories of Service Quality and Gap Analyses. The type of questions used in this research is based on inductive reasoning to logically build the theory of the general proposition of the quality of service in the public sector in Tonga through the use of observation suited to case study methodology (Zikmund 1997).

The third stage is the testing of the theory using deductive reasoning to cross analyse the data collected to asses possible generalisation to MRS and the public sector in Tonga. The survey questionnaire and the interview of 22 respondents provide the empirical data to test the hypothesis of this research.

Having discussed how theory was applied to this research, the next section explained the selection of the most suitable research paradigm and appropriate approaches for this study.

3.3.2 Research Paradigm

A research paradigm has been defined as a framework of beliefs, values, orientations and techniques shared by a specific professional community (Kuhn 1962). There are four scientific paradigms, described by Guba and Lincoln (1994), that are considered in this research namely, positivism, critical realism, critical theory, and constructivism. These four scientific frameworks are supported by three philosophical assumptions: ontology, epistemology, and methodology (Guba & Lincoln 1994).

The scientific paradigm of positivism views the world through a "one way mirror" that does not change and has a deductive line of view or reasoning (Guba & Licoln 1994). Positivism ignores social science involving humans and real life experiences and treats the respondents as independent, not reflective objects "ignoring their ability to reflect on problem situations, and act on these" in an independent way and is considered inappropriate for social science (Robson 1993, 2002).

The critical theory paradigm relates to research, which seeks to critique and transform social, political, economic, ethnic and gender values over a long period of time (Perry, Riege & Brown 1999). These studies aim to transform the situation by changing the system or the current strategy formulation.

The constructivism scientific paradigm focuses on social science research that relates to religion, beauty, ideology or prejudice and is rarely used for business research. This is because it excludes concerns about economic and technological dimensions of a business (Hunt 1991; Perry, Riege & Lincoln 1994). It views the reality that occurs is between the researcher and the interviewee with the researcher being the passionate participant (Guba & Lincoln 1994).

 The fourth paradigm is critical realism, which is predicated on the belief that there is a real world to be discovered if it is only imperfectly and probabilistically apprehensible (Godfrey & Hill 1995; Guba & Lincoln 1994; Merriam 1988; Tsoukas 1989). Critical realists believe there is one reality, although several perceptions of this reality must be triangulated to obtain a better picture of reality (Perry, Riege & Brown 1999).

These four paradigms use all the three philosophical assumptions: ontology, epistemology and methodology. Ontology relates to what is the real world or what is reality. Only matters which can be viewed as real life fall into this legitimate scientific assumption and are so simple and straightforward that they can be measured (Guba & Lincoln 1994). However, the second assumption of epistemology concerns with the relationship between reality and the researcher, who is regarded as an objective observer (Guba & Lincoln 1994). The final assumption is methodology which deals with the appropriate research tools and the techniques being used when conducting research (Guba & Lincoln 1994).

In this research the scientific paradigm that is selected is critical realism. This paradigm has been recommended by Hunt (1991) as the preferred paradigm for case study research, which is used to collect perceptions that are unobservable in the external world. The critical realism paradigm supports a study where there is one reality, although several perceptions of this reality must be triangulated to obtain a better picture of reality (Perry, Riege & Brown 1999). Critical realism is the preferred paradigmatic basis for the qualitative theory building stage of research (Bhaskar 1978).

After discussing the research paradigm the next section explains the research methodology.

3.4   Research Methodology

Research is conducted by way of inquiry and it involves the consideration of many factors for selecting of an appropriate research methodology. The Research topic and the associated questions determine the specific methodology to be adopted. The central theme that this research aims to address is: 'What are the critical gaps between the customers' expectations and perceptions on the quality of the service dimensions rendered by the public sector in Tonga based on the performance of MRS?'

This is a social research using case study to obtain data through survey questionnaire and the interview of twenty two respondents representing the three customer subgroups to confirm and clarify the results of their answers to the questions in the questionnaire.

The selection of the scientific paradigm of critical realism for this case study requires the adoption of both qualitative and quantitative approaches in social research. Qualitative research is "an empirical inquiry in research (Yin 1994) such as the identification of the critical performance gaps in the services of MRS to its three customer's sub-groups. This approach is appropriate when the phenomenon under the study are complex, social in nature, and do not lend themselves to quantification (Liebscher 1998). This research topic is certainly complex and social in nature as it involves the expectations and perceptions of the customers about the services of MRS. The qualitative approach enables the researcher to grapple with relationships and social processes in a way that is denied to the quantitative approach (Denscombe 1998) such as the relationship between the customers and MRS. Also qualitative research provides the guidance to comparisons and generalisations across social settings (Neuman 1994). In this research, qualitative method may be able to identify patterns to understand why certain customers are not satisfied with the performance of MRS. Quantitative research method cannot do this, as it may not be able to interpret the respondents' experiences and beliefs (Gilmore & Carson 1996).

Further, quantitative research is considered to be objective whereas qualitative research often involves a subjective element (Ross 1999). The obtaining, analysis and interpreting of quantitative data can make the researcher remains detached and objective. This quantitative method is appropriate where quantifiable measures of variables of interest are

possible, or where hypothesis can be formulated and tested, and inferences drawn from samples of populations (Liebscher 1998). This is required in this research for testing of the three hypothesis stated above on the expectation and perception of the customers on the quality of services provided by MRS.

The consideration of the merits of the qualitative and quantitative research approaches above suggests that neither one is able to adequately answer the research question about the critical gaps on the performance of MRS. The answer for this question needs the measurement of the level of the performance gaps between the customer's expectation and perception on the quality of the service dimensions delivered by MRS to the public. Therefore these research methods need to be combined to complement each other in applying to this research. In that sense, the qualitative approach provides insights and understanding to the research, whilst quantitative method tries to generalize the insights to the population (Perry 1998). In this research, the qualitative approach is used to identify the critical service dimensions causing the huge gaps between the customer's expectations and perceptions over the service of MRS, but it is extremely time consuming to interview many customers of MRS to determine the critical performance gap. On the other hand, the quantitative approach can quantify the level of the gap between customer's expectation and perception over the service of MRS. Therefore quantitative research method is now being used in conjunction with qualitative research methods in studies that cannot adequately describe or fully interpret such situation (Fierro 2003). The choice of a mixed-mode approach is to compensate for the complexity of the subject matter (Metzler & Davis 2003). The quantitative analysis can augment the qualitative observations and it is good for case study (Yin 1994).

Based on the discussion above, this research uses both the qualitative and quantitative methods. These methods will combine the discovery and verification, understanding and prediction, validity and reliability within the research design (Yuen 2009). The qualitative approach is applied for the interview and the quantitative approach for the questionnaire. The interview is used to clarify the respondents' response to the survey. However, data collected from the survey questionnaire is used to analyse the performance gaps between customers' expectation and perception on the service of MRS. Furthermore, it is feasible to perform triangulation of the results derived from the application of both research methods and they add depth in understanding the interplay between the services dimensions and quality service. Both approaches also assist in comprehending of the relationship between the critical factors and the performance gaps.

Thus, the usage of both qualitative and quantitative approaches provide the advantages for developing or extending theory and testing its application as well as to achieving between method triangulation through enhancing the quantitative output with rich, one-to-one interview data (Bryman 1988; Denzin 1989; Jick 1983; Strauss & Corbin 1990). Triangulation describes the integration and blending of data and methods on a continuum of simple to

complex designs and the effectiveness of triangulation rests on the premises that the weakness in each single method will be compensated by the counter-balancing strengths of another (Amaratunga, Baldry, Sarshar & Newton 2002). Although triangulation may not necessary reduce bias or increase validity, the advantage of combining competing theories will generally add range and depth to analysis (Fielding & Fielding 1986). Triangulation can achieve complementary results by using the strengths of one method to enhance the other (Sale, Lohfeld & Brzail 2002) and to provide a more complete picture of the issue being addressed (Weinreich 1996).

The next section discusses the case selection.

3.4.1 Case Selection

This research is using a combination of research survey and interviewing of a few respondents of the three customers sub-groups of MRS to clarify and confirm the reasons for their answers of the questions in the questionnaire.

MRS is selected from the government ministries in Tonga to use as the case study for analysing in this research the customers' expectation and perception about its service to the public. The selection of MRS is based on various reasons. Firstly, MRS has been involved directly in the Government of Tonga public sector reform program that has been implemented since 2001. MRS involvement in the reform program was related with its capacity to generate about 80 per cent of the government's revenue making it very important for achieving the objective of the reform for consolidation of the government fiscal position. Secondly, improving the quality of the government's service to the public was also one of the main objectives of this reform program, and this research attempt to assess and analyse the impact of the reform on the service delivery of MRS. Thirdly, MRS is a service ministry and it serves the public on a daily basis. The higher interactions of MRS with the public daily make it an appropriate case study for assessing the quality of the government ministries' customer service. Fourthly, MRS Service has been heavily scrutinised by the media over the years, with the allegations of possible corruptions and pervading inconsistencies in the application of its laws and policies to its external customers, especially with the processing of the payment of duty and consumption tax on imported goods administered by the Custom and Trade division of MRS.

This research uses only one case study and that is MRS. Multiple case studies have a drawback because they reduce the attention of the researchers and may result in weakening of the case studies (Wolcott 1995). However, another view is that the strength of the generalisation may be increased with a number of cases (Yin 1994). Notwithstanding this, there is no agreed guideline on the ideal number of cases required in order to provide internal and external validity for multiple case study (Robson 1993; Romano 1989; Merriam 1988).

Because this research focuses on the analysis of the quality of the customers' service of the government based on the performance of MRS, there are three main cohorts of the external customers of MRS that are selected as the sample for obtaining the data on the customers' expectations and perceptions on the level of the quality of the service delivery of MRS. There were 120 questionnaires distributed to the target customers, with 40 each for the three cohorts. The first cohort consisted of 40 customers from the individual customer's sub-group regularly using the services of MRS. The second cohort included 40 customers from the business customer's sub-group. The third cohort is made up of 40customers from government departments' sub-group. Some of the individual customers sub-group are working in the government but they use their experience with MRS on their individual imports and taxpaying. The third cohort represents by 40 employees from various government ministries other than MRS, who utilise frequently the services of the MRS and they are the sample selected from the government sector. Most of the government's ministries, except MRS, were selected in order to have a fair representation of the government collective expectations and perceptions across ministries over the service performance of MRS from their point of view as customers of MRS. The questionnaires were given to those employees who work in the Ministries' divisions that handle the matters relating with MRS' services.

In this research, random selection in sampling research was not applied for the selection of the case study and the respondents for the interview because it may not represent the real world context in the case study (Eisenhard 1989; Tells 1997). Random sampling may also lead to data skewed to a particular subgroup and hence introduces sampling error which can compromise the validity and reliability of the research outcomes (Eisenhardt 1989; Patton 1990). Therefore, in this study, MRS was selected, as the case study, based on its direct involvement in the public sector reform program for strengthening of the government financial position through implementing of a comprehensive tax reform program, an on-going intensive interactions with the public/customers, its nature as a service organisation, and the extensive public scrutiny of its services. Case studies are not meant to represent the entire population nor do they claim to be (Yin 1998). These research case selection criteria will provide reliable and valid data (Winegardner 2000; Bennett 1997).

Further, the next step is the selection of the sample from the respondents to the survey questionnaire to be interviewed. The purposes of the interview is to validate the research data from the survey, to help clarifying some of their answers in their questionnaires, and also to provide a better understanding of the rationale behind the scores they have given to the level of expectation and perception in each of the twenty two factors of service dimension in the questionnaire over the MRS customers' service. Interviews help the researcher to understand people and the social and cultural contexts within which they live (Myers 1997). Since there are three cohorts participated in the survey questionnaire, representing the main customers of MRS, 8 participants from individual customer sub-group, seven each from business customers' sub-group and government departments'

customers sub-group, making a total of 22 interviewees. Like the case study selection, random selection in sampling research was not applied for determining the respondents to participate in the interview due to its shortcomings mentioned above.

In summary, the research is selecting MRS as the case study, representing the government, to examine the performance of its service delivery to the public, based on its customers' expectations and perceptions. A total of 120 survey questionnaires were distributed to the three target cohorts representing the main customers of MRS, with 40 questionnaires given to each group. A follow up interview of 22 respondents, with 8 relating to the individual customers sub-group and seven each to the business customers' sub-group and government departments' customers sub-group, was undertaken to provide clarification and explanation for their responses to the survey including the rating of the level of their expectations and perceptions over MRS customer service performance.

3.4.2 Pilot Study

A pilot study was conducted. The purpose of the pilot study was to test out the interviewing questionnaire to identify whatever shortcomings in the interviewing process (Zikmund 1977). The experience from the pilot study would be used to "fine tune" the research design and field procedures (Kanso, n.d.). Although many authors have emphasised the usefulness of pilot studies (Yin 1994; Eisenhartdt 1989), it is not a 'pre-test' but more like a 'dress rehearsal' (Yin 1994) and not to refine the problem definition (Zikmund 1997).

In this research, the survey questionnaire was pilot tested by sending out copies to six individuals who are working in the government and private sector asking for their comments on the clarity and understanding of the questionnaire. The feedback received suggested some improvements to the presentation of the survey questionnaire such as to set out the answers for the questions in a vertical order to make them appeared clearly and neatly, along with minor amendments to the wording of some of the survey questions. There was also a suggestion for deletion of repetitive questions such as question 10: "what type of business you are in?" was similar with question 1: "which organisation are you working for?" Thus, the pilot study was useful in improving the questionnaire with the necessary fine tuning and rearrangement being made.

The follow up interviewing questions were made to clarify the results of the data obtained from the survey questionnaire.

 The next section deals with the survey questionnaire.

3.4.3 Survey Questionnaire

The purpose of the survey research is to measure the expectation and perception of the customers on the quality of the customers' service provided by MRS. The survey questionnaire was designed based on adapting of the SERVQUAL Model Questionnaire

developed by Zeithaml et al. (1990) using the five service dimensions of service quality: reliability, responsiveness, assurance, empathy and tangibles (Parasuraman, Zeithamal & Berry 1991).

The Likert scale is used in the questionnaire as it is the most popular method to measure attitudes and easy to administer (Zikmund 1997). It provides a clear understanding of the interviewees' feedback on the key issues in the interview. This research uses 7-point Likert scale for two main reasons. First, it can provide more accurate comparisons between different respondents as compare to the 5-point scale that is commonly applied; and Second, the odd scale allows the respondents to select the neutral answer (which is point 3) if they are uncertain of the answers. As different customers are participated in the survey, there is a possibility that some of the respondents maybe unsure of the answer to some of the questions. Thus, it provides the respondents with a choice for selecting an impartial answer should they become dubious of the right or appropriate answer.

The expectation and perception used Likert scales to explain the patterns observed in the analysis of data collected. Likert scales are frequently used and enable the researcher to have a clear understanding of the respondents' perceptions on the key issues (Yin 1994). The research used seven point Likert scale to measure the performance gaps. The scale was chosen given the fact that it is one of the most popular methods in measuring attitude, they are relatively easy to administer (Zimund 1997), and it provides the researcher with a numeric quantifiable database (Chow & Luk 2005; Hwang, Eves & Desombre 2003; Krepapa, Berthon, Webb & Pitt 2003; Samson & Parker 1994; Silvestro 2005; Zeithaml & Bitner 1996).

The questionnaire has three sections: (i) general and demographics with ten questions, (ii) expectation and perception analysis with twenty two statements, and (iii) five general questions and suggestion for any comment needed to be made.

The questionnaire was developed based on the five service dimensions of service quality: reliability, responsiveness, assurance, empathy and tangibles (Parasuraman, Zeithamal & Berry 1991). The 22 statements on factor service for expectation and perception analysis cover the five service dimensions of service quality with several statements relating for each dimension. For instance, questions 1 to 4 relate to tangibility, 5 to 9 to reliability, 10 to 13 to responsiveness; 14 to17 to assurance, and 18 to 22 to empathy. The survey asked the participants to rate the level of their expectation and perception over the customer service provided by MRS on a Likert scale of 1 to 7 with 1 being the lowest and 7 the highest. The questionnaire also contains a number of closed and open structured questions

The expectation and perception of the respondent to each of the statement on factors of service questions are designed to test the three hypotheses stated in section 3.2.2 above.

The sample of the survey questionnaire distributed to the participants is attached in Appendix 2.

3.4.4 Interviewing Protocol

This research used both survey questionnaire and follow up interviews. The survey questionnaire was designed to gather data for quantitative analysis and its features have been explained in section 3.4.3 above. However, the follow up interview was intended to verify and clarify with some respondents the reasons underlying their rating of their expectations and perceptions level in the questionnaire, and to provide opportunity on other matters that they may wish to raise during the interview, and for obtaining data for conducting of the qualitative analysis. These research methods provide validity and rigor to the research through triangulation of the research data that had been obtained.

The interviewing protocol consisted of two parts, namely the interviewing process and interviewing questions. The interviewing process is a plan to collect unbiased interviewing data. The interviewing questions, however, are formulated with the intention to ask the 22 respondents to explain the reasons behind their scores on the level of expectation and perception they had given against each of the 22 statements on factors of service stated in the survey questionnaire over the quality of the customer service being provided by MRS.

3.4.5 Interviewing Process

The case study protocol, which is essentially a record (normally a document) that contains the methods, procedures and general rules, will be followed in using instrument of data collection (Rahim & Baksh 2003). The essential components of a case study protocol include an overview of the study, the field procedures, interview questions and a guide for research report (Yin 1994).

The overview covers the background information about the research and the details about issues being studied. In this case, the Participant Information Sheet and the Consent Form for the survey and interviewees' participants provide information on the purpose of the study. The contact details of the respondents were collected and confirmed to fill any gaps that may be identified from their response to the survey and interviews.

The field procedures involve data collection issues and must be properly designed, and this is dealt with in detail in section 3.2.7 under "Data Collection".

The method for collecting of the interviewing data has to be done properly to ensure that data is obtained in unbiased manner. In the beginning of the interview, the research issues were not disclosed to the interviewees. The reason being to prevent the interviewees from providing answers that they might think the interviewer wanted to hear that would cause a possible bias on the research data. However, the interview began with the explanation of the purpose of the interview. This is to clear any doubt in the interviewees' mind and to seek their full cooperation.

The next step is to explain to the interviewees how the interviewing data are collected. The interviewees were informed that the interview is planned to be recorded by pen and paper as well as by tape to capture their answers. Tape recording is able to give accurate quotations to justify the conclusions about differences between cases and cross-case analysis (Carson, Gilmore, Gronhaug & Perry, 2000). The interviewees were informed that the tape recorder would be switched off if and when they felt uncomfortable with the tape recording. However, all interviewees agreed with the tape recording.

The third step was to ask the interviewees about the reasons for their ranking in the survey questionnaire and to clarify their comments in it. The questions asked were tailored to suit each individual respondent's ranking and comments in the questionnaire and also on any further comments raised during the interview. However, the interviewer tried not to ask leading questions that may influence the interviewees' perception (Edwards 1998). The interviewer also sought clarification during the interview. This interviewing method will enhance the research data reliability and providing the added rigor to the research. The interviewer then thanked the interviewees for their cooperation and gave them the assurance that their private information will be kept confidentially in the research report.

The interview was undertaken by the Research Team from TTI in compliance with the requirements of the University Ethic Committee in granting the approval for the research. There were twenty two interviewees involved with eight members from the individual customer sub-group, and seven each from the business customers' sub-group and government departments' customers sub-group.

The interview was conducted in two forms. One was done by face to face interview and recorded by tape, and this involved 16 participants and the other by written interview which consisted of 6 participants. The latter category was conducted based on their request preferring to send them the questions for their response. Each participant for the interview was given a specific question based on the individual's response to the survey. Items number 1 to 3 in the "Interview Script Guide" is general information provided to all the participants. Item 4 was a question asked to all interviewees and the rest were made based on individual response to the survey. In addition, the interview, both oral and written, was done in Tongan and then transcribed into English.

A sample of the interviewing questions is shown in Appendix 3.

3.4.6 Data Collection

The field procedures mostly involved data collection issues and must be properly designed. The investigator does not control the data collection environment (Yin 1994) as in other strategies; data is collected from people and institutions in everyday situations and not within the controlled confines of a laboratory, the sanctity of a library, or the structured limitations of a rigid questionnaire. Therefore, the procedures become ever important. In

this research, the field procedure involved distributing of survey questionnaires to 120 main external customers of MRS including the three customer sub-groups representing individuals customer from household, business customers from the private sector, and government departments customers; and also the arrangement of interviews with 22 respondents to the survey questionnaires. All external customers of MRS participated in this study were from the main island of Tongatapu for easy access. Research of general sources of information included the collection of relevant documents and archival evidence from reports, internet, and newspapers.

Appropriate application form together with the required information was sent to the Ethical Committee to get the ethical clearance for conducting of the survey and interview. The approval of the Ethical Committee was obtained (see Appendix 4). Because the research student is a Member of Parliament the University Ethic Committee directed that the survey and the interview be conducted by an independent body to avoid any actual and perceived influence, by virtue of his position, over the responses of the respondents and interviewees. As a result a team from TTI was engaged to do the survey and the interview in order to comply fully with the conditioned approval offered by the Ethic Committee (See Appendix 5 for the Agreement between TTI and the student researcher for conducting of the field work in compliance with the Ethic Committee's requirements). In addition, approval from the Prime Minister Office for conducting of the research was obtained (See Appendix 6).

120 numbers of questionnaires were distributed by the Research Team from TTI to the three cohorts representing the main external customers of MRS, with 40 copies each. 'Participation Information Sheet' (see Appendix 1) and 'Consent Form' (see Appendix 1) were attached to the survey questionnaire explaining the purposes of the survey and giving them assurance that their answers would be kept confidential and indicating they can withdraw at any time from the research without any adverse effect, and expressing gratitude for their willingness to cooperate and participate in the research. Participants in the survey signed the 'Consent Form' expressing their own volition to participate in the survey.

The questionnaires were distributed in April 2012 and collected them in until 30 June 2012.

There are also open ended questions provided in the survey to get general data and information about the size of the transaction that MRS has processed with its customers over the years and to have the customers' opinions about MRS customer services performance. Respondents were also asked to state the ten most important service dimensions from the 22 questions stated in the questionnaire in relation to their expectation and perception over MRS customers' service.

The data from the interview of the 22 respondents were tape recorded. All respondents have no problem with tape recording of their answers to the questions that were asked to

them. The purpose of the interview was to clarify with the respondents the reasons for the answers and comments they have made in the questionnaires.

3.4.7 Data Coding

Data coding is a process of assigning labels to words and phrases gathered in the interviewing process and to allow the researcher to differentiate and combine the interviewing data during the data analysis stage (Miles & Huberman 1994). The coding helps the interviewer to sort the interviewing data effectively according to a particular question or case (Neuman 1994; Pizam 1994) and enable the cases to be reviewed more easily (Yin 1994). Data can be collected in a variety of ways, in different settings, and from different sources (Forza 2002).

Data coding can be in the form of matrices or networks, and can be developed to analyse a single case or multiple cases. In this research the three cohorts for the three main customers of MRS are coded with a unique code assigning as an identifier for each cohort. Individual customers sub-group was given a prefix code of I denoting all of them from I1, I2...In; B for business denoting B1, B2...Bn to all of them, and G for government departments starting from G1, G2...Gn. This code was developed by the research team from TTI to de-identify the respondents to the survey and the interview in conformity with the condition of approval granted by the University Ethic Committee for conducting of the survey and interview and for collating of data from them.

3.5 Research Quality

The creation of a robust research design has ensured the quality of the case study methodology in this research. Without assessing reliability and validity of measurement, it would be impossible to disentangle the distorting influences of errors on theoretical relationships that are being tested (Bagozzi, Yi &Phillips 1991). The lack of validity introduces a systematic error, while a lack of reliability introduces random error (Carmines & Zeller 1990). Yin (1994) proposes four design tests for empirical research to ensure validity and reliability: construct validity, internal validity, external validity, and reliability. These four tests are summarised in Table 4 below. The design of this research on the quality of the service of MRS will consider the design test and the appropriate tactics to be used to ensure the case study maintain the required research quality.

TABLE 4: DEFINITION, RESEARCH DESIGN, TESTS AND TACTICS

Design Test	Definition	Case study tactics	Action tactics and Relevance of methodology
Construct validity	-Establish operational measures for concepts being studied	-use multiple sources of data and evidence - establish chains of evidence	- data collection from literature review, survey questionnaire and interview - data collection
Internal validity	-Establish phenomenon in a credible way	-Do pattern matching	-data analysis
External validity	-Establish the domain to which the research findings can be generalized	-definition of scope and boundaries of reasonable analytical generalization. -compare evidence with extant literature	- research design - theory boundary is defined within the quality service and Gap Analysis theories - literature review
Reliability	-Demonstrate operations of the research can be repeated with the same results	-use case study protocol - develop case study database.	-data collection through survey questionnaire and interview. - data collection and literature review

(*Source*: Adapted from Yin 2003)

Of the different properties that can be assessed about a measure, construct validity is the most complex, and yet, the most critical to substantive theory testing (Bagozzi, Yi & Phillips 1991). Construct validity is the extent to which the construct is accepted as meaningful and the extent to which any measurement tool or techniques quantify it effectively (Ashman 2007). Since the construct cannot be directly addressed empirically, only indirect inference about construct validity can be made by empirical investigation (Flynn, Sakakibara, Schroeder, Bates & Flynn 1990). In attempting to evaluate construct validity, one must consider both the theory of which the construct is part of and the measurement instrument being used (Emory & Cooper 1991). If the results from a test, conducted to assess construct validity, does not corroborate with the expected results, then it is suggested that either the measurement instrument or theory could be invalid. The construct validity for this research has been achieved through an in-depth literature review, survey questionnaire with closed structured questions and open unstructured questions relating to customers' expectation and perception of MRS customer service, and conducting of interview to validate and clarify the respondents' answers and comments in the questionnaires.

Case study can be difficult to conduct due to operational and logistical reason (Parkhe 1993; Yin 2003). However, the use of the field procedure in the case study had managed to address this issue. The field procedure set out the field work to be conducted on the customers of MRS resided in Tongatapu, which is the main island in Tonga with 60 per cent of the total population.

The issue of research bias (Eisenhardt 1989) was addressed through designing a proper research protocol and carrying out validity checks to ensure the reliability of the results. The

data from the questionnaires was checked through interviewing of 22 respondents to ensure consistency of interpretation, comments and ratings to questions so that the data was reliable.

Internal validity, as it is traditionally known in quantitative research, refers to the establishment of cause - and – effect relationships (Amaratunga & Baldry 2001). However, the emphasis on constructing an internally valid research process in case study research lies in establishing phenomena in a creditable way (Riege 2003). This research has chosen to adopt the pattern-matching method by producing matrices .i.e. importance performance analysis (IPA) matrix, in the data analysis to ensure internal validity in the research design. Yin (2003) recommends such matrixes to help illustrate the various case study analyses and cross case analyses. The pattern-matching method assists in the illustration and comparison of expectation and perception of customers on the service performance of MRS to identify the critical gaps among the three sub-groups of customers: individual customers, business customers and government departments.

External validity is the process of establishing the domain to which a study findings can be generalized (Amaratunga & Baldry 2001). In simpler terms, it refers to an analytical generalization, whereby particular findings are generalized to some broader theory and the focus lies on an understanding of constructs, that is, usually the comparison of initially identifies and/or developed theoretical constructs and the empirical results of single or multiple case studies (Riege 2003). Analytical generalization can be applied to both single and multiple case studies, which mean the findings on the theory tested in a case study on a particular case subject, can be compared with another, testing the same theory to establish replication of theory (Yin 2003). In this research, a single case study was used. This research managed the external validity through adopting of an appropriate research design, conducting of an in-depth literature review and the application of the quality service and the Gap Analysis theories to define the theory boundary.

Reliability is the extent to which a test or procedure produces similar results under constant conditions on all occasions (Yin 1994). Another definition by states that: '...reliability is essentially repeatability – a measurement procedure is highly reliable, if it comes up with the same result in the same circumstances time after time, even employed by different people' (Simon & Burstein 1985). This research had ensured reliability through designing of a research protocol prior to the interviewing process. The research protocol entails: overview of the research explaining the purpose of the research, field procedure, survey questionnaire, a sample of interview questions, Participant Information Sheet and the Consent Form, and conducting of a pilot study to test the clarity and comprehension of the survey questionnaire and to ensure that the research design provided a data collection process that was reliable. The research methodology provides that the data from the survey questionnaires and interviews were documented and kept in a filing cabinet in a secured room for further reference, if required. It is appropriate to develop and maintain a case

study data base for researchers to access the case study data and written reports if required (Yin 2003).

The goal of reliability is to minimise the errors and biases in a study. Reliability in a case study is concerned with minimising the errors and biases in a study (Yin 2003). Kerlinger (1986) further adds, reliability indicates dependability, stability, predictability, consistency, and accuracy, and refers to the extent to which a measuring procedure yields the same results on repeated trials. Reliability of a research ensures all future investigation following the exact research procedures would result in the same findings and conclusions. Perry & McPhail (1999) suggest in order to ensure reliability, every step in the process were documented including the interviews, data coding, details of any triangulation analysis, and steps towards generalization. Table 4 shows reliability can be achieved by using the tactic of a case study protocol and developing of a research database.

3.6   Data Analysis

An analytical strategy is required to analyse the research data and subsequently leads to the research conclusion (Tellis 1997). The first step in the data analysis process involved coding and entering of all data collected from the quantitative closed structured questions and the qualitative open unstructured questions in the questionnaire and from the interview for verification of the results of the answers to the questionnaires into SPSS software (Statistical Packages for Social Science) for Windows version 14. The data from the closed questions entered into SPSS was used to calculate the means scores for the expectation and perception of the customers on the service dimensions over MRS customers' services. SPSS was also used to code the qualitative data collected.

There are three methods of analysis undertaken in this research to identify the critical performance gap for the services dimensions of the MRS services to its customers. These three analysis methods are: statistical testing for significant difference, the mean weighted gap analysis and the mean un-weighted importance performance analysis (IPA) matrix.

The first analysis undertaken involved the structured closed questions, which used SPSS to conduct statistical significant differences testing overall for this research. The statistical significant difference testing was used to test the three hypothesis stated in section 3.2.2. The test measured the statistical significant difference between the means scores for the expected performance and perceived performance of MRS customer service using t-tests, paired t-tests and One-way Anova tests. The statistical significant difference of confidence level chosen for this research is 95 per cent.

 The two other methods of analysis that were adapted for this research were the SERVQUAL model and the Importance Performance Analysis (IPA) model. SERVQUAL is usually used with external customers of an organisation (McDonnell & Gatfield 1998) and this is so appropriate for the assessment of the service quality of MRS to its external customers.

This research used SERVQUAL model to test the difference between the mean scores for the customers' expectation and perception over MRS customer service based on five service dimensions to calculate the performance gap. The five dimensions of SERVQUAL relating to customer service are reliability, responsiveness, assurance, empathy, and tangibles (Zeithaml, Bittner & Gremler 2006). The SERVQUAL gap measurement can be a simplistic un-weighted calculation by deducting the mean rating of the expected performance from the perceived performance to provide a negative, neutral or positive gap rating (Zeithaml, Parasurraman & Berry 1990). The gap can also be weighted by multiplying the mean gap scores for each factor by the mean expected performance rating for the same factor which was the method used in this research to identify the critical gap for the service performance of MRS to its customers. The gap is weighted to take into account the relative importance that is related to that gap (Zeithaml, Parasuraman & Berry 1990). This is an adaptation of SERVQUAL which multiples the average of the five dimensions against the scores for the customer (Zeithaml, Parasuraman & Berry 1990).

The third method of analyses used in this research was adapted from the gap theory of importance performance analysis (IPA). IPA uses the mean rating score of the performance of a factor compared against the importance rating scores for the factor. The IPA method was adapted with the performance rating being interchanged with the perception from SERVQUAL. IPA was further adapted with the expectation rating from SERVQUAL being interchanged with the perception of a factor. The IPA method calculates the gap for the factors by deducting the mean of the expectation rating from the mean performance with the gap being negative, neutral and positive. IPA uses a matrix to plot the factors on a graph with the determinants being un-weighted performance and the expectation rating. The matrix is divided into four quadrants to identify where the factor is located. These four quadrants can be labelled: 'Concentrate here', 'Keep up the good work', 'Low priority' and 'possible overkill'. The 'Concentrate here' quadrant has a low performance and high importance, which needs improvement. The 'Keep up the good work' quadrant has a high performance and a high importance that needs to be maintained. The 'Low priority' has low performance and low importance and requires limited attention. The 'Possible overkill' has a high performance and low importance and this area may be over services (Hudson, Hudson & Miller 2004). For this research the 'Concentrate here' quadrant has again been divided into four quadrants to assist in identifying the critical gaps for the factors of service dimensions of MRS performance to its customers. These four quadrants have been used and labelled in order of the improvement required. The four improvement quadrants were labelled in order of priority commencing with 'Critical', then 'Significant', followed by 'Important' with the least required improvement area labelled as 'Necessary'.

A critical gap can be defined as a factor that has a high mean gap score rating and a high mean expected performance score rating. The factors with critical gaps can be ranked as either un-weighted or weighted gaps by ranking. By ranking the factors with gaps this provides a list of potential critical gaps. From this list of gaps a subjective selection method

has been used in the past based on choosing the top three to five highest ranked un-weighted or weighted gaps to be considered as critical gaps.

This research has developed a selection criterion using the results from the three analysis methods to collectively identify the critical gaps for the factors of MRS customers' service. This selection criterion provides a more objective selection method than the traditional subjective method. The selection criteria chosen to determine the factors with the critical gap in MRS performance was based firstly on the factors with the highest statistical significant differences Sig. (2-tailed) in the study. The second criterion concerned the factors that were ranked within the ten highest gaps adapted from the SERVQUAL model. The third criterion was based on the factors that fell in the 'Critical' improvement area adapted from the IPA model. These selection criteria identified the critical gaps that can be selected to diminish or eliminate the critical gap to improve the service performance of MRS to its customers.

3.6.1 Case Study Reporting

The case study report is intended to serve report and not documentation objectives (Yin 1994). There is no ideal reporting style since the university academic staff, students and managers will use the report (Morris, Fitz-Gibbon & Freeman 1987). However this report is using the linear-analytic structure of research problem, literature review, research method, data collection, data analysis, conclusion and research implications. Researchers commonly use this reporting style and the writing sequence to ensure completeness (Yin 1994).

3.7   Limitations of Case Study Research

Case study has been criticized for several reasons and this research has taken measures to address them. There are four criticisms that Yin (2003) has put forward. First, case study lacks rigor and can be subject to bias. Second is the confusion between the case study teaching and case study research. In classroom teaching, case study material may be deliberately altered to demonstrate a particular point, which is strictly forbidden in case study research (Yin 2003). Third, single case study has often caused concern as it cannot provide scientific generalisation. Fourth, case study has often taken too long, provides masses of information, and has been presented in an unreliable format. Due to these limitations, some researchers have avoided the use of the case study strategy (Yin 2003).

The strategies that this research has taken to manage these limitations are summarised in Table 5 below. It is very crucial that these limitations are addressed fully and experiences with previous researches using the case study methodology provide invaluable insights for the designing of this research.

TABLE 5: LIMITATIONS OF CASE STUDY RESEARCH AND REMEDIAL MEASURES

Criticism of case study research	Remedial measures to overcome limitations	Places where limitation is addressed
Results in overly complex theories	-Develop prior theories and specific research question	Chapter 2
External validity	- compare evidence with extant literature -use quality service and GAP Analysis theories	Chapter 2 Section 3.5
Difficult to conduct	-Use case study protocol and a systematic fieldwork process	Section 3.4 Section 3.5.
No single approach is sufficient for sound theory development	-Use multiple research methodology	Section 3.4
Researcher bias	-The survey questionnaire and protocol provide a structure to avoid researcher bias. - use validity checks with interviewees respondents on answers to questions in the questionnaire -construct validity	Section 3.4 Section 3.4.3 Section 3.4.4 Section 3.4.5 Section 3.5
Lack of rigor	-create a database for questionnaire and interview	Section 3.5 Section 3.4.3 Section 3.4.4 Section 3.4.5 Section 3.4.6.

(*Source:* Adapted from Yin 2003)

The criticism of overly complex theory has been addressed by focusing on the GAP Analysis Theory to provide a tight focus on the core theories in this research.

External validity has been taken care of by comparing evidence with extant literature and using of interview protocol to ensure that the theory that is being tested can be replicated. This research managed the external validity through adopting of an appropriate research design, conducting of an in-depth literature review and the application of the theories of quality service and gap analysis to define the theoretical boundary.

The concern with case study being difficult to conduct due to operational and logistical reasons (Parkhe 1993; Yin 2003) was considered in this research. The operational issue was catered for through a systematic data collection process. The design and use of the case study protocol ensured that the research was focused and the data collected was recorded systematically (Yin 2003). Logistically, the case study was conducted at the main island of Tonga called Tongatapu where 60 per cent of the population reside and most of the customers of MRS are based. The selection of Tongatapu for conducting of the research facilitates the access to MRS customers and eased the burden with the financial and time constraints. This strategy also ensured that the information collated during the survey and

interviews was reputable and reflective of the external customers' views of the quality of the MRS customers' service. The interviewer was viewed as an independent researcher not to be biased either to MRS customers or MRS as an organization.

The other criticism is that no single approach is sufficient for sound theory as it cannot achieve the criteria for a quality research design (Parkhe 1993). This has been resolved by conducting at the initial stage the literature review on the theories of quality service and gap analysis. A pilot study was then undertaken to test the suitability of the survey questionnaire used for this research. The second stage involved the conducting of the survey with 120 participants and then a face to face interview with 22 respondents to the survey to validate their responses to the questionnaires and any other comments. The grounded theory was used during the data analysis process to assess the research data to test the development of a sound theory.

The limitation relating to research bias (Eisenhardt 1989) was dealt with through research design and interview protocol, data collection and data analysis to ensure that the research is not bias. Validity checks were also made to ensure the reliability of the results. The answers to the survey and interview questions were checked to ensure consistency of interpretation. The concern with the lack of rigor in a case study was resolved by the design of the research protocol and by filing of all the survey questionnaires received and the typed reports kept in a filing cabinet at home.

A number of general case study shortcomings were experienced in this research which is occurred in a real life context (Yin 2003). The general limitations that were addressed include time available for interview and financial constraints, the total number of participants involved in, and responded to, the survey, the arrangement and availability of the participants for the interview.

The strategy for managing of the limitations and criticism of case study has been discussed. The next section deals with the ethical consideration taken into account in conducting of this research.

3.8   Ethical Consideration

Protecting the rights of the interviewees in the case study was of critical importance. Researchers need to be concerned with the ethical issues, confidentiality of proprietary data and anonymity of a client (Davis 2000; Davis & Cosenza 1996). The researcher must maintain a high standard of work to ensure the data collected is accurate, and the participating organisations and individuals are protected from any possible disadvantages or adverse consequences that may result from the research (Emory & Cooper 1991). The confidentiality of the respondents was managed by replacing the name of each respondent with a code. The case study data collected from the face to face interview was filed in a data base stored in a locked filing cabinet at my home. When the research was designed, ethical

clearance was obtained from the University Ethic Committee (see Appendix 4) before the questionnaire and the interview commenced. All interviewees were asked to read and sign a "Participant Information Sheet" and "Consent Form" (see Appendix 1), prior to the answering of the questionnaire and the interview. The survey and the interview were managed by the Research Team from TTI upon the requirement from the University Ethic Committee to make sure that the independence of the respondents and interviewees to their views in the survey and interview are protected from any undue influences from the research student in his position as politician.

3.9   Conclusion

 A focus on the theories relating to service quality and the Gap Analysis has been the deciding factor for designing of the research protocol for collecting of the relevant data. The research questions and the associated hypothesis have been formulated to test with the data generated from the survey and the interview to determine the critical factors for performance gaps in the quality of the customer service by MRS. The various scientific paradigms have been examined and concluded that the critical realism is the suitable paradigm to select for the research. Critical realism supports the use of case study methodology which provides a strong foundation for this research.

The selection of the scientific paradigm of critical realism for this case study requires the adoption of both qualitative and quantitative approaches in social research. These research methods need to be combined to complement each other in applying to this research. In that sense, the qualitative approach provides insights and understanding to the research, whilst quantitative method tries to generalize the insights to the population. In this research, the qualitative approach was used to clarify the respondents' response to the survey. On the other hand, the quantitative approach can quantify the level of the gap between customer's expectation and perception over the service of MRS.

The usage of both qualitative and quantitative approaches provide the advantages for developing or extending theory and testing its application as well as to achieving between method triangulation through enhancing the quantitative output with rich, one-to-one interview data. Triangulation describes the integration and blending of data and methods on a continuum of simple to complex designs and the effectiveness of triangulation rests on the premises that the weakness in each single method will be compensated by the counter-balancing strengths of another.

 The case study design, survey questionnaire and interview were used in this research to provide validity and reliability checks. The research protocol provided a research methodology that collects a replicable data relating to the theories of service quality and gap analysis.

The use of the pilot study improved the content, understanding and presentation of the survey questionnaire.

The data analysis stage concentrated on analysing of the data that is directly related to the structured questions on the theories of service quality and gap analysis. The data analysis also carried out an examination of the unstructured questions relating to the critical factors of the service dimensions on MRS customers' service performance gap. SPSS software was used for analysis of both the closed structured and open unstructured questions.

The data from the closed questions was analysed using the three analysis methods of statistical testing for significant difference, the mean weighted gap analysis, and the mean un-weighted importance performance analysis (IPA) matrix. The results from these analysis methods were utilized to determine the selection criteria for identifying the factors with critical gaps in the service quality of MRS performance to its external customers.

The research recognized the general and specific limitations associated with the usage of case study methodology but they were managed by specific strategies in this research.

Finally, the research attended to the importance of ethical consideration and has managed appropriately the confidential data obtained from the respondents' answers and comments to the survey and interview which were conducted by the Research Team from TTI rather than the research student to avoid any possible conflict of interest. Coding system was used to maintain the anonymity of each respondent. The research methodology was designed to provide the foundation for a rigorous research on the extent of the service quality of MRS performance to its external customers.

CHAPTER 4.   FINDINGS AND DISCUSSIONS

This chapter does an analysis of data relating to the three research questions which have been derived from the case study on the quality of the MRS services to the external customers. Following the introduction, an explanation of the background of the case study is provided. This follows by the data analysis relating to the research questions and the hypothesis. The next section discusses the important and critical success factors in the services dimensions for the performance of MRS to its external customers. This will end with conclusion.

4.1   Introduction

Chapter three explained the research methodology used to collate data for this research.

This chapter does an analysis of data relating to the three research questions which have been derived from the case study on the quality of the MRS services to the external customers. There are five sections in this chapter. Following the introduction, an explanation of the background of the case study is provided. This follows by the data analysis relating to the research questions and the hypothesis. The next section discusses the important and critical success factors in the services dimensions for the performance of MRS to its external customers. This will end with conclusion.

4.2   Case Study Background

This section provides background information on the data collated from the case study relating to number of participants in, and respondents to, the research survey, frequency of usage of MRS services, number of years of interacting with MRS, organisational division of MRS have been used the most, type of MRS services that customers has used the most, and an average amount of payment to services of MRS per year.

4.2.1 Number of Participants in, and Respondents to, the Research Survey

Table 6shows the total number of 120 participants covered in the survey, with 40 surveys distributed to each of the three customer groups identified for the research, namely individual, businesses, and government departments. The actual number of participants responded to the survey was 92, representing a turnout of 77 per cent, with 60 per cent from individuals, 83 per cent from businesses and 88 per cent from government departments. The percentage of turnout is considered a satisfactory outcome.

TABLE 6: NUMBER OF PARTICIPANTS IN, AND RESPONDENTS TO, THE RESEARCH SURVEY

Participants	Frequency	Per cent	Respondents	Frequency	Per cent	Participants over Respondent	Per cent
Individual	40	33.0	Individual	24	26.1	Individual	60.0
Business	40	33.0	Business	33	35.9	Business	83.0
Government	40	33.0	Government	35	38.0	Government	88.0
Total	120	100.0	Total	92	100.0	Total	77.0

(*Source*: Analysis of field data)

Figure 8 depicts the participants and respondents to the survey indicating the seventy seven per cent for the total response to the survey. The survey and interview were administered by the research team from TTI which had guaranteed the independency of the participants to involve in the survey and interview or not. This has helped in the achievement of the good number of turn out in both survey and interview.
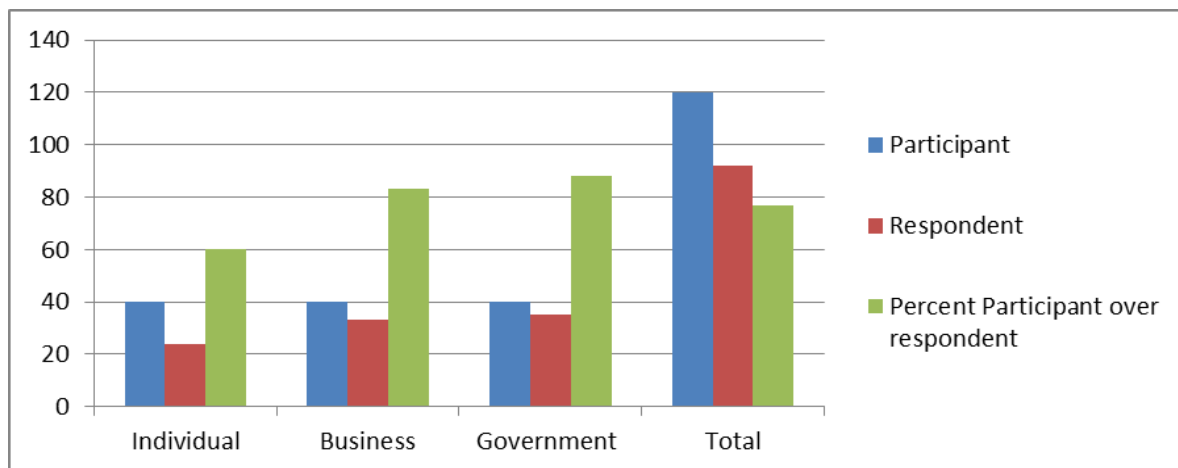
FIGURE 8: NUMBER OF PARTICIPANTS AND RESPONDENTS TO THE SURVEY
(*Source*: Analysis of field data)

4.2.2 Position of Respondents to the Survey

There were ninety two participants responded to the survey and their positions are depicted in Figure 9. The majority of the respondents hold managerial positions (consisting of 19 or 21 per cent) at both government and business organisations , followed by accountants (13 or 14 per cent), clerical officers (10 or 13 per cent), economists (8 or 9 per cent), domestic workers (7 or 8 per cent), chief executive officer or CEO (6 or 7 per cent), deputy chief executive officers or deputy CEO (6or 7 per cent), Secretary (4 or 4 per cent), supervisors (4 or 4 per cent), statisticians (3 or 3 per cent), teachers (3 or 3 per cent), . There are five respondents in the category for others which include one position each for driver, politician, nursing officer, planning officer and scientist.
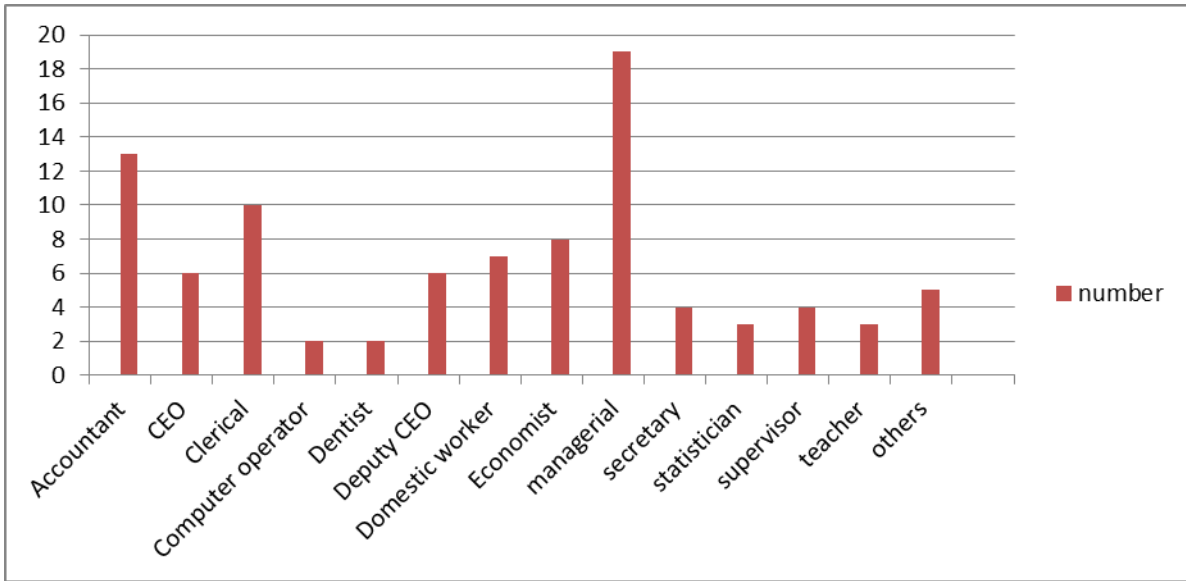
FIGURE 9: POSITION OF RESPONDENTS TO THE SURVEY

(*Source*: Analysis of field data)

The respondents indicate in the survey the specific customer group they represent which is either individual customer group, business customer group or government customer group. Some of the government workers filled in the survey from their experience as individual customers of MRS rather than from government's transactions

4.2.3 Responses from Small and Large Businesses

The group of customer from business organisations was divided into small and large businesses based on the amount of annual sales. Small business is defined by MRS with a threshold of an annual turnover of less than one thousand pa'anga or fifty thousand USD dollars, and exceeding that benchmark is a large business. This dual classification of businesses has been used by MRS for the consumption tax purposes. From Table 7 most of the responses from the business customers came from large business with 78.8 per cent, compared with 21.2 per cent from small businesses.

TABLE 7: RESPONSES FROM SMALL AND LARGE BUSINESSES TO THE SURVEY

Type of Business	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid small business	7	7.6	21.2	21.2
large business	26	28.3	78.8	100.0
Total	33	35.9	100.0	
Individual	24	64.1		
Government	35	100.0		
Total	92			

(*Source:* Analysis of field data)

Figure 10 shows the number of respondents to the survey from small and large businesses. The high percentage rate of the respondents from the large businesses over the small businesses could indicate the large number of employees taken up by large businesses compare with that in the small scale businesses.
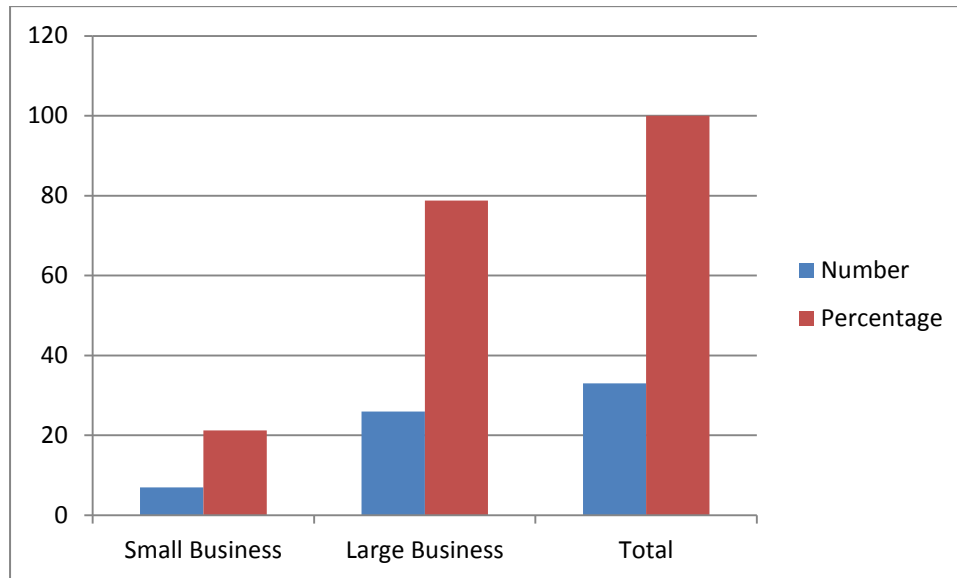
FIGURE 10: RESPONDENTS FROM SMALL AND LARGE BUSINESSES TO THE SURVEY
(*Source*: Analysis of field data)

4.2.4 Responses to the Survey by Gender

The actual number of females and males responded to the survey was coincidently equal to 50 per cent each. Table 8 shows the gender results.

TABLE 8: RESPONDENTS BY GENDER

Gender		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Female	46	50.0	50.0	50.0
	Male	46	50.0	50.0	100.0
	Total	92	100.0	100.0	

(*Source:* An Analysis of field data)

4.2.5 Frequency of Usage of Services of MRS

Table 9 shows that the services of MRS have been used mostly by the respondents on a monthly and yearly basis, constituting 30.4 per cent each. The weekly usage was 20.7 per cent and 18.5 per cent for quarterly basis.

TABLE 9: FREQUENCY OF USAGE OF SERVICES OF MRS

Time		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Weekly	19	20.7	20.7	20.7
	Monthly	28	30.4	30.4	51.1
	Quarterly	17	18.5	18.5	69.6
	Yearly	28	30.4	30.4	100.0
	Total	92	100.0	100.0	

(*Source:* **Analysis of field data**)

Figure 11 shows the regular time for usage of the service of MRS by the respondents to the survey. The tax returns are submitted annually. However, the monthly usage of the service of MRS could be related to the submission of the consumption tax, which is done monthly. The weekly users could be for using of the services of MRS provided by the Custom Service Division for clearance of imported goods mostly at the wharf warehouses.
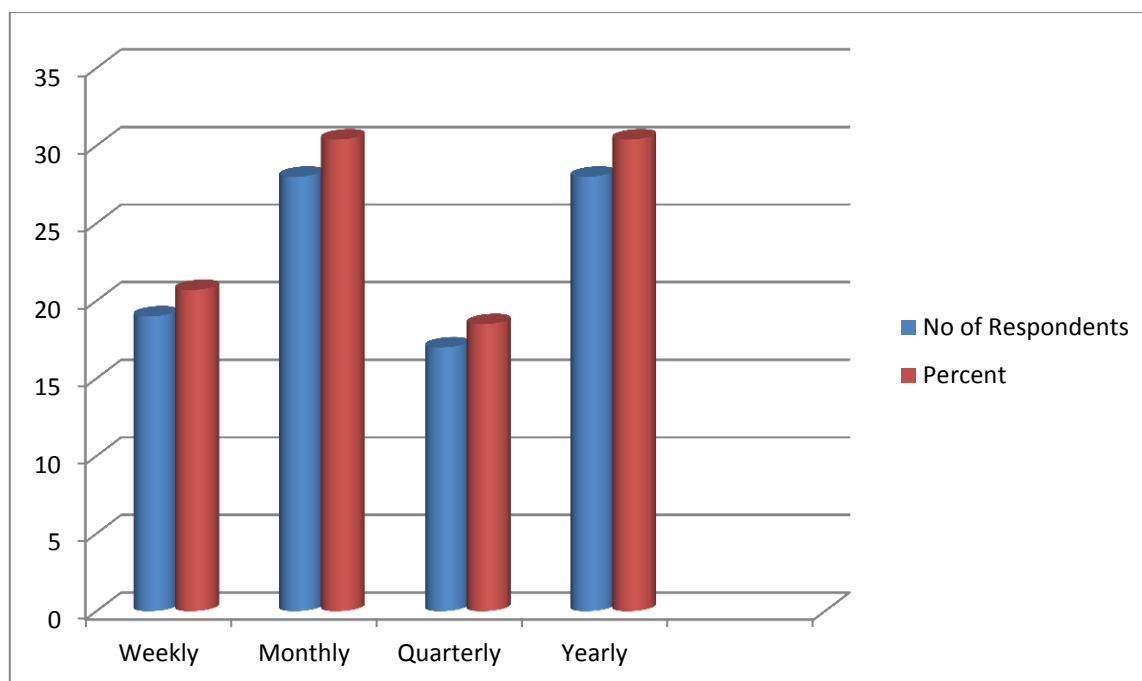
FIGURE 11: REGULAR TIME FOR RESPONDENTS USAGE OF THE SERVICE OF MRS
(*Source*: **Analysis of field data**)

4.2.6 Years of Interacting with the Services of MRS

In order to determine the impact of the public sector reform on the customer services of the Government to the public, representing by MRS, two timelines have been set and the respondents are divided accordingly: (i) Customer group interacting with MRS within 10 years and (ii) Customer group interacting with MRS over than 10 years. The public sector

reform started in 2001 and the effect of the reform would be seen in the service of MRS within the 10 year timeline. Beyond 10 years interaction with MRS is an accumulated experience well before the inception of the public sector reform. As shown in Table 10 most of the respondents with 55.4 per cent have been in contact with the services of MRS for more than 10 years, and 44.6 per cent within the vicinity of 10 years. However, the numbers for these two cohorts are fairly closed.

TABLE 10: YEARS OF INTERACTING WITH THE SERVICES OF MRS

Years of Service		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	up to 10 years	41	44.6	44.6	44.6
	more than 10 years	51	55.4	55.4	100.0
	Total	92	100.0	100.0	

(*Source:* Analysis of field data)

Figure 12 shows the frequency of the years of service between the respondents interacting with the services of MRS within ten years from the public sector reform and those over ten years. The difference between the number of these two customer groups is 10.8 per cent, indicating a long time span that these customers have been dealing with the services of MRS. They have long history of experiences with the service performance of MRS relevant for this research.
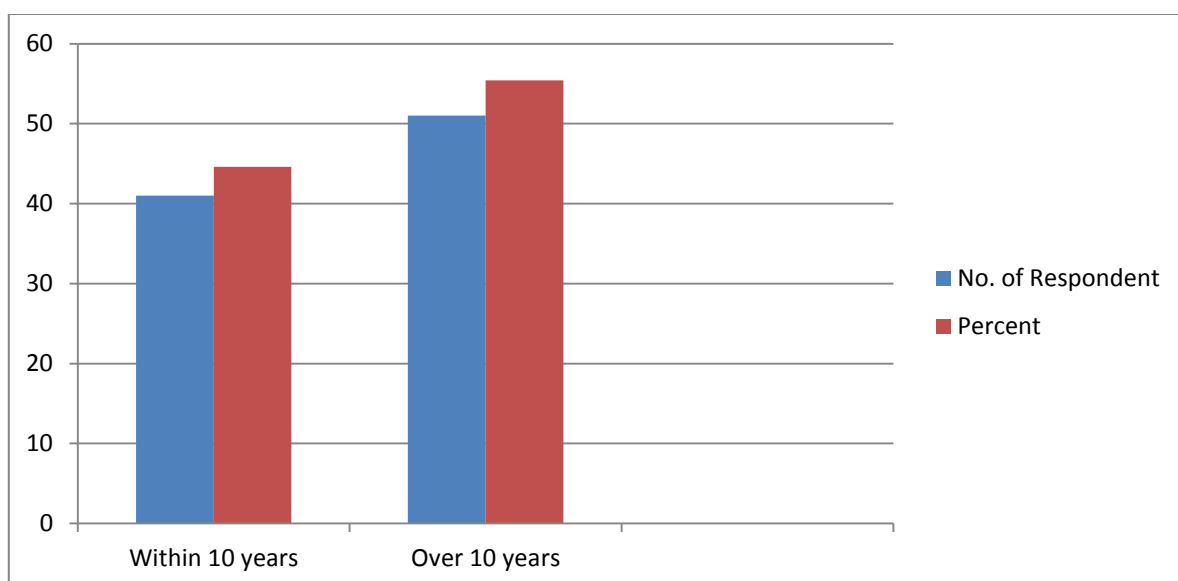
FIGURE 12: YEARS OF INTERACTION WITH MRS WITHIN AND OVER TEN YEARS
(*Source:* Analysis of field data)

The respondents from the government departments have recorded the majority of twenty one who have been interacting with MRS over ten years relative to the other two groups from individual and business customers. As shown in Table 11 it is the respondents from business customers who have made the largest numbers of sixteen compare to the other

two customer groups. These differences in the number of respondents from the three customer groups may not have significant effects in the outcome of the research.

TABLE 11: NUMBER OF RESPONDENTS INTERACTING WITH MRS WITHIN AND OVER TEN YEARS BY CUSTOMER SUB-GROUP

Years of Service	Individual	Business	Government Departments	Total
Up to 10 years	11	16	14	41
Over 10 years	13	17	21	51
Total	24	33	35	92

(*Source:* Analysis of field data)

The years of interaction between the respondents to the survey and MRS within, and over ten years of service are depicted in Figure 11. In looking at the individual customer sub-group, the individual customers registered eleven for interacting with MRS within ten years and thirteen over ten years. For business customers, sixteen show experiences with the service of MRS within ten years and seventeen over ten years. In terms of government departments fourteen have been dealing with the services of MRS within ten years and twenty one over ten years.
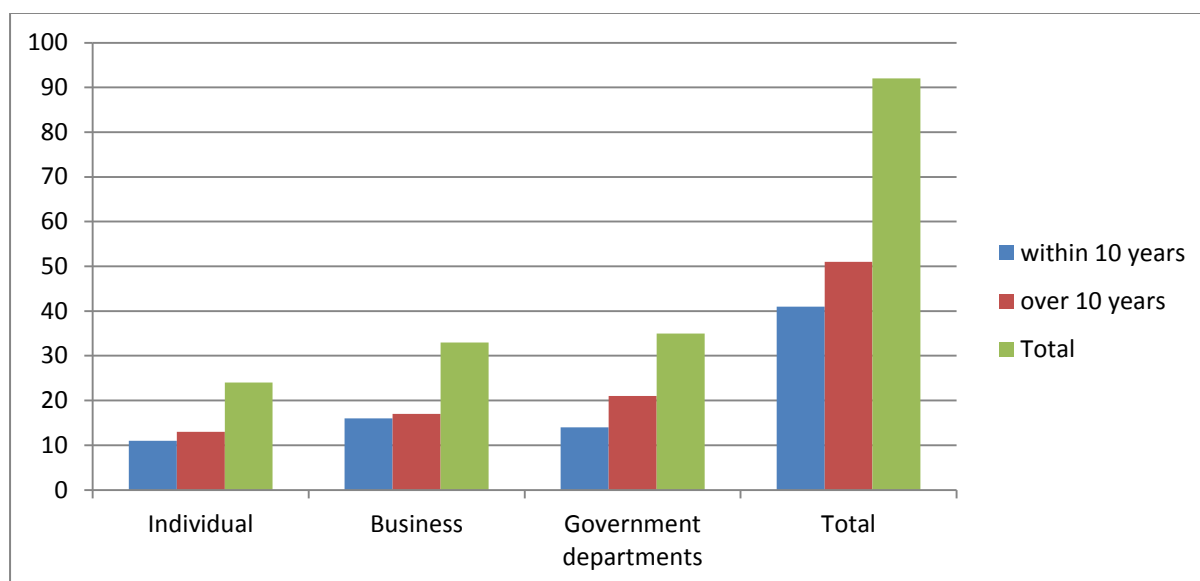
FIGURE 13: RESPONDENTS' INTERACTION WITH MRS WITHIN AND OVER TEN YEARS
(*Source:* Analysis of field data)

4.2.7 Usage of Services of Corporate Division of MRS

The results in Table 12 indicate that most of the customers used the services of the Custom and Trade division with 44.6 per cent, and then followed by Income Tax Division with 38.0 per cent relating to filing of income tax returns, Consumption Tax with 12.0 per cent and then others, relating to corporate service and legal divisions, with 5.4 per cent. Dealing with

Custom and Trade division relates mainly for clearance of imported goods from wharf and airport in Tongatapu.

TABLE 12: USAGE OF SERVICES OF CORPORATE DIVISIONS OF MRS

Type of Services		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Custom and Trade	41	44.6	44.6	44.6
	Income Tax	35	38.0	38.0	82.6
	Consumption Tax	11	12.0	12.0	94.6
	Others	5	5.4	5.4	100.0
	Total	92	100.0	100.0	

(*Source:* **Analysis of field data**)

Since most of the respondents have been dealing with the services of MRS through Custom and Trade (44.6 per cent) and income tax (38 per cent) their responses to the survey and interview would reflect their perception over the services of these two divisions. Figure 14 shows the frequency of usage of MRS corporate divisions. The interaction with the service of MRS on consumption tax is relatively small which may relate only to businesses submitting monthly consumption tax returns. It should be noted that consumption tax is being levied on both goods and services and that importers are paid consumption tax together with duty at the wharf for releasing of their goods from the custom warehouses.
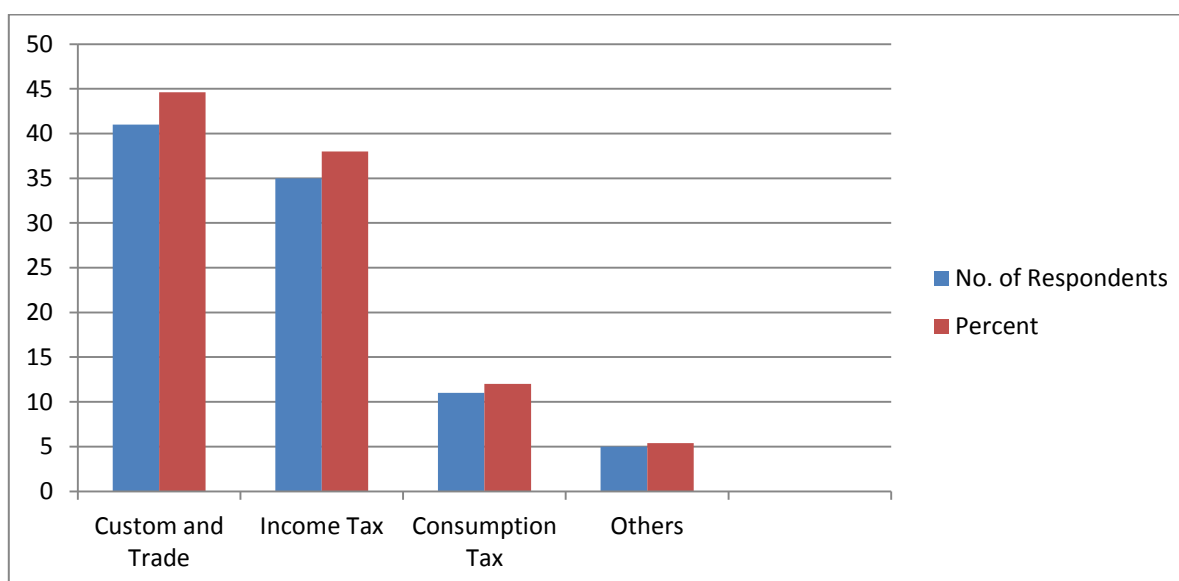
FIGURE 14: FREQUENCY OF USAGE OF SERVICES OF MRS BY CORPORATE DIVISION
(*Source:* **Analysis of field data**)

4.2.8 Types of Corporate Services offered by MRS

The result in Table 13 reveals that the services of the Custom and Trade division has been mostly used with 53.5 per cent, and then Income tax with 27.2 per cent, consumption tax

with 15.2 per cent and then others, relating to corporate service and legal divisions, with 15.2 per cent.

TABLE 13: TYPE OF SERVICES OF MRS MOSTLY USED

Type of services		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	custom and trade	49	53.3	53.3	53.3
	income tax	25	27.2	27.2	80.4
	consumption tax	14	15.2	15.2	95.7
	Others	4	4.3	4.3	100.0
	Total	92	100.0	100.0	

(*Source:* Analysis of field data)

As depicted in Figure 15 the services of MRS mostly used by the respondents are those related with the custom and trade and income tax. These two services should be priority for MRS for improvement of customer services. They are at the pressure point from the public for better services.
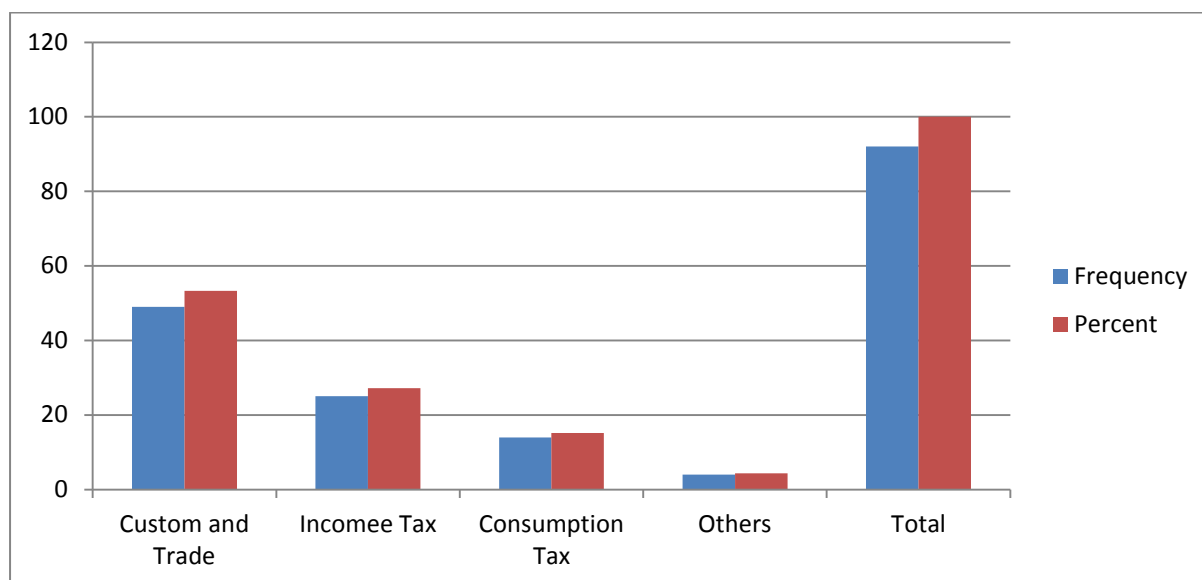
FIGURE 15: FREQUENCY OF THE TYPE OF SERVICES OF MRS MOSTLY USED
(*Source:* Analysis of field data)

4.2.9 Average Annual Payment to MRS

It is clear that majority of the respondents with 61.5 per cent paid to MRS through taxes and service fees the amount within the range of ten thousand pa'anga mark indicating their income level and frequency of using of MRS services, and then followed by the second range of between over ten thousand pa'anga and fifty thousand with 16.5 per cent. There were 5.5 per cent of respondents paid annually within the range of between over one hundred thousand and five hundred thousand and then 7.7 per cent between over five hundred thousand and beyond. The higher payments starting from five hundred thousand marks and

above were made by businesses. Table 14 shows the average annual payment to MRS by the respondents in the survey.

TABLE 14: AVERAGE ANNUAL PAYMENT TO MRS

Payment range		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	1 - 10,000	56	60.9	61.5	61.5
	10,001 - 50,000	15	16.3	16.5	78.0
	50,001 - 100,000	8	8.7	8.8	86.8
	100,001 - 500,000	5	5.4	5.5	92.3
	500,001 and above	7	7.6	7.7	100.0
	Total	91	98.9	100.0	
Missing	System	1	1.1		
Total		92	100.0		

(*Source:* Analysis of field data)

The results in Figure 16 show the respondents annual payment to MRS. The payment range indicates that majority of the respondents are dealing with the services of MRS through custom and trade in relating with their imported goods.
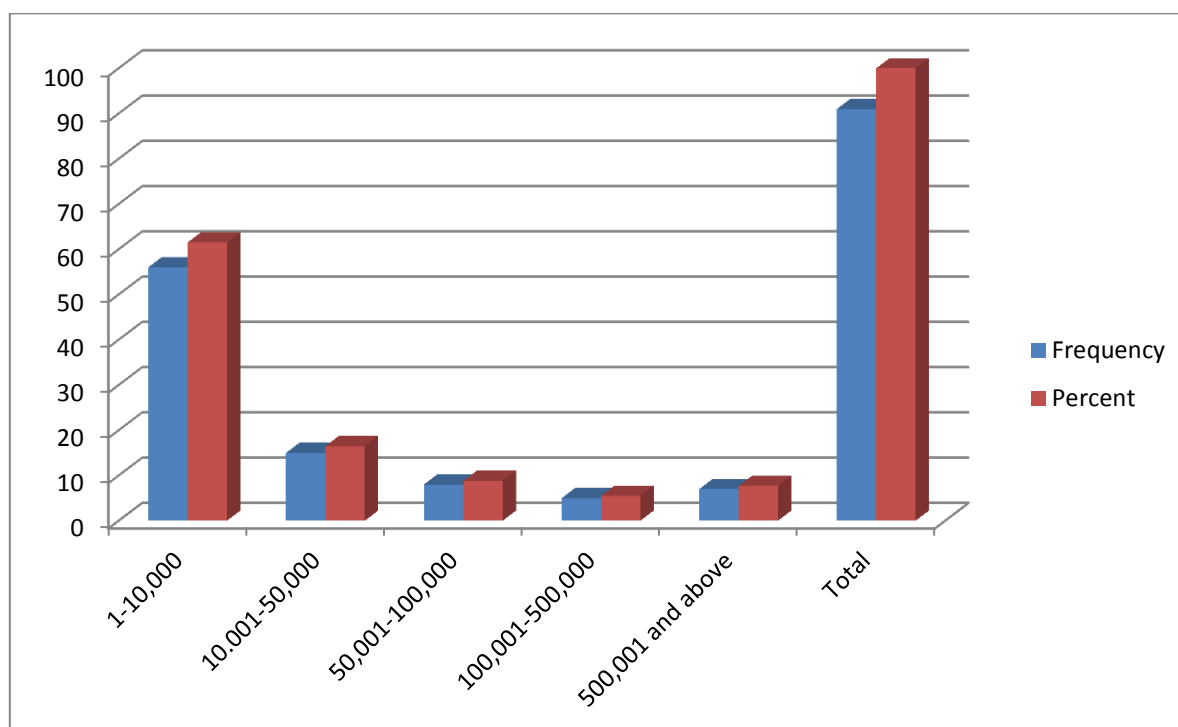
FIGURE 16: RESPONDENTS ANNUAL PAYMENT TO MRS
(*Source:* Analysis of field data)

4.2.10   Preparer of Import Documents

The data in Table 15 reveals that custom brokers have been responsible for preparing of the bulk of the import documents with 70.3 per cent, and then followed by own organisation with 16.5 per cent and personally with 12.1 per cent. Customer brokers were introduced in

2008. Before 2008 anyone could prepare the custom documents and then presented to MRS for processing and payment of fees and duties. The change into customer broker was made in response to serious concerns over potential conflict of interest and corruption by MRS' officers involving in preparing both of the public import documents and also deciding the amount of duty and consumption tax to be paid through their office in the Custom and Trade Division.

TABLE 15: PREPARER OF IMPORT DOCUMENTS

Agency		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	custom brokers	64	69.6	70.3	70.3
	private accounting firm	1	1.1	1.1	71.4
	own organization	15	16.3	16.5	87.9
	Personally	11	12.0	12.1	100.0
	Total	91	98.9	100.0	
Missing	System	1	1.1		
Total		92	100.0		

(*Source:* Analysis of field data)

Figure 17 depicts the agency preparing the respondents import documents. The result shows entities other than customer brokers have prepared the documents for the public reflecting what had happened before the introduction of the customer broker in 2008. Since 2008 all import documents must be prepared by a registered custom broker authorised by MRS in accordance to its legislation.
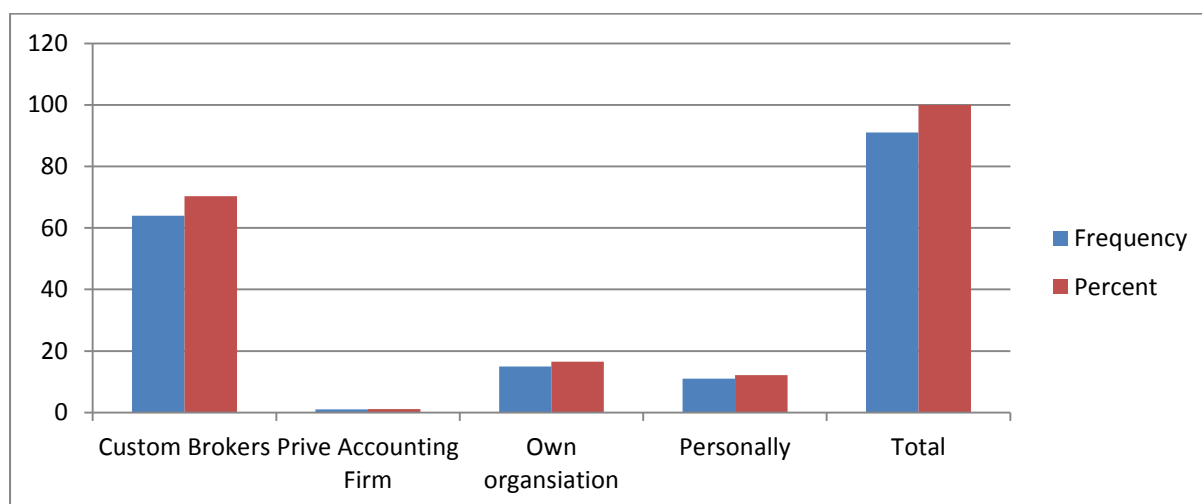
FIGURE 17: AGENCY PREPARING THE RESPONDENTS IMPORTS DOCUMENTS
(*Source:* Analysis of field data)

4.2.11 Preparer of Returns for Income and Consumption Taxes

In Table 16 most of the tax returns were prepared personally with 57.1 per cent, and then followed by own organisation with 28.6 per cent and accounting firm with 13.2 per cent.

The preparation of the Pay as You Earn Tax for the government and businesses employees is the responsibility of the employers in accordance with the income tax legislation.

TABLE 16: PREPARER OF RETURNS FOR INCOME AND CONSUMPTION TAXES

Agency		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	accounting firm	12	13.0	13.2	13.2
	own organization	26	28.3	28.6	41.8
	Personally	52	56.5	57.1	98.9
	Other	1	1.1	1.1	100.0
	Total	91	98.9	100.0	
Missing	System	1	1.1		
Total		92	100.0		

(*Source:* Analysis of field data)

The large portion (57.1 per cent) of the respondents shown in Figure 18 still preparing their tax returns personally rather than by an accounting firm could imply that the cost of using accounting firm is relatively high. It could also indicate the need for MRS to spend more time assessing the accuracy of the returns and also the need for providing training for the public to do the returns in compliance with the laws and the relevant accounting standards.
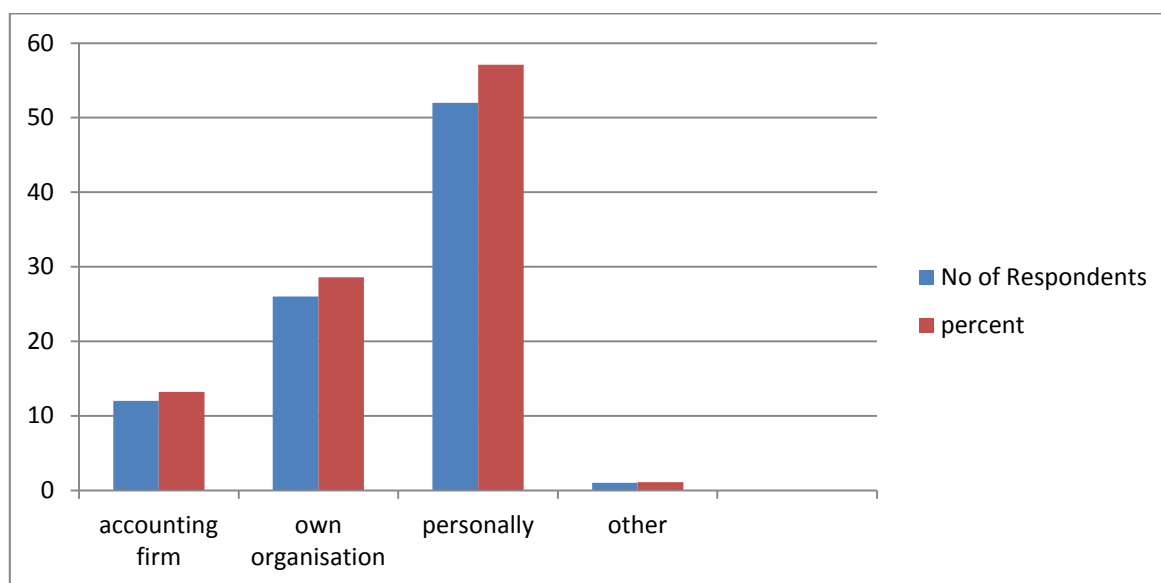
FIGURE 18: AGENCY PREPARING THE RETURNS FOR INCOME TAX AND CONSUMPTION TAX OF THE RESPONDENTS.
(*Source:* Analysis of field data)

4.2.12   Types of Tax Mostly Paid per Year

PAYE is the highest form of tax that had been paid by the respondents with 44.0 per cent, and then consumption tax with 31.9 per cent, and duty with 17.6 per cent. Table 17 shows the type of tax paid by the respondents to the survey.

TABLE 17: TYPE OF TAX MOSTLY PAID PER YEAR

Type of tax		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	PAYE	40	43.5	44.0	44.0
	Consumption tax	29	31.5	31.9	75.8
	Business income tax	6	6.5	6.6	82.4
	Duty	16	17.4	17.6	100.0
	Total	91	98.9	100.0	
Missing	System	1	1.1		
Total		92	100.0		

(*Source:* **Analysis of field data**)

The result shown in Figure 19 could indicate that majority of the respondents are in paid employment paying PAYE to MRS. The consumption tax is being levied in all goods and services selling within the country and that the response to this survey does not reflect that situation, which implies that the respondents only indicated the consumption tax they have paid directly through their imported goods at the custom and trade division which filed to MRS monthly for their businesses.
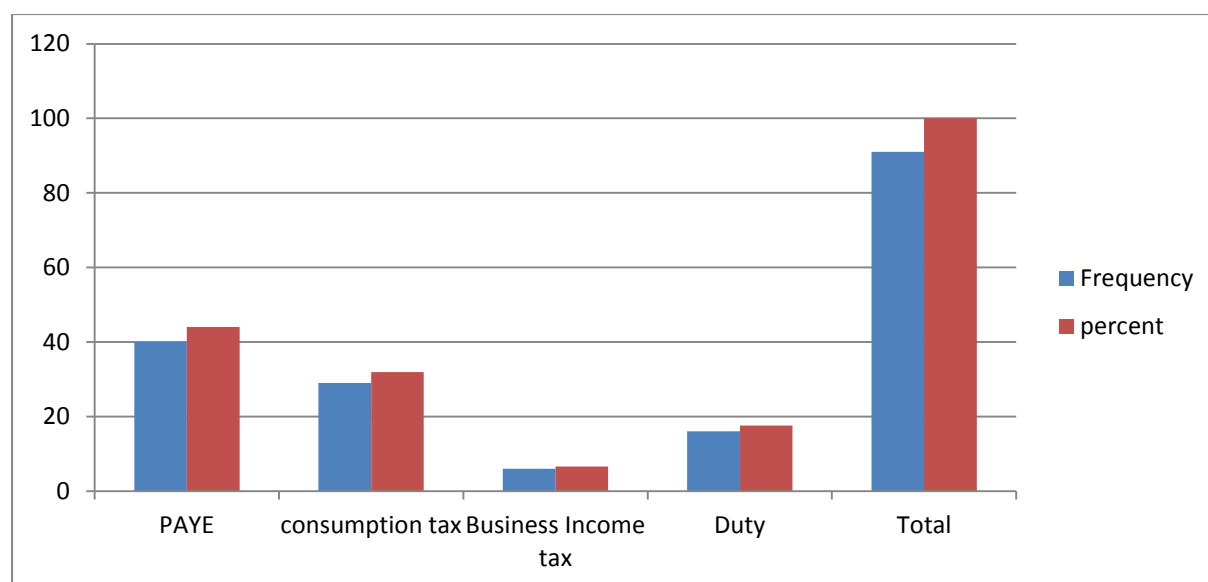
FIGURE 19: TAX MOSTLY PAID ANNUALLY BY THE RESPONDENTS

(*Source*: **Analysis of field data**)

4.2.13   Length of Waiting Time for Services of MRS

The longest waiting time shown in Table 18 was between 6 to 10 minutes, and 21 minutes and over, with both accounting for 25.3 per cent each. Served at once was only 5.5 per cent, but waiting time between 1 to 5 minutes was 16.5 per cent, and between 1 to 15 minutes was 17.7 per cent. Some of the respondents indicated that their longest waiting time occurred at the peak times such as Christmas time. At this time there are shortages of staff at the Customer and Trade division as some of their staff took up their annual leave. So MRS has to plan to mobilize more staff to serve the public at the peak time, and also to review the annual leave of their staff not to worsen the situation when more staff is needed at work. Their staff annual leave plan should take into account the volume of the works of MRS to match the needs of the public efficiently.

TABLE 18: LENGTH OF WAITING TIME FOR SERVICES OF MRS

Waiting time		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	served at once	5	5.4	5.5	5.5
	1 to 5 minutes	15	16.3	16.5	22.0
	6to 10 minutes	23	25.0	25.3	47.3
	11 to 15 minutes	17	18.5	18.7	65.9
	16to 20 minutes	8	8.7	8.8	74.7
	21 minutes and more	23	25.0	25.3	100.0
	Total	91	98.9	100.0	
Missing	System	1	1.1		
Total		92	100.0		

(*Source:* **Analysis of field data**)

The results shown in Figure 20 desire a great improvement in MRS customer services to meet customers' expectation and also the goals it sets out in its customer service charter. Since most of the respondents are workers they want to see great improvement in efficiency in the operation of MRS to serve their needs promptly and properly in order to get back to their respective works quickly rather than spending unreasonable amount of time waiting for the service of MRS to complete.
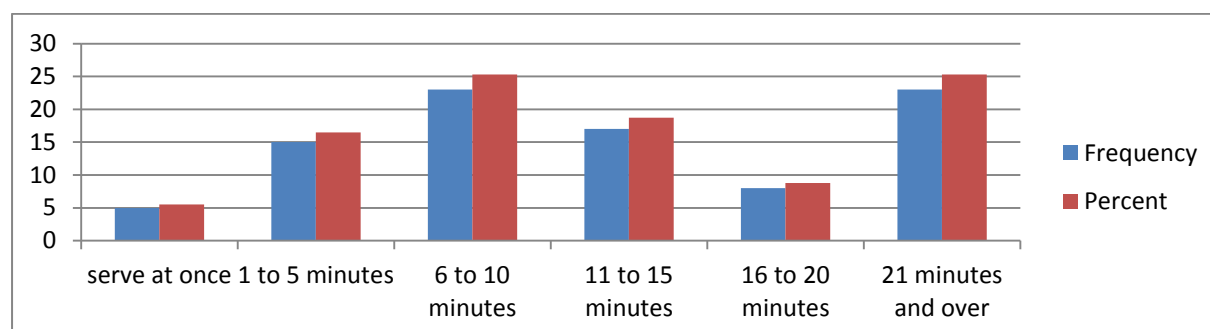
FIGURE 20: WAITING TIME FOR THE SERVICE OF MRS.

(*Source:* **Analysis of field data**)

4.2.14   Reasons for Waiting Time for Services of MRS

To find out the reasons behind the waiting time for the services of MRS, Table 19 points out that slowness was the highest contributor for waiting time with 33.0 per cent, and then queue with 31.9 per cent, no one in office with 20.9 per cent and 11.0 per cent for employee verbal or phone conversation.

TABLE 19: REASONS FOR WAITING FOR SERVICES OF MRS

Reason		Frequency	Per cent	Valid Per cent	Cumulative Per cent
Valid	Queue	29	31.5	31.9	31.9
	Slowness	30	32.6	33.0	64.8
	no one in office	19	20.7	20.9	85.7
	Employee conversation or phone	10	10.9	11.0	96.7
	Other reasons	3	3.3	3.3	100.0
	Total	91	98.9	100.0	
Missing	System	1	1.1		
Total		92	100.0		

(*Source: A*nalysis of field data)

The result as depicted in Figure 21 reveals a serious issue with waiting time in the service of MRS. Queue could indicate the need for more staff to serve the public quickly. System should be developed to manage systematically queuing for the services. Some respondents suggested that staffs of MRS "are too fat" and should be made physically fit to speed up their work. No one in office is serious and should be addressed quickly, which could indicate that staff are away for their own personal business during working hours, leaving the public waiting at the counter without anyone to attend and cater for their services at once. In addition, conversation by phone or with other staff should be remedied to shorten the waiting time for the public. The respondents view staff conversations negatively as giving an impression that MRS staff are not caring to them and treat them as not important. This negative perception should be rectified with staff training and appropriate sanctions and disciplines.
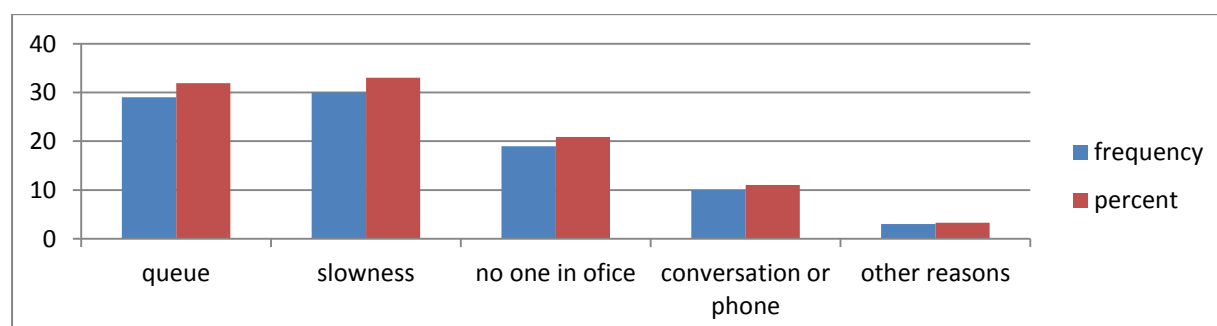
FIGURE 21: REASONS FOR WAITING TIME FOR THE SERVICE OF MRS.
(*Source:* Analysis of field data)

4.3   Data Analysis

The fundamental research question that deals with in this research is: 'what are the critical gaps between the customers' expectations and perceptions on the quality of service rendered by the public sector in Tonga based on the performance of MRS? This question was underpinned by a number of research objectives to determine:-

1. Current customers' expectations and perception son the performance level in the quality of service delivered by MRS;
2. Critical gaps between the customers' expectations and perceptions in the quality of service performed by MRS; and
3. Other factors of service dimensions rated as important for improving of MRS customer services

4.3.1 Expectation and Perception over MRS Customer Services

The assessment of the customer service of MRS from the external customer perspective requires the knowledge of the level of customer expectations and perceptions over the years. The respondents rating of their expectations and perceptions provide the data for establishing the base line for their expectation and perception. The means for the level of the customers' expectation and perception over the services of MRS are set out in Table 20.

TABLE 20: MEANS FOR EXPECTATION AND PERCEPTION ON INDIVIDUAL FACTORS BY THREE CUSTOMER GROUPS OVERALLS

Service factors	Aggregate Customer Group Overall)		Customer Group Overall Interacting within 10 years		Customer Group Overall interacting over 10 years	
	Expectation rating	Perception rating	Expectation rating	Perception rating	Expectation rating	Perception rating
1.Modern looking equipment	6.04	4.18	6.02	4.17	6.06	4.18
2.Visually appealing physical facilities	5.83	4.27	6.04	4.25	5.67	4.29
3.Employees appear professionally dressed	6.21	5.17	6.32	5.24	6.12	5.12
4.matearials are visually appealing	6.10	4.71	6.17	4.76	6.04	4.67
5.Doing promises to do things by a certain time	6.03	4.16	6.22	4.27	5.88	4.08
6.showing sincere interest in solving a problem	6.07	4.18	6.29	4.20	5.88	4.18
7.performing the service right the first time	5.96	4.14	6.02	4.15	5.90	4.14
8.providing the services at the promised time	6.03	4.30	6.10	4.51	5.98	4.14
9.insisting on error-free records	6.26	4.80	6.41	4.78	6.14	4.82
10.telling exactly when services to be performed	5.96	4.35	6.02	4.46	5.90	4.25
11.giving prompt service	5.99	4.25	6.17	4.37	5.84	4.16
12.always willing to help	6.18	4.57	6.34	4.76	6.06	4.41
13.never too busy to respond to requests	5.91	4.30	6.05	4.20	5.80	4.39
14. employees behaviour instilling confidence	6.17	4.61	6.37	4.68	6.02	4.55
15.feeling safe in transaction	6.23	4.70	6.46	4.73	6.04	4.67
16.showing consistent courteous	6.26	4.78	6.39	4.71	6.16	4.84
17.having the knowledge to answer questions	6.17	4.80	6.32	4.78	6.06	4.82
18.giving individual attention	6.04	4.53	6.15	4.61	5.96	4.47
19.having convenient operating hours to all	6.11	4.73	6.34	4.93	5.92	4.57
20.giving personal attention	5.87	4.55	6.02	4.61	5.75	4.51
21.havng your best interests at heart	6.07	4.63	6.15	4.73	6.00	4.55
22. understanding your specific needs	6.26	4.82	6.39	4.90	6.16	4.75
Overall mean of the service dimension	6.08	4.52	6.22	4.58	5.97	4.48

(*Source:* Analysis of field data)

The results in Table 21 illustrate that the Customer Group Overall interacting with the services of MRS within 10 years have a higher means for both expectation rating of 6.22 and perception rating of 4.58 relative to the means of the expectation rating of 6.08 and perception rating of 4.52 for the Aggregate Customer Group Overall and 5.97 and 4.48 for expectation and perception ratings, respectively for Customer Group Overall interacting with the services of MRS for more than 10 years. Three service factors with the highest mean of expectation rating of 6.26 for customer group overall related to 'Insisting on error –

free records', 'Showing consistent courteous', and 'Understanding of specific needs. 'Employees do appear professionally dressed' was the service factor with the highest mean of 5.17 for perception rating for the Aggregate Customer Group Overall. For within 10 years of service the service factor with the highest mean for expectation rating was 'Feeling safe in transaction' of 6.46 compared to the mean of 5.24 for the factor of 'Employees do appear professionally dressed' on perception rating. Two factors with the highest mean of 6.16 for expectation rating for interacting with MRS for over 10 years were 'Understanding specific needs' and ' Showing consistent courteous. Both Aggregate Customer Groups Overall of 5.17 and Customer Group Overalls interacting years of service for both within 10 years of 5.24 and over 10 years of 5.12 were consistent in attributing to the highest mean for perception rating to the service factor of 'Employees do appear professionally dressed'.

The twenty two service factors are grouped into five service dimensions, namely tangibility, reliability, responsive, assurance and empathy, and Table 21 present the results for expectation rating and perception rating by Aggregate Customer Group overall, Customer Group Overall interacting within 10 years of service, and Customer Group Overall interacting for more than 10 years.

TABLE 21: MEANS FOR EXPECTATION AND PERCEPTION RATINGS OF INDIVIDUAL SERVICE FACTORS INTO FIVE SERVICE DIMENSIONS

	Aggregate Customer Group Overall		Customer Group Overall Interacting within 10 years		Customer group Overall Interactingover10 years	
5 Service Dimensions Group	Expectation rating	Perception rating	Expectation rating	Perception rating	Expectation rating	Perception rating
Tangibility	6.05	4.58	6.14	4.61	5.97	4.56
Reliability	6.07	4.32	6.21	4.38	5.96	4.27
Responsiveness	6.01	4.37	6.15	4.45	5.90	4.30
Assurance	6.21	4.72	6.38	4.73	6.07	4.72
Empathy	6.07	4.65	6.21	4.76	5.96	4.57
Total Mean	6.08	4.52	6.22	4.58	5.97	4.48

(*Source*: Analysis of field data)

The total means for expectation rating of 6.22 and perception rating of 4.58 for Customer Group Overall interacting with MRS within ten years exceeded those for Aggregate customer group with means of 6.08 for expectation rating and 4.52 for perception rating, and that of Customer Group interacting with MRS over ten years with means of 5.97 for expectation rating and 4.48 for perception rating.

On specific service dimension the highest mean for expectation rating relates to assurance of 6.38 and then 6.21 mean for reliability and empathy under customer group interacting with MRS within 10 year horizon. The last two service dimensions in the ranking of expectation rating are responsiveness with 6.15 and tangibility with 6.14. On the aspect of perception rating the highest mean attributed to empathy with 4.76 and then assurance with 4.73 both under the Customer Group Overall interacting with MRS within 10 years,

tangibility with 6.14 under the category of Customer Group Overall interacting with MRS within 20 years, 4.45 for responsiveness and 4.38 for reliability. The two service dimensions with the lowest means for perception across all categories are reliability and responsiveness indicating that they may have critical performance gaps.

The means for expectation and perception rating for individual customer sub-group, business customer sub-group and government departments customers sub-group are set out in Table 22 and presented in terms of Aggregate Customer Group Overall, and Customer Group Overalls interacting with MRS within 10 years, and Customer Group Overall interacting with MRS over 10 years.

TABLE 22: MEANS FOR EXPECTATION AND PERCEPTION RATING FOR THREE CUSTOMER GROUP OVERALLS

	Aggregate Customer Group Overall			Customer Group Overall interacting with MRS within 10 years			Customer Group Overall interacting with MRS over 10 years		
	Individual	Business	Government	Individual	Business	Government	Individual	Business	Government
Expectation Rating	5.95	6.05	6.18	6.55	5.91	6.28	5.45	6.19	6.11
Perception Rating	3.97	4.71	4.71	4.25	4.67	4.72	3.74	4.76	4.71

(Source: Analysis of field data)*

Across the three main categories of customer Group overalls for the research (.i.e. Aggregate Customer Group Overall, Customer Group Overall interacting with MRS within 10 years, and Customer Group Overall interacting with MRS over 10 years) the highest mean for expectation rating was recorded for individual customer sub-group with 6.55 and then by government customer sub-group with 6.28 both within the category of Customer Group Overall interacting with MRS within 10 years. The second highest expectation rating was within the category of interacting with MRS over 10 years with the means of 6.19 for business customer sub-group and 6.11 for government customer sub-group. The category for aggregate customer group overall has the least means of expectation rating of 6.18 for government and 6.05 for business. However, in terms of perception rating the highest means were in business customer with 4.76 and then government with a mean of 4.71 both under the category of interacting with MRS over 10 years. The next in the sequence of highest mean is the category for interacting with MRS within 10 years, with the means of 4.72 and 4.67 for government and business customers, respectively. The category for aggregate customer group overall has the least perception rating with means of 4.71 for both government and business customer sub-groups and then 3.97 for individual customer subgroup.

In looking into each category starting with the aggregate overall customer group, the highest mean for expectation was government (6.18) and then business (6.05) and individual (5.95). However, both government and business customers' sub-groups in that group have the same mean of 4.71 for perception rating, with the least by individual

customer sub-group (3.97). Interesting, when it comes to the customer group overall interacting with the service of MRS within 10 years the highest mean went to individual (6.55) and then government (6.28) and business (5.91). In the same category, the packing order is changed when ranking is applied to perception with the highest mean accorded to government (4.72) and then business (4.67) and the lowest with individual (4.25). In the last category of customer group overall interacting with the services of MRS beyond 10 years, business customer got the highest mean (6.19), followed by government (6.11) and then by individual (5.45). In the same category, the same order is maintained when comparing their means for perception rating with the highest registered for business (4.76) and then by government (4.71) and individual customer (3.74).

Having discussed the means for expectation and perception for individual service factors and five service dimensions by three customer sub-groups of MRS within the three categories for customer group overalls, the next section assesses the significant difference between their expectation level and perception level.

2.1.1.1 Hypothesis 1 – Level of Expectation

H1: That there are significant differences of expectations in the quality of service performed by MRS among (a) aggregate customer group overall, customer group overall interacting with MRS within 10 years, and customer group interacting with MRS over 10 years and within (b) three specific customer sub-groups representing individual customers, business customers, and government departments customers.

A Levene's t-test (Table 23)[2] was done to test whether the differences in the means of the level of expectation among the aggregate customer group overall (6.08), customer group overall interacting with MRS within 10 years from public sector reform (6.22), and customer group overall interacting with MRS over 10 years (5.97) are significant. This independent-samples t-test is also applied to determine if any differences in the means between two groups was due to the independent variable or was it simply due to chance. The Levene's test for equality of variance shows the significant values of 0.175 for customer group overall, 0.290 for customer group overall interacting within 10 years of service, and 0.301 for customer group overall interacting over 10 years of service are all well above the 0.05 significant rating required to support the hypothesis. Also the probability of all the three groups in the 'Sig. (2-tailed)" (p = .460; .711; .464) were greater than the significance level of .05 to support the hypothesis. This concludes that there are no significant differences in the rating of the level of expectations among these three customer sub-groups. The variances of the groups were assumed to be equal and that the output in the "Equal variances assumed" row was used. As a result, hypothesis 1(a) is therefore rejected.

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[2] Please refer to Appendix 7 for t-test results for expectation rating and Appendix 8 for t-test results for perception rating of MRS customer service by three customer groups overalls

TABLE 23: INDEPENDENT- SAMPLES T – TEST OF EXPECTATION AND PERCEPTION MEANS FOR THREE CUSTOMER GROUP OVERALLS

Expectation Rating				Perception Rating		
	Sig.	t- value	Sig. (2-tailed)	Sig	t-value	Sig. (2-tailed)
Aggregate Customer group Overall	.175	.742	.460	.057	1.152	.252
Customer group Overall interacting within 10 years of service	.290	.373	.711	.001	.691	.494
Customer group overall interacting with more than 10 years	301	.738	.464	.871	1.067	.291

(*Source:* Analysis of field data)

A One-way Anova test shown in Table 24 was undertaken to test whether there are significant differences in the means of the expectation level within the three customer sub-groups of MRS namely, individual customers sub-group (5.98), business customers sub-group (6.05), and government departments customers sub-group (6.18) under the category of the aggregate overall customer group. The One-way Anova test recorded a significant level of .729, well above the .05 significant rating, to support the hypothesis H1 (b). Thus the test result concluded there is no significant difference existed between the means of the expected performance level within these three specific customer sub-groups. Hypothesis Hi (b) is therefore rejected.

TABLE 24: ONE – WAY ANOVA TEST–EXPECTED PERFORMANCE FOR AGGREGATE CUSTOMER GROUP OVERALL

Expectation of customers within the aggregate overall Customer Group	Sum of Squares	df	Mean square	F	Sig.
Between groups	.600	2	.300	.317	.729
Within Groups	84.196	89	.946		
Total	84.796	91			

(*Source:* Analysis of field data)

Further, a One-way Aova test shown in Table 25 was intended to test whether there are significant differences in the means of the expectation level within the individual customers sub-group (6.59), business customers sub-group (5.91), and government departments customers sub-group (6.28) in the customer group overall interacting with MRS within 10 years. The One-way Anova test provides the result of a significant level of .046, which is well below the .05 significant rating needed to support hypothesis H1 (b). That result demonstrates the existence of significant differences between the means of the expected performance level within the three specific customer sub-groups. Hypothesis Hi (b) is therefore supported for the customer group overall interacting with MRS within 10 years of service. In view of this result, a Tukey HSD was done to find out the specific customer sub-group between which the significant differences could be located. The Tukey test revealed significant differences in the means of the expected performance level of MRS between

individual customers sub-group and business customers sub-group of .688 and between business customers' sub-group and individual customers' sub-group of -.688.

TABLE 25: ONE – WAY ANOVA TEST – EXPECTED PERFORMANCE FOR CUSTOMER GROUP OVERALL WITHIN TEN YEARS SERVICE

Expectation of customer Group interacting with MRS within 10 years	Sum of Squares	df	Mean square	F	Sig.
Between groups	3.157	2	1.579	3.350	.046
Within Groups	17.910	38	.471		
Total	21.067	40			

(*Source:* Analysis of field data)

Moreover, a One-way Anova test shown in Table 26 was applied to test whether there are significant differences observed in the means of the expectation level in the individual customers sub-group (5.45), business customers sub-group (6.19), and government departments customer sub-group (6.11) in the category of customer group overall interacting with MRS over 10 years. The One-way Anova test resulted in a significant level of .151 which is above the .05 significant rating required to support hypothesis H1 (b). The test result suggests that there are no significant differences observed between the means of the expected performance level within the three specific customers sub-groups of MRS. Hypothesis Hi(b) is therefore rejected for the three specific customer sub-groups of MRS in the customer group overall interacting with MRS over 10 years.

TABLE 26: ONE – WAY ANOVA TEST – EXPECTED PERFORMANCE FOR CUSTOMER GROUP OVERALL OVER TEN YEARS SERVICE

Expectation of customer Group Overall interacting with MRS over 10 years	Sum of Squares	df	Mean square	F	Sig.
Between groups	4.724	2	2.362	1.968	.151
Within Groups	57.605	48	1.200		
Total	62.329	50			

(*Source:* Analysis of field data)

Having explained the significant differences for the mean expected performance level of MRS services to its customers, the next section examines the significant difference for their perceived performance level of MRS services.

2.1.1.2 *Hypothesis 2 – Level of Perception*

H2: That there are significant differences of perceptions in the quality of service performed by MRS among (a) aggregate customer group overall, customer group overall interacting with MRS within 10 years from public sector reform, and customer group overall interacting with MRS over 10 years and (b) within three specific customer sub-groups representing individual customers, business customers, and government departments customers.

It also shows in Table 23 the results of the Levene's t-test to determine whether there are significant differences identified in the means of the level of perception among aggregate customer group overall (4.52), customer group overall interacting within 10 years from the public sector reform (4.58), and customer group overall interacting over 10 years (4.48). The Levene's test for equality of variance shows the significant values of .057 for customer group overall and .817 for customer group interacting with more than 10 years of service. These results are all well above the 0.05 significant rating. However, the customer group overall interacting with MRS within 10 years of service has the probability for F value of .001 which is less than .05 and that the output in the "Equal variances not assumed was used. Nevertheless, the probabilities of all these three customer group overalls in the Sig. (2-tailed) are .252; .494; and .291. These are greater than .05, suggesting that Hypothesis 2(a) for the existence of significant differences of perceptions in the performance of MRS among the three customer group overalls is rejected.

In examining hypothesis 2(b) for three specific customer sub-groups within the aggregate customer group overall the results of the One-way Anova test (Table 27) shows a significant level of .046 which is less than the .05 significant rating required to validate Hypothesis H2(b). This test concludes there is significant difference existed within the three customer sub-groups. Hypothesis 2(b) is therefore supported. In view of this result, a Tukey HSD was done to find out the specific customer sub-groups between which the significant differences could be identified. The Tukey test revealed no significant differences in the means of the expected performance level of MRS between any of the three specific customer sub-groups.

TABLE 27: ONE – WAY ANOVA TEST –PERCEIVED PERFORMANCE FOR AGGREGATE CUSTOMER GROUP OVERALL

Perception of three customers sub-groups within the Aggregate Customer Group Overall	Sum of Squares	df	Mean square	F	Sig.
Between groups	9.377	2	4.688	3.191	.046
Within Groups	130.764	89	1.469		
Total	140.140	91			

(*Source:* Analysis of field data)

The result for one – way Anova test in Table 28 for perceived performance within the three specific customers' sub-groups within the customer group overall interacting with MRS within 10 years has a significant value of .620 which is higher than the .05 significant value required to up-hold hypothesis 2(b). The result indicates the absence of any significant difference in the level of perception within the three specific customer sub-groups experiencing within 10 years of service. As a result hypothesis 2(b) is therefore rejected.

TABLE 28: ONE – WAY ANOVA TEST – PERCEIVED PERFORMANCE FOR CUSTOMER GROUP OVERALL WITHIN TEN YEARS SERVICE

Perception of customer group overall interacting with MRS within 10 years	Sum of Squares	df	Mean square	F	Sig.
Between groups	1.357	2	.679	.484	.620
Within Groups	53.250	38	1.401		
Total	54.607	40			

(*Source:* Analysis of field data)

The result for one – way Anova test in Table 29 for perceived performance within the three specific customers sub-groups within the customer group overall interacting with MRS over 10 years has a significant value of .056, which is higher than the .05 significant value required to uphold hypothesis 2(b). The result indicates the absence of any significant difference existed in the perception level within the three specific customer sub-groups experiencing more than 10 years of service with MRS. As a result hypothesis 2(b) is therefore rejected.

Table 29: One – Way Anova test – Perceived Performance for Customer Group Overall over 10 years of service

Perception of customer group overall interacting over 10 years	Sum of Squares	df	Mean square	F	Sig.
Between groups	9.629	2	4.815	3.054	.056
Within Groups	75.668	48	1.546		
Total	85.297	50			

(*Source:* Analysis of field data)

Having analysed the mean expected performance level and the perceived performance level of MRS services to its three customer sub-groups, no significant differences identified across the three categories of customer group Overalls. However, within these categories of customer group overalls there is only one significant difference found in the expectation level of the customer group overall interacting with MRS within 10 years. The next section analyses the gaps between the mean expected performance level and the perceived performance level of MRS services to its three customer sub-groups.

2.1.1.3 *Hypothesis 3 – Significant Differences between Expectation and Perception of the Quality of customers' Services of MRS*

H3: That there are significant differences exist between the expected level and perceived level of the quality of service of MRS among (a) aggregate customer group overall, customer group overall interacting with MRS within 10 years from public sector reform, and customer group overall interacting with MRS over 10 years, and within (b) three customer sub-groups representing individual customers, business customers and government department customers.

The gaps between the mean expected performance level and the mean perceived performance level of the twenty two factors of service dimensions on MRS services to its three customer sub-groups are shown in Table 30.

Three factors of the service dimension with the highest mean of 6.26 for the expected performance level of MRS to the aggregate customer group overall are 'insisting on error-free records', 'showing consistent courteous' and 'understanding of specific needs'. However, 'feeling safe in transaction' had the highest mean of expected performance level of 6.46 in the customer group overall interacting with MRS within 10 years. Nevertheless, both customer group overall interacting with the service of MRS over 10 years and that of the aggregate customer group overall rated the highest mean for expectation (6.46) to two common factors of 'showing consistent courteous' and 'understanding of specific needs'.

In terms of perception level all three customer group overalls attributed the highest mean (5.17, 5.24 and 5.12, respectively) to the single factor of 'employees appear professionally dressed'. In terms of the performance gap both aggregate customer group overall and customer group overall interacting with MRS within 10 years identified the highest mean gap to the factor of 'showing sincere interest in solving problem'. However, the factor of 'modern looking equipment' showed the highest mean gap for the customer group overall interacting with MRS over 10 years.

In ranking the highest mean gap the first factor relates to 'Showing a sincere interest in solving problem' (2.10) and then followed by ''Doing promises to do thing by a certain time' (1.95) both under the customer group overall interacting with MRS within 10 years, and then the third position for the factor of 'Modern looking equipment' (1.88) in the customer group overall interacting with MRS over 10 years.

In the overall means for expectation and perception the highest levels (6.22 and 4.58, respectively) found in the customer group overall interacting with MRS within 10 years. The same customer group overall also had the highest mean gap of 1.64 and then followed by the aggregate customer group overall (1.56) and then the customer group overall interacting with MRS over 10 years of service (1.49). The results indicated the high expectation (.i.e. mean of 6.22) the customer group overall interacting with the services of MRS within 10 years, since the inception of the public sector reform, had held to be realised from the public sector reform and rated the actual performance at 4.58 leaving the highest performance gap of 1.64 to be bridged, desiring major changes for huge improvement to be made. This gap could indicate dissatisfaction with the customer service of MRS within the ten year period since the implementation of the public sector reform, in general, and MRS reform, in particular.

Table 30: Gap between the Mean Expected and Mean Perceived Performance Level by Factors

Gap between the mean expected performance level and perceived performance level of MRS to its customers									
Factors of Service dimension	Aggregate Customer group overall			Customer Group Overall interacting within 10 years			Customer Group Overall interacting over 10 years		
	Expectation	Perception	Gap	Expectation	Perception	Gap	Expectation	Perception	Gap
1.Modern looking equipment	6.04	4.18	1.87	6.02	4.17	1.85	6.06	4.18	1.88
2.Visually appealing physical facilities	5.83	4.27	1.56	6.04	4.25	1.79	5.67	4.29	1.37
3.Employees appear professionally dressed	6.21	5.17	1.03	6.32	5.24	1.07	6.12	5.12	1.00
4. Materials are visually appealing	6.10	4.71	1.39	6.17	4.76	1.41	6.04	4.67	1.37
5.Doing promises to do things by a certain time	6.03	4.16	1.87	6.22	4.27	1.95	5.88	4.08	1.80
6. Showing sincere interest in solving a problem	6.07	4.18	1.88	6.29	4.20	2.10	5.88	4.18	1.71
7. Performing the service right the first time	5.96	4.14	1.82	6.02	4.15	1.88	5.90	4.14	1.76
8. Providing the services at the promised time	6.03	4.30	1.73	6.10	4.51	1.59	5.98	4.14	1.84
9. Insisting on error-free records	6.26	4.80	1.46	6.41	4.78	1.63	6.14	4.82	1.31
10.Telling exactly when services to be performed	5.96	4.35	1.61	6.02	4.46	1.56	5.90	4.25	1.65
11. Giving prompt service	5.99	4.25	1.74	6.17	4.37	1.80	5.84	4.16	1.69
12. Always willing to help	6.18	4.57	1.62	6.34	4.76	1.59	6.06	4.41	1.65
13. Never too busy to respond to requests	5.91	4.30	1.61	6.05	4.20	1.85	5.80	4.39	1.41
14. Employees behaviour instilling confidence	6.17	4.61	1.57	6.37	4.68	1.68	6.02	4.55	1.47
15. Feeling safe in transaction	6.23	4.70	1.53	6.46	4.73	1.73	6.04	4.67	1.37
16. Showing consistent courteous	6.26	4.78	1.48	6.39	4.71	1.68	6.16	4.84	1.31
17. Having the knowledge to answer questions	6.17	4.80	1.37	6.32	4.78	1.54	6.06	4.82	1.24
18. Giving individual attention	6.04	4.53	1.51	6.15	4.61	1.54	5.96	4.47	1.49
19.having convenient operating hours to all	6.11	4.73	1.38	6.34	4.93	1.41	5.92	4.57	1.35
20. Giving personal attention	5.87	4.55	1.32	6.02	4.61	1.41	5.75	4.51	1.24
21. Having your best interests at heart	6.07	4.63	1.43	6.15	4.73	1.41	6.00	4.55	1.45
22. Understanding of your specific needs	6.26	4.82	1.45	6.39	4.90	1.49	6.16	4.75	1.41
Overall mean of the service dimension	6.08	4.52	1.56	6.22	4.58	1.64	5.97	4.48	1.49

(*Source:* Analysis of field data)

The 22 factors of service dimensions shown in Table 30 above are consolidated into five broad categories of service dimensions, namely: tangibility (.i.e. covering variables 1 to 4), Reliability (.i.e. covering variables 5 to 9), responsiveness (i.e. covering variables 10 to 13), Assurance (.i.e. covering variables 14 to 17) and empathy (.i.e. variables 18 to 22) in order to identify the ranking of the five service dimensions from the highest to the least performance gap, and the results represented in Table 31. Across the three categories of customer group overalls (.i.e. aggregate customer group overall, customer group overall interacting within 10 years, and customer group overall interacting over 10 years) they all agreed in identifying the two highest performance gaps in the service dimensions relating to reliability and responsiveness. The first two categories of customer group overalls made the same ranking with the performance gap of the five service dimensions being reliability, responsiveness, assurance, tangibility and empathy.

However, a slight different in the ranking is seen in the third category of customer group overall, with tangibility (1.41), empathy (1.39) and assurance (1.35) assuming the third, fourth and fifth positions, respectively. As alluded to before, the highest mean gap in the overall position across the three categories of customer group overalls is in the customer group overall interacting with MRS within 10 years (1.64) and then followed by aggregate customer group overall (1.56) and then customer group overall interacting with MRS over 10 years (1.49). Thus, the results, prime facie, suggest that reliability and responsiveness are the two service dimensions in need of greater improvements to satisfy the customers' expectations. Also, the customer group interacting with MRS within 10 years expressed greater dissatisfaction, based on their ranking of the highest performance gap, with the performance of MRS relative to the other categories of the customers' group overalls. This is the category of customer group overall that used in this research to assess the impact of the public sector reform that involved MRS. The result implies that they may have disappointed with the outcome.

TABLE 31: GROUPING OF 22 FACTORS OF SERVICE INTO FIVE SERVICE DIMENSIONS IN THREE CUSTOMER GROUPS OVERALLS

Gap between the mean expected performance level and perceived performance level of MRS services to its customers								
Service dimensions	Aggregate Customer Group Overall			Customer Group Overall interacting within 10 years			Customer Group Overall interacting over 10 years		
	Expectation	Perception	Gap	Expectation	Perception	Gap	Expectation	Perception	Gap
1.Tangiable	6.05	4.58	1.47	6.14	4.61	1.53	5.97	4.56	1.41
2.Reliability	6.07	4.32	1.75	6.21	4.38	1.83	5.96	4.27	1.69
3.Responsive	6.01	4.37	1.64	6.15	4.45	1.70	5.90	4.30	1.60
4. Assurance	6.21	4.72	1.49	6.38	4.73	1.65	6.07	4.72	1.35
5.Empathy	6.07	4.65	1.42	6.21	4.76	1.45	5.96	4.57	1.39
Overall	6.08	4.52	1.56	6.22	4.58	1.64	5.97	4.48	1.49

(*Source:* **Analysis of field data**)

The mean gaps between the mean expected performance level and the perceived performance level of the service of MRS by the three customer sub-groups within the three categories of customer groups overall are set out in Table 32.

The category for aggregate customer group overall showed that the highest ranking of the expectation level was done by the government departments' customer sub-group (6.18) and then business customer sub-group (6.05) and individual customer sub-group (5.98). In the perception rating, both customers from government departments' customer sub-group and business customer sub-group scored the highest ranking of 4.71 ahead of individual customer sub-group with 3.99. Therefore the highest performance gap within the first category of aggregate customer group overall was in the individual customer sub-group (1.99) and then followed by the customers from the government departments' sub-group (1.46) and business customer sub-group (1.34).

The same sequence of rating is shown in the results of the performance gap made by the customers from individual customer sub-group, government departments' customer sub-group and business customer sub-group within the customer group overall interacting with MRS within 10 years during the implementation of the public sector reform. Interestingly, individual customer sub-group in the last customer group overall interacting with MRS over 10 years resembled that of the first two categories of the customer group overalls in scoring with the highest performance gap. However, the results for ranking of the performance gap by business customer sub-group and government departments' customer sub-group are slightly different.

The rating in the last category of customer group overall shows a higher performance gap in the business customer sub-group than government department customer sub-group, which is the reversal of the sequence of rating in the first two categories of the customer group overalls. Thus, the results, prime facie, suggest that individual customer sub-group perceived a higher performance gap from the performance of MRS compared to both the business customer sub-group and government departments' customer sub-group.

TABLE 32: MEAN GAPS BETWEEN CUSTOMERS' EXPECTATION AND PERCEPTION BY THREE CUSTOMER GROUP OVERALLS

	Aggregate Customer Group Overall			Customer Group Overall interacting with MRS within 10 years			Customer Group Overall interacting with MRS over 10 years		
	Individual	Business	Government	Individual	Business	Government	Individual	Business	Government
Expectation	5.98	6.05	6.18	6.59	5.91	6.28	5.45	6.19	6.11
Perception	3.99	4.71	4.71	4.28	4.67	4.72	3.74	4.76	4.71
Gap	1.99	1.34	1.46	2.31	1.24	1.56	1.72	1.43	1.40

(*Source:* Analysis of field data)

The difference between the mean expected performance level and the mean perceived performance level of MRS services for three customer sub-groups within the category of aggregate customer group overall is depicted in Figure 22. This graph shows that there are differences between the mean expected performance level and the perceived performance level of MRS services for all three customer sub-groups, with the greatest gap in the aggregate customer group overall shown in the individual customer sub-group, then government department customer sub-group and business customer sub-group.
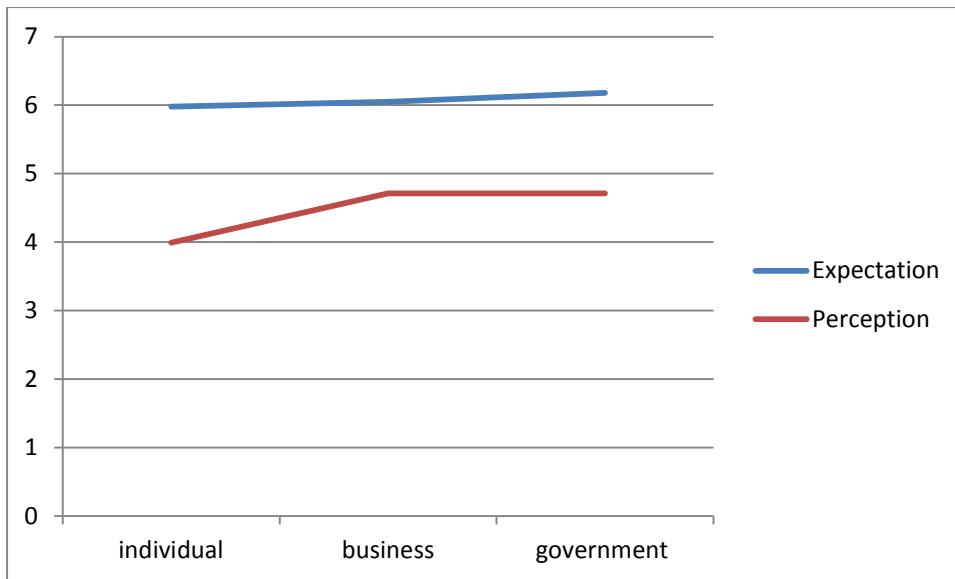
FIGURE 22: MEAN EXPECTED LEVEL AND MEAN PERCEIVED LEVEL BY THREE CUSTOMER SUB-GROUPS WITHIN THE AGGREGATE CUSTOMER GROUP OVERALL.
(*Source:* Analysis of field data)

The difference between the mean expected performance level and the mean perceived performance level of MRS services for three customer sub-groups within the category of aggregate customer group overall is presented in Figure 23. This graph shows that there are differences between the mean expected performance level and the mean perceived performance level of MRS services in each of the three customer sub-groups, with the greatest gap in the customer group overall interacting within 10 years shown to be the individual customer sub-group, then government departments' customer sub-group, and business customer sub-group.
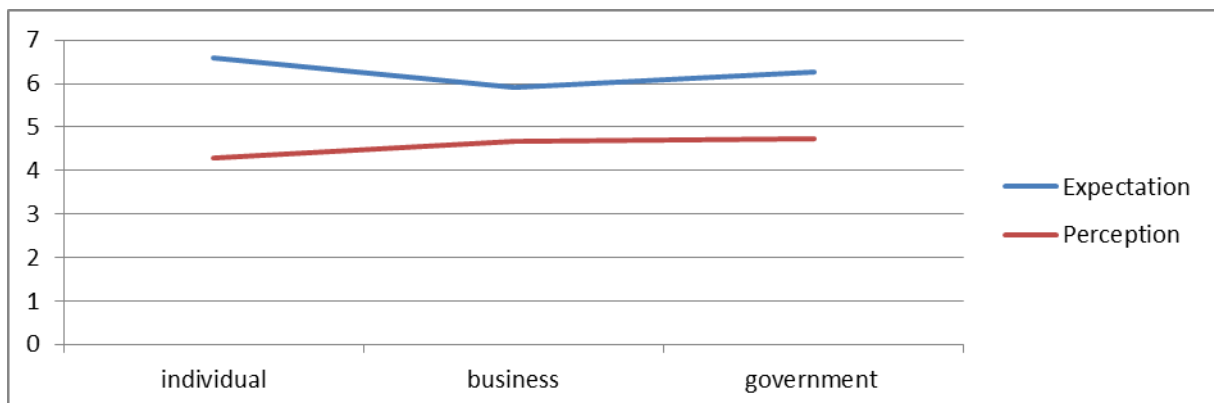
FIGURE 23: MEAN EXPECTED LEVEL AND MEAN PERCEIVED LEVEL BY THREE CUSTOMER SUB-GROUPS WITHIN THE CUSTOMER GROUP OVERALL INTERACTING WITHIN 10 YEARS.
(*Source:* Analysis of field data)

The difference between the mean expected performance level and the mean perceived performance level of MRS services for three customer sub-groups within the category of

aggregate customer group overall is set out in Figures 24. This graph shows that there are differences between the mean expected performance level and the perceived performance level of MRS services in each of the three customer sub-groups, with the greatest gap in the customer group overall interacting with MRS over 10 years shown in the individual customer sub-group, then business customer sub-group, and government department customer sub-group.
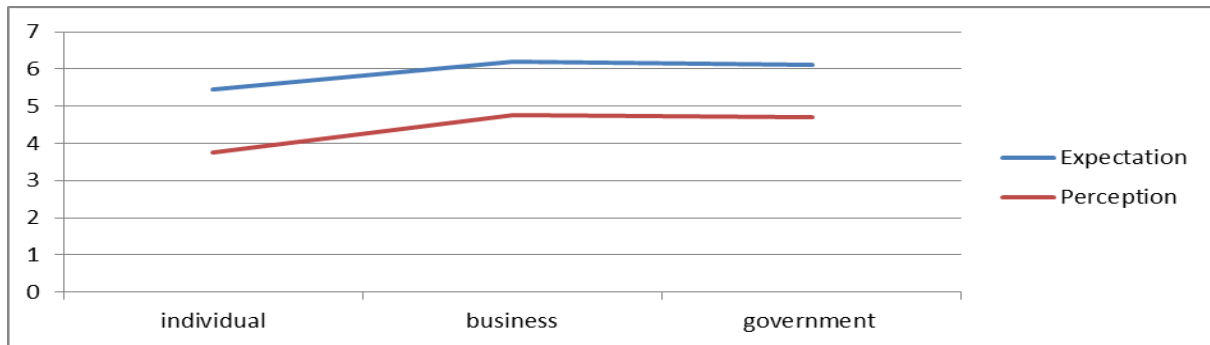
FIGURE 24: EXPECTED LEVEL AND PERCEIVED LEVEL BY THREE CUSTOMER SUB-GROUPS WITHIN THE CUSTOMER GROUP OVERALL INTERACTING OVER 10 YEARS
(*Source:* Analysis of field data)

4.3.2 Expectation and Perception Rating of Customer Services of MRS

This section examines the performance gap of the service of MRS to its three customer sub-groups within the three categories of customer group overalls. The paired-samples t-test is used as the suitable statistical test in determining if the average of the differences between a series of paired observations is significant or not. Table 33[3] presents the results of the t-test and shows the probability for three customer sub-groups in all three categories for customer group overalls were ranging from .000 to .004 which is less than .05. The results therefore validate Hypothesis 3(a) and 3(b) that there are significant differences in the rating of expectation and perception on the performance of MRS by its customers.

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[3] Please refer to Appendix 9 for paired sample t-test for expectation and perception rating by three customer group overalls and three customer sub-groups.

TABLE 33: PAIRED – SAMPLES T-TEST RESULTS FOR THREE CUSTOMER GROUPS OVERALLS

	Mean	Std. Deviation	Std. Error Mean	T	Sig. (2-tailed)
Aggregate Customer Group Overall	1.55576	1.40136	.14610	10.648	.000
Individual	1.98917	1.64932	.33667	5.908	.000
Business	1.34061	1.39966	.24365	5.502	.000
Government	1.46143	1.17702	.19895	7.346	.000
Customer Group Overall interacting within 10 years	1.63683	1.26811	.19805	8.265	.000
Individual	2.31182	1.55202	.46795	4.940	.001
Business	1.24063	1.38078	.34519	3.594	.003
Government	1.55929	.55684	.14882	10.478	.000
Customer Group Overall interacting over 10 years	1.49059	1.50927	.21134	7.053	.000
Individual	-1.71615	1.74078	.48281	-3.555	.004
Business	1.43471	1.45303	.35241	4.071	.001
Government	1.39619	1.46371	.31941	4.371	.000

(*Source:* Analysis of field data)

A paired t-test for significance to test whether a significant difference between the mean expected performance level and the mean perceived performance level of service of MRS by factor of service dimensions existed in the three categories of customer group overalls. Table 34 presents the result of the paired t-test for significance for the aggregate customer group overall and it shows a significant level of 000 for all factors, which are well below the 05 significant rating. That result confirms that there is a significant difference or gap between the mean expected performance and the mean perceived performance of the MRS services in all factors within the aggregate customer group overall. It is therefore concluded that Hypothesis H3 is supported for customers in the aggregate customer group overall. In addition, the result of the paired t-test for significance indicates three factors with high standard of deviations, which include 'Doing promises to do things by a certain time' (2.001), 'Providing the services at the promised time' (1.922) and 'Never too busy to respond to requests' (1.904).These factors may have critical gaps.

TABLE 34: PAIRED – SAMPLES T-TEST FOR AGGREGATE CUSTOMER GROUP OVERALL BY FACTORS

Paired Samples	Paired Sample Statistics			Paired Sample Test	
Aggregate customer group overall	Mean	Std. Deviation	Std. Error Mean	T	Sig. (2-tailed)
1.Modern looking equipment	-1.86793	1.75542	.18302	-10.206	.000
2.Visually appealing physical facilities	-1.56130	1.58435	.16518	-9.452	.000
3.Employees appear professionally dressed	-1.03261	1.57906	.16463	-6.272	.000
4.matearials are visually appealing	-1.39130	1.52601	.15910	-8.745	.000
5.Doing promises to do things by a certain time	-1.86957	2.00668	.20921	-8.936	.000
6.showing sincere interest in solving a problem	-1.88043	1.92064	.20024	-9.391	.000
7.performing the service right the first time	-1.81522	1.81525	.18925	-9.591	.000
8.providing the services at the promised time	-1.72826	1.92213	.20040	-8.624	.000
9.insisting on error-free records	-1.45652	1.78155	.18574	-7.842	.000
10.telling exactly when services to be performed	-1.60870	1.73494	.18088	-8.894	.000
11.giving prompt service	-1.73913	1.75956	.18345	-9.480	.000
12.always willing to help	-1.61957	1.67622	.17476	-9.267	.000
13.never too busy to respond to requests	-1.60870	1.90405	.19851	-8.104	.000
14. employees behaviour instilling confidence	-1.56522	1.66611	.17370	-9.011	.000
15.feeling safe in transaction	-1.53261	1.64050	.17103	-8.961	.000
16.showing consistent courteous	-1.47826	1.58619	.16537	-8.939	.000
17.having the knowledge to answer questions	-1.36957	1.48781	.15511	-8.829	.000
18.giving individual attention	-1.51087	1.69352	.17656	-8.557	.000
19.having convenient operating hours to all	-1.38043	1.75939	.18343	-7.526	.000
20.giving personal attention	-1.31522	1.48937	.15528	-8.470	.000
21.havng your best interests at heart	-1.43478	1.73081	.18045	-7.951	.000
22. understanding your specific needs	-1.44565	1.51450	.15790	-9.156	.000

(*Source*: Analysis of field data)

A paired t-test for significance is used to test whether a significant difference between the mean expected performance level and the mean perceived performance level of service of MRS by factor of service dimensions existed in the customer group overall interacting with MRS within 10 years. The result of the paired t-test for significance is in Table 35 which shows a significant level of 000 for all factors, which are well below the .05 significant rating. That result suggests a significant difference or gap between the mean expected performance and the mean perceived performance of the MRS services by all factors in the customer group overall interacting with MRS within 10 years. This conclusion supports Hypothesis H3 for customer group overall interacting with MRS within 10 years. Also, the

result of the paired t-test for significance indicates three factors with high standard of deviations, which include 'Showing a sincere interest in solving a problem' (1.908), 'Doing promises to do things by a certain time' (1.788), and 'Insisting on error free record' (1.785) which could suggest that they may have critical gaps.

TABLE 35: PAIRED – SAMPLES T-TEST FOR CUSTOMER GROUP OVERALL WITHIN TEN YEARS SERVICE BY FACTORS

Paired Samples	Paired Sample Statistics			Paired Sample Test	
Customer group overall experience within 10 years of service	Mean	Std. Deviation	Std. Error Mean	T	Sig. (2-tailed)
1.Modern looking equipment	-1.85000	1.65151	.25792	-7.173	.000
2.Visually appealing physical facilities	-1.79610	1.50354	.23481	-7.649	.000
3.Employees appear professionally dressed	-1.07317	1.64909	.25755	-4.167	.000
4.matearials are visually appealing	-1.41463	1.64280	.25656	-5.514	.000
5.Doing promises to do things by a certain time	-1.95122	1.78817	.27927	-6.987	.000
6.showing sincere interest in solving a problem	-2.09756	1.90794	.29797	-7.039	.000
7.performing the service right the first time	-1.87805	1.76345	.27540	-6.819	.000
8.providing the services at the promised time	-1.58537	1.73170	.27045	-5.862	.000
9.insisting on error-free records	-1.63415	1.78544	.27884	-5.861	.000
10.telling exactly when services to be performed	-1.56098	1.65905	.25910	-6.025	.000
11.giving prompt service	-1.80488	1.70616	.26646	-6.774	.000
12.always willing to help	-1.58537	1.49959	.23420	-6.769	.000
13.never too busy to respond to requests	-1.85366	1.58998	.24831	-7.465	.000
14. employees behaviour instilling confidence	-1.68293	1.58807	.24801	-6.786	.000
15.feeling safe in transaction	-1.73171	1.53337	.23947	-7.231	.000
16.showing consistent courteous	-1.68293	1.64983	.25766	-6.532	.000
17.having the knowledge to answer questions	-1.53659	1.32472	.20689	-7.427	.000
18.giving individual attention	-1.53659	1.61396	.25206	-6.096	.000
19.having convenient operating hours to all	-1.41463	1.54880	.24188	-5.848	.000
20.giving personal attention	-1.41463	1.24450	.19436	-7.278	.000
21.havng your best interests at heart	-1.41463	1.64280	.25656	-5.514	.000
22. understanding your specific needs	-1.48780	1.50203	.23458	-6.342	.000

(*Source:* Analysis of field data)

A paired t-test for significance to test whether a significant difference between the mean expected performance level and the mean perceived performance level of service of MRS by factor of service dimensions existed in the customer group interacting with MRS for more

than 10 years. The result of the paired t-test for significance is presented in Table 36, showing a significant level of 000 for all factors, which are well below the .05 significant rating. That result suggests a significant difference or gap between the mean expected performance and the mean perceived performance of the MRS services by all factors in the customer group interacting with MRS for more than 10 years. This conclusion supports Hypothesis H3 for customer group interacting with MRS for more than 10 years. Also, the result of the paired t-test for significance single out three factors with high standard of deviations, which entail 'Doing promises to do things by a certain time' (2.189), 'Providing the services at the promised time' (2.072), and 'Never too busy to respond to requests' (2.118), which could suggest that they may have critical gaps.

TABLE 36: PAIRED – SAMPLES T-TEST FOR CUSTOMER GROUP OVERALL OVER TEN YEARS SERVICE BY FACTORS

Paired Samples	Paired Sample Statistics			Paired Test	Sample
Customer group overall interacting over 10 years	Mean	Std. Deviation	Std. Error Mean	T	Sig. (2-tailed)
1.Modern looking equipment	-1.88235	1.85091	.25918	-7.263	.000
2.Visually appealing physical facilities	-1.37255	1.63659	.22917	-5.989	.000
3.Employees appear professionally dressed	-1.00000	1.53623	.21512	-4.649	.000
4.matearials are visually appealing	-1.37255	1.44168	.20188	-6.799	.000
5.Doing promises to do things by a certain time	-1.80392	2.18192	.30553	-5.904	.000
6.showing sincere interest in solving a problem	-1.70588	1.93178	.27050	-6.306	.000
7.performing the service right the first time	-1.76471	1.87177	.26210	-6.733	.000
8.providing the services at the promised time	-1.84314	2.07241	.29020	-6.351	.000
9.insisting on error-free records	-1.31373	1.78315	.24969	-5.261	.000
10.telling exactly when services to be performed	-1.64706	1.80913	.25333	-6.502	.000
11.giving prompt service	-1.68627	1.81648	.25436	-6.630	.000
12.always willing to help	-1.64706	1.82015	.25487	-6.462	.000
13.never too busy to respond to requests	-1.41176	2.11827	.29662	-4.760	.000
14. employees behaviour instilling confidence	-1.47059	1.73612	.24311	-6.049	.000
15.feeling safe in transaction	-1.37255	1.72001	.24085	-5.699	.000
16.showing consistent courteous	-1.31373	1.52958	.21418	-6.134	.000
17.having the knowledge to answer questions	-1.23529	1.60734	.22507	-5.488	.000
18.giving individual attention	-1.49020	1.77057	.24793	-6.011	.000
19.having convenient operating hours to all	-1.35294	1.92690	.26982	-5.014	.000
20.giving personal attention	-1.23529	1.66839	.23362	-5.288	.000
21.havng your best interests at heart	-1.45098	1.81454	.25409	-5.711	.000
22. understanding your specific needs	-1.41176	1.53852	.21544	-6.553	.000

(*Source:* Analysis of field data)

Having discussed the significant differences between the mean expected performance level and the perceived performance level of MRS for the factors of service dimensions for all categories of customer group overalls, paired t-tests were conducted to assess significant

differences or gaps in the factors of service dimensions on MRS performance to all customers within customer groups.

The results for the paired t-test for significance as presented in Table 37 was done to test whether a significant differences between mean expected performance level and mean perceived performance level on MRS performance existed for the factors of service dimensions to its three customer sub-groups in the aggregate customer group overall.

The result of the paired t-test for significance indicates a significant level ranging from .000 to .001 for all factors, which are well below the .05 significant rating. That result suggest significant differences or gaps between the mean expected performance and the mean perceived performance of the MRS services for all factors of service dimensions in three customer sub-groups within the aggregate customer group overall. This result supports Hypothesis H3 for customers in the aggregate customer group overall.

TABLE 37: PAIRED – SAMPLES T-TEST FOR CUSTOMER SUB-GROUPS UNDER AGGREGATE CUSTOMER GROUP OVERALL

Sig. (2-tailed) Aggregate Customer Group Overall by factors and three customer sub-groups			
Factors (F)	Individuals	Businesses	Government
1.Modern looking equipment	.000	.000	.000
2.Visually appealing physical facilities	.000	.000	.000
3.Employees appear professionally dressed	.001	.001	.001
4.matearials are visually appealing	.000	.000	.000
5.Doing promises to do things by a certain time	.000	.001	.000
6.showing sincere interest in solving a problem	.000	.000	.000
7.performing the service right the first time	.000	.000	.000
8.providing the services at the promised time	.000	.000	.000
9.insisting on error-free records	.000	.000	.000
10.telling exactly when services to be performed	.000	.001	.000
11.giving prompt service	.000	.000	.000
12.always willing to help	.000	.000	.000
13.never too busy to respond to requests	.000	.000	.000
14. employees behaviour instilling confidence	.000	.000	.000
15.feeling safe in transaction	.000	.000	.000
16.showing consistent courteous	.000	.000	.000
17.having the knowledge to answer questions	.000	.000	.000
18.giving individual attention	.000	.000	.000
19.having convenient operating hours to all	.000	.001	.000
20.giving personal attention	.000	.000	.000
21.havng your best interests at heart	.000	.000	.000
22. understanding your specific needs	.000	.000	.000

(*Source*: **Analysis of field data**)

The results for the paired t-test for significance as presented in Table 38 was carried out to test whether a significant difference between mean expected performance level and mean perceived performance level on MRS performance existed for the factors of service dimensions to its three customer sub-groups in the customer group overall interacting with MRS within 10 years.

The result of the paired t-test for significance indicates significant levels ranging from .000 to .047 for all factors, which are well below the .05 significant rating. That results suggest significant differences or gaps between the mean expected performance and the mean perceived performance of the MRS services for all factors of service dimensions in three customer sub-groups within the customer group overall interacting with MRS over 10 years. This result therefore supports Hypothesis H3 for all customers in the customer group overall interacting with MRS over 10 years.

TABLE 38: PAIRED – SAMPLES T-TEST FOR CUSTOMER SUB-GROUPS UNDER CUSTOMER GROUP OVERALL WITHIN TEN YEARS SERVICE

Sig. (2-tailed)Customer Group Overall experience within 10 years of service by factors and three customer sub-groups			
Factors (F)	Individuals	Businesses	Government
1.Modern looking equipment	.002	.002	.000
2.Visually appealing physical facilities	.001	.002	.000
3.Employees appear professionally dressed	.004	.002	.047
4.matearials are visually appealing	.021	.004	.004
5.Doing promises to do things by a certain time	.001	.020	.000
6.showing sincere interest in solving a problem	.008	.013	.000
7.performing the service right the first time	.000	.007	.000
8.providing the services at the promised time	.005	.024	.000
9.insisting on error-free records	.004	.018	.001
10.telling exactly when services to be performed	.001	.033	.000
11.giving prompt service	.003	.019	.000
12.always willing to help	.007	.006	.000
13.never too busy to respond to requests	.001	.003	.000
14. employees behaviour instilling confidence	.003	.018	.000
15.feeling safe in transaction	.002	.004	.000
16.showing consistent courteous	.002	.015	.000
17.having the knowledge to answer questions	.001	.003	.000
18.giving individual attention	.001	.010	.002
19.having convenient operating hours to all	.001	.019	.001
20.giving personal attention	.002	.000	.001
21.havng your best interests at heart	.005	.018	.002
22. understanding your specific needs	.004	.004	.000

(*Source*: Analysis of field data)

The results for the paired t-test for significance as presented in Table 39 was carried out to test whether a significant differences between mean expected performance level and mean perceived performance level on MRS performance existed for the factors of service dimensions to its three customer sub-groups in the customer group overall interacting with MRS over 10 years.

The result of the paired t-test for significance indicates significant levels ranging from .000 to .102 for the factors in all three customer sub-groups. Thus, most of the factors for all customers have significant values which are well below the .05 significant rating, except 'Visually appealing physical facilities' (.086) and 'Employees appear professionally dressed' (.102) in the individual customers, which are above the .05 significant rating. That results suggest significant differences or gaps between the mean expected performance and the mean perceived performance of the MRS services by most factors of service dimensions in three specific customer sub-groups within the customer group overall interacting with MRS over 10 years. This result supports Hypothesis H3 for three customer sub-groups in the customer group overall interacting with MRS over 10 years.

TABLE 39: PAIRED – SAMPLES T-TEST FOR CUSTOMER SUB-GROUPS UNDER CUSTOMER GROUP OVERALL OVER TEN YEAR SERVICE BY FACTORS

Sig. (2-tailed)Customer Group Overall interacting with MRS over 10 years by factors and three customer sub-groups			
Factors (F)	Individuals	Businesses	Government
1.Modern looking equipment	.009	.000	.000
2.Visually appealing physical facilities	.086	.001	.000
3.Employees appear professionally dressed	.102	.004	.010
4.matearials are visually appealing	.002	.005	.000
5.Doing promises to do things by a certain time	.011	.017	.000
6.showing sincere interest in solving a problem	.022	.002	.000
7.performing the service right the first time	.009	.003	.000
8.providing the services at the promised time	.016	.002	.000
9.insisting on error-free records	.015	.013	.003
10.telling exactly when services to be performed	.001	.013	.000
11.giving prompt service	.001	.003	.001
12.always willing to help	.014	.001	.000
13.never too busy to respond to requests	.003	.006	.100
14. employees behaviour instilling confidence	.024	.001	.001
15.feeling safe in transaction	.010	.010	.001
16.showing consistent courteous	.017	.001	.002
17.having the knowledge to answer questions	.010	.014	.002
18.giving individual attention	.006	.003	.002
19.having convenient operating hours to all	.033	.016	.003
20.giving personal attention	.004	.021	.006
21.havng your best interests at heart	.004	.005	.005
22. understanding your specific needs	.004	.002	.001

(*Source:* Analysis of field data)

4.3.3 Gap Analysis for MRS Customer Services

This section applies the paired-samples t-test together with the two gap analysis theories of mean weighted gap theory and the mean un-weighted IPA theory matrix to investigate the mean and critical gaps of the service dimensions of MRS services to its three customer sub-groups within three categories of Customer Group overalls. The first gap analysis method applied was the paired-samples t-test to determine if the average of the differences between a series of paired observations is significant or not. The goal of gap analysis is to identify the performance gap derived from subtracting of perception rating from expectation rating for each factor of service dimensions. The gap analysis also helps to highlight areas with room for improvement.

The mean weighted gap analysis theory considers the gaps of the factors for service dimensions of MRS services to its customers by ranking them in descending order of magnitude according to the weighted gap. The mean weighted gaps for the factors of the service dimensions have been calculated by multiplying the mean expected performance and the mean gap together to provide the mean weighted gaps for the services dimensions of the services of MRS to its customers.

The mean un-weighted IPA theory, on the other hand, compares the un-weighted expectation and the un-weighted perception of a factor for service dimensions of MRS services to its customers to analyse the performance gap. A matrix is used to graphically plot the two determinants of the factors of service dimensions using the un-weighted expectation and the un-weighted gap. The graph is then divided into four quadrants to identify where the factors of service dimensions are located. These four quadrants have been labelled in order of the improvement priority. The order of priority is started with 'Critical', then 'Significant', 'Important', and 'Necessary' with the least improvement required. The quadrant cross hairs (Hudson, Hudson, & Miller 2004) on the graph have been determined by using the mean overall gap and overall mean expected performance for MRS services to its customers.

Table 40[4] presents the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from the aggregate customer group overall. The results of the paired-samples t-test in column three indicate the significance level of .000 for all factors, which is less than .05 suggesting the existence of significant differences between customers expectation and perception rating, further supporting H3 (a) and (b) for these factors.

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[4] Please refer to Appendix 10 for the paired sample t-test for factors of service by aggregate customer group overall.

The results of test 2 from the weighted[5] mean gap analysis theory calculates the weighted mean gap value by multiplying the importance rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to its respective value for factors of service dimensions by the aggregate customer group overall. The top ten factors with the highest ranked weighted mean gap include: 'Showing a sincere interest in solving a problem' (11.41), 'Modern looking equipment (11.29), 'Doing promises to do things by a certain time' (11.28), 'Performing the service right the first time' (10.81), 'Providing the services at the promised time' (10.43), 'Giving prompt service' (10.42), 'Always willing to help' (10.02), 'Employees behaviour instilling confidence' (9.66), 'Telling exactly when services to be performed' (9.58), and 'Feeling safe in transactions' (9.55).

TABLE 40: THREE TESTS FOR CRITICAL GAPS FOR AGGREGATE CUSTOMER GROUP OVERALL BY FACTORS

Critical gaps for the service dimension of customer service for aggregate customer group overall				
Factors (F)	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
1	Modern looking equipment	.000	6	Significant
2	Visually appealing physical facilities	.000	1	Significant
3	Employees appear professionally dressed	.000	5	Significant
4	Materials are visually appealing	.000	7	Significant
5	Doing promises to do things by a certain time	.000	8	Significant
6	showing sincere interest in solving a problem	.000	11	Significant
7	performing the service right the first time	.000	12	Critical
8	providing the services at the promised time	.000	14	Critical
9	.insisting on error-free records	.000	10	Significant
10	telling exactly when services to be performed	.000	15	Important
11	giving prompt service	.000	13	Significant
12	.always willing to help	.000	16	Important
13	never too busy to respond to requests	.000	18	Necessary
14	employees behaviour instilling confidence	.000	9	Important
15	feeling safe in transaction	.000	2	Necessary
16	showing consistent courteous	.000	22	Important
17	having the knowledge to answer questions	.000	21	Necessary
18	giving individual attention	.000	4	Important
19	having convenient operating hours to all	.000	17	Important
20	giving personal attention	.000	19	Important
21	having your best interests at heart	.000	20	Necessary
22	understanding your specific needs	.000	3	Important

(*Source:* Analysis of field data)

The result from the Un-weighted IPA Method under Test 3 column categorizes the critical gaps for each factor of service dimension. The factors have been plotted against the

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[5] Please refer to Appendix 10 also for weighted means for factors by aggregate customer group overall.

expectation – perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 6.08) as x-axis and the total mean gap (Gap = .1.56) as y-axis.

The critical gaps for urgent improvements are identified from factors that fall within the critical quadrant. From the results there are two factors identified as critical, namely: 'Always willing to help', and 'Employee behaviour instilling confidence'. There are seven factors that fell within the significant important quadrant, which are: 'Showing a sincere interest in solving a problem', 'Modern looking equipment', 'Doing promises to do things by a certain time', 'Performing the service right the first time', 'Providing the services at the promised time', 'Giving prompt service' and 'Telling exactly when services to be performed'. There is one factor in the important improvement quadrant which is: 'Feeling safe in transaction'.

Table 41[6] presents the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from individual customer sub-group within the aggregate customer group overall. The results of the paired-samples t-test in column three indicate the significance level ranging from .000 to .001 for all factors, which is less than .05, which concludes the existence of significant differences between customers expectation and perception rating for individual customer sub-group within the aggregate customer group overall, thus supporting H3(a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory is the effect of calculating of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to its respective value for factors of service dimensions by the individual customer sub-group within the aggregate customer group overall. The top ten factors with the highest ranked weighted mean gap include: 'Never too busy to respond to requests'(14.10), 'Telling exactly when services to be performed' (13.69), 'Modern looking equipment' (13.40), 'Doing promises to do things by a certain time' (13.37), 'Giving individual attention' (13.36), 'Performing the services right the first time' (12.84), 'Providing the services at the promised time' (12.75), 'Giving personal attention' (12.59), 'Feeling safe in transaction' (12.48), and 'Understanding your specific needs' (12.48).

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[6] Please refer to Appendix 11 for paired sample t-text results.

TABLE 41: THREE TESTS FOR CRITICAL GAPS FOR INDIVIDUAL CUSTOMER SUB-GROUP UNDER AGGREGATE CUSTOMER GROUP OVERALL

Factors (F)	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
Critical gaps for the service dimension of customer service from individual customer sub-group within the aggregate customer group overall			
1	Modern looking equipment	.000	13	Significant
2	Visually appealing physical facilities	.000	10	Critical
3	Employees appear professionally dressed	.001	1	Critical
4	Materials are visually appealing	.000	5	Significant
5	Doing promises to do things by a certain time	.000	18	Critical
6	showing sincere interest in solving a problem	.000	7	Significant
7	performing the service right the first time	.000	8	Critical
8	providing the services at the promised time	.000	20	Critical
9	.insisting on error-free records	.000	15	Significant
10	telling exactly when services to be performed	.000	22	Important
11	giving prompt service	.000	11	Significant
12	.always willing to help	.000	21	Critical
13	never too busy to respond to requests	.000	16	Important
14	employees behaviour instilling confidence	.000	9	Important
15	feeling safe in transaction	.000	6	Significant
16	showing consistent courteous	.000	17	Important
17	having the knowledge to answer questions	.000	19	Important
18	giving individual attention	.000	4	Important
19	having convenient operating hours to all	.000	14	Necessary
20	giving personal attention	.000	12	Necessary
21	having your best interests at heart	.000	2	Necessary
22	understanding your specific needs	.000	3	Important

(*Source:* **Analysis of field data**)

The result from the Un-weighted IPA Method under Test 3 column categorizes the critical gaps for each factor of service dimension. The factors have been plotted against the expectation – perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 5.98) as x-axis and the total mean gap (Gap = 1.99) as y-axis.

The critical gaps for urgent improvements are identified from factors that fall within the critical quadrant. From the results of Test three in Table 4.36 there are five factors identified as critical in the first ten factors, namely: 'Telling exactly when services to be performed', 'Modern looking equipment', 'Giving individual attention', 'Providing the services at the promised time', and 'Giving individual attention'. There are four factors in the significant improvement quadrant which are: 'Never too busy to respond to requests', 'Doing promises to do things by a certain time', 'Performing the service right the first time', and 'Feeling safe in transaction'. However, only one factor involved in the important improvement quadrant which is ' Understanding your specific needs'.

Further, Table 42[7] sets out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from business customer sub-group within the aggregate customer group overall. The results of the paired-samples t-test in column three indicate the significance level ranging from .000 to .001 for all factors, which is less than .05, which concludes the existence of significant differences between customers expectation and perception rating for business customer sub-group within the aggregate customer group overall, thus supporting H3(a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was derived from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to its respective value for factors of service dimensions by the individual customers within the aggregate customer group overall. The top ten factors with the highest ranked weighted mean gap include: 'Modern looking equipment' (12.30), 'Always willing to help' (10.17), 'Performing the service right the first time' (9.59), 'Giving prompt service' (9.27), 'Visually appealing physical facilities' (9.18), 'Showing a sincere interest in solving a problem' (8.90), 'Never too busy to respond to requests' (8.86), 'Showing consistent courteous' (8.24),' 'Employees behaviour instilling confidence' (8.20), and 'Providing the services at the promised time' (8.18).

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[7] Please refer to Appendix 12 for the paired sample t-test result for factors.

TABLE 42: THREE TESTS FOR CRITICAL GAPS FOR BUSINESS CUSTOMER SUB-GROUP UNDER THE AGGREGATE CUSTOMER GROUP OVERALL

Factors (F)	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
	CRITICAL GAPS FOR THE SERVICE DIMENSION OF CUSTOMER SERVICE FROM BUSINESS CUSTOMER SUB-GROUP WITHIN THE AGGREGATE CUSTOMER GROUP OVERALL			
1	Modern looking equipment	.000	1	Critical
2	Visually appealing physical facilities	.000	12	Critical
3	Employees appear professionally dressed	.001	7	Significant
4	materials are visually appealing	.000	11	Critical
5	Doing promises to do things by a certain time	.001	2	Critical
6	showing sincere interest in solving a problem	.000	6	Critical
7	performing the service right the first time	.000	13	Significant
8	providing the services at the promised time	.000	16	Important
9	insisting on error-free records	.000	14	Important
10	telling exactly when services to be performed	.001	8	Significant
11	giving prompt service	.000	18	Necessary
12	always willing to help	.000	5	Necessary
13	never too busy to respond to requests	.000	21	Important
14	employees behaviour instilling confidence	.000	15	Important
15	feeling safe in transaction	.000	19	Necessary
16	showing consistent courteous	.000	9	Important
17	having the knowledge to answer questions	.000	10	Necessary
18	giving individual attention	.000	17	Important
19	having convenient operating hours to all	.001	22	Important
20	giving personal attention	.000	4	Important
21	having your best interests at heart	.000	3	Important
22	understanding your specific needs	.000	20	Necessary

(*Source:* **Analysis of field data**)

The result from the Un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the importance-performance matrix according to their importance rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean importance rating (EI = 6.05) as x-axis and the total mean gap (Gap = 1.34) as y-axis. The critical gaps for urgent improvements are identified from factors that fall within the critical quadrant.

From the results of Test three in Table 42 there are five factors identified as critical in the first ten factors, namely: 'Modern looking equipment', 'Always willing to help', 'Giving prompt service', 'Visually appealing physical facilities', and 'Showing a sincere interest in solving a problem'. Those factors that clustered in the significant improvement quadrant include 'Performing the service rights the first time', ''Never too busy to respond to

requests', and 'Providing the services at the promised time'. There are two factors located in the important improvement quadrant which are 'Showing consistent courteous', and 'Employees behaviour instilling confidence'.

Moreover, Table 43[8] set out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from government departments' customer sub-group within the aggregate customer group overall. The results of the paired-samples t-test in column three indicate the significance level ranging from .000 to .001 for all factors, which are less than .05, which concludes the existence of significant differences between customers expectation and perception rating for government departments customer sub-group within the aggregate customer group overall, thus supporting H3(a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was derived from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to its respective value for factors of service dimensions by the government departments customers within the customer group overall.

The top ten factors with the highest ranked weighted mean gap include: 'Showing a sincere interest in solving a problem' (13.59), 'Doing promises to do things by a certain time' (13.29), 'Providing the services at the promised time' (10.95), 'Performing the service right the first time' (10.48), 'Employees behaviour instilling confidence' (10.38), 'Giving prompt service' (10.05), 'Always willing to help' (9.82), 'Visually appealing physical facilities' (9.35), 'Telling exactly when services to be performed' (9.21), and 'Feeling safe in transaction' (9.18).

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[8] Please refer to Appendix 13 for paired sample t-test results for factors

TABLE 43: THREE TESTS FOR CRITICAL GAPS FOR GOVERNMENT DEPARTMENTS CUSTOMER SUB-GROUP UNDER THE AGGREGATE CUSTOMER GROUP OVERALL

	Critical gaps for the service dimension of customer service from government departments customer sub-group within the aggregate customer group overall			
Factors (F)	Service dimension	TEST ONE: Paired Samples T-Test Sig. Value (2-tailed	TEST TWO: RANKED WEIGHTED SERVICE DIMENSIONS	TEST THREE: IMPROVEMENT AREA
1	Modern looking equipment	.000	6	Critical
2	Visually appealing physical facilities	.000	5	Critical
3	Employees appear professionally dressed	.001	8	Significant
4	materials are visually appealing	.000	7	Significant
5	Doing promises to do things by a certain time	.000	14	Critical
6	showing sincere interest in solving a problem	.000	11	Significant
7	performing the service right the first time	.000	12	Critical
8	providing the services at the promised time	.000	2	Significant
9	insisting on error-free records	.000	10	Significant
10	telling exactly when services to be performed	.000	15	Important
11	giving prompt service	.000	1	Significant
12	always willing to help	.000	9	Important
13	never too busy to respond to requests	.000	22	Important
14	employees behaviour instilling confidence	.000	4	Necessary
15	feeling safe in transaction	.000	16	Important
16	showing consistent courteous	.000	17	Important
17	having the knowledge to answer questions	.000	19	Important
18	giving individual attention	.000	18	Necessary
19	having convenient operating hours to all	.000	21	Necessary
20	giving personal attention	.000	13	Necessary
21	having your best interests at heart	.000	20	Necessary
22	understanding your specific needs	.000	3	Important

(*Source:* Analysis of field data)

The result from the Un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation-perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 6.18) as x-axis and the total mean gap (Gap = 1.46) as y-axis. The critical gaps for urgent improvements are identified from factors that fall within the critical quadrant.

From the results of Test three in Table 43 there are four factors listed in the matrix as critical in the first ten factors, which are: 'Showing a sincere interest in solving a problem', 'Doing promises to do things by a certain time', 'Employees behaviour instilling confidence', and 'Always willing to help'. The five factors that have been located in the significant improvement quadrant are: 'Providing the services at the promised time', 'Performing the service right the first time', 'Giving prompt service', 'Visually appealing physical facilities,

and 'Telling exactly when services to be performed. In addition, the important improvement quadrant had only one factor namely, 'Feeling safe in transaction'.

Furthermore, Table 44 sets out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from the customer group overall interacting with MRS within 10 years. The results of the paired-samples t-test in column three indicate that the significance level is at .000 for all factors, which is less than .05. The significant value obtained led to the conclusion for the existence of significant differences between customer sub-group expectation and perception rating for the customer group overall interacting with MRS within 10 years, thus supporting H3 (a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was generated from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to its respective value for factors of service dimensions by the customer group overall interacting with MRS within 10 years.

The top ten factors with the highest ranked weighted mean gap include: 'Showing a sincere interest in solving a problem' (13.20), 'Doing promises to do things by a certain time' (12.14), 'Performing the service right the first time' (11.31), 'Never too busy to respond to requests' (11.21), 'Feeling safe in transaction' (11.19), 'Giving prompt service' (11.14), 'Modern looking equipment' (11.14), 'Visually appealing physical facilities' (10.81), 'Showing consistent courteous' (10.75),and 'Employees behaviour instilling confidence' (10.71).

The result from the un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation-performance matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 6.22) as x-axis and the total mean gap (Gap = 1.64) as y-axis. The critical gaps for urgent improvements are identified from factors that fell within the critical quadrant.

From the results of Test three in Table 44[9] there are four factors listed in the matrix as critical within the first ten priority factors, which are: 'Showing sincere interest in solving a problem', 'Feeling safe in transaction', 'Showing consistent courteous', and 'Employees behaviour instilling confidence'. The significant improvement quadrant had six factors

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[9] Please refer to Appendix 14 for paired sample t-test result for factors

including 'Doing promises to do things by a certain time', 'Performing the service right the first time', 'Never too busy to respond to requests', 'Giving prompt service', 'Modern looking equipment', and 'Visually appealing physical facilities'.

TABLE 44: THREE TESTS FOR CRITICAL GAPS FOR CUSTOMER GROUP OVERALL INTERACTING WITHIN 10 YEARS OF SERVICE

Factors (F)	Critical gaps for the service dimension of customer service for customer group overall within 10 years of service experience			
	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
1	Modern looking equipment	.000	6	Critical
2	Visually appealing physical facilities	.000	5	Significant
3	Employees appear professionally dressed	.000	7	Significant
4	materials are visually appealing	.000	13	Significant
5	Doing promises to do things by a certain time	.000	15	Critical
6	showing sincere interest in solving a problem	.000	11	Significant
7	performing the service right the first time	.000	1	Significant
8	providing the services at the promised time	.000	2	Significant
9	insisting on error-free records	.000	16	Critical
10	telling exactly when services to be performed	.000	14	Critical
11	giving prompt service	.000	9	Important
12	always willing to help	.000	12	Important
13	never too busy to respond to requests	.000	17	Important
14	employees behaviour instilling confidence	.000	8	Necessary
15	feeling safe in transaction	.000	22	Important
16	showing consistent courteous	.000	18	Necessary
17	having the knowledge to answer questions	.000	10	Necessary
18	giving individual attention	.000	19	Important
19	having convenient operating hours to all	.000	4	Necessary
20	giving personal attention	.000	21	Necessary
21	having your best interests at heart	.000	20	Necessary
22	Understanding specific needs	.000	3	Important

(*Source:* Analysis of field data)

Furthermore, Table 45 set out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from the individual customer sub-group within the customer group overall interacting with MRS within 10 years. The results of the paired-samples t-test in column three indicate that the significance level is within the range of between .000 and .021 for all factors, which is less than .05. It is therefore concluded that there are significant differences observed between customers' expectation and perception rating for individual customer sub-group within the customer group overall interacting with MRS within 10 years, thus supporting H3 (a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was generated from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to

its respective value for factors of service dimensions by the individual customers within the customer group overall interacting with MRS within 10 years.

The top ten factors with the highest ranked weighted mean gap include: 'Performing the service right the first time' (17.26), 'Showing consistent courteous' (17.12), 'Never too busy to respond to requests' (17.02), 'Insisting on error free records' (16.74), 'Doing promises to do thing by a certain time' (16.43), 'Modern looking equipment' (16.43), 'Telling exactly when service to be performed' (16.29), 'Feeling safe in transaction' (16.29), 'Giving individual attention'(16.29), and 'Showing a sincere interest in solving a problem' (16.07).

The result from the un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation –perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 6.59) as x-axis and the total mean gap (Gap = 2.31) as y-axis. The critical gaps for urgent improvements are identified from factors that fell within the critical quadrant.

From the results of Test three in Table 45[10] there are five factors listed in the matrix as critical within the first ten priority factors, which are: 'Showing consistent courteous', 'Insisting on error free records', 'Telling exactly when services to be performed', 'Feeling safe in transaction', and 'Giving individual attention'. The significant improvement quadrant had 5 factors including 'Performing the service right the first time, 'Never too busy to respond to requests', 'Doing promises to do things by a certain time, 'Modern looking equipment, and 'Showing a sincere interest in solving a problem'.

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[10] Please refer to Appendix 15 for paired sample t-test results, weighted mean gaps and un-weighted.

TABLE 45: THREE TESTS FOR CRITICAL GAPS FOR INDIVIDUAL CUSTOMER SUB-GROUP UNDER CUSTOMER GROUP OVERALL WITHIN 10 YEARS OF SERVICE

Critical gaps for the service dimension of customer service from individual customer sub-group within customer group overall experiencing within 10 years of service				
Factors (F)	**Service dimension**	**Test One:** **Paired Samples T-Test Sig. Value (2-tailed)**	**Test Two:** **Ranked weighted service dimensions**	**Test three:** **Improvement area**
1	Modern looking equipment	.002	7	Significant
2	Visually appealing physical facilities	.001	16	Critical
3	Employees appear professionally dressed	.004	13	Significant
4	Materials visually appealing	.021	9	Critical
5	Doing promises to do things by a certain time	.001	5	Significant
6	showing sincere interest in solving a problem	.008	1	Significant
7	performing the service right the first time	.000	10	Critical
8	providing the services at the promised time	.005	15	Critical
9	Insisting error-free records	.004	18	Critical
10	telling exactly when services to be performed	.001	6	Significant
11	giving prompt service	.003	19	Important
12	always willing to help	.007	8	Important
13	never too busy to respond to requests	.001	22	Important
14	employees behaviour instilling confidence	.003	11	Significant
15	feeling safe in transaction	.002	2	Significant
16	Showing consistent courteous	.002	14	Important
17	having the knowledge to answer questions	.001	21	Important
18	giving individual attention	.001	20	Important
19	having convenient operating hours to all	.001	17	Necessary
20	giving personal attention	.002	3	Important
21	having best interests at heart	.005	12	Important
22	Understanding specific needs	.004	4	Necessary

(*Source:* Analysis of field data)

Furthermore, Table 46 set out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from business customer sub-group within the customer group overall interacting with MRS within 10 years. The results of the paired-samples t-test in column three indicate that the values of the significance level are within the range of .000 and .033 for all factors, which is less than .05. It is therefore concluded that there are significant differences observed between expectation and perception rating for business customer sub-group within the customer group overall interacting with MRS within 10 years, thus supporting H3 (a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was generated from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to

its respective value for factors of service dimensions by business customer sub-group within the customer group overall interacting with MRS within 10 years.

The top ten factors with the highest ranked weighted mean gap are: 'Performing the service right the first time' (9.81), 'Modern looking equipment' (9.00), 'Feeling safe in transaction' (8.20), 'Always willing to help' (8.16), 'Visually appealing physical facilities' (7.88), 'Showing a sincere interest in solving a problem' (7.88), 'Never too busy to respond to requests' (7.82), 'Giving prompt service' (7.79), 'Having the knowledge to answer questions' (7.71),'Insisting on error free records' (7.42)

The result from the un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation -perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 5.91) as x-axis and the total mean gap (Gap = 1.24) as y-axis. The critical gaps for urgent improvements are identified from factors that fell within the critical quadrant.

From the results of Test three in Table 46[11]there are six factors listed in the matrix as critical within the first ten priority factors, which are: 'Modern looking equipment', 'Feeling safe in transaction', 'Always willing to help', 'Visually appealing physical facilities', 'Showing a sincere interest in solving a problem', and 'Giving a prompt service'. There are 3 factors in the significant improvement quadrant, which include 'Performing the service right the first time', 'Never too busy to respond to requests', and 'having the knowledge to answer questions. The only factor in the important improve quadrant is 'Insisting on error free records'.

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[11] Please refer to Appendix 16 for paired sample t-test results, weighted means and un-weighted.

TABLE 46: THREE TESTS FOR CRITICAL GAPS FOR BUSINESS CUSTOMER SUB-GROUP UNDER CUSTOMER GROUP OVERALL WITHIN 10 YEARS OF SERVICE

Critical gaps for the service dimension of customer service for business customer sub-group in the customer group overall within 10 years of service				
Factors (F)	**Service dimension**	**Test One:** **Paired Samples T-Test Sig.** **Value (2-tailed)**	**Test Two:** **Ranked weighted service dimensions**	**Test three:** **Improvement area**
1	Modern looking equipment	.002	7	Significant
2	Visually appealing physical facilities	.002	1	Critical
3	Employees appear professionally dressed	.002	15	Critical
4	materials are visually appealing	.004	12	Critical
5	Doing promises to do things by a certain time	.020	2	Critical
6	showing sincere interest in solving a problem	.013	6	Critical
7	performing the service right the first time	.007	13	Significant
8	providing the services at the promised time	.024	11	Critical
9	insisting on error-free records	.018	17	Significant
10	telling exactly when services to be performed	.033	9	Important
11	giving prompt service	.019	22	Important
12	always willing to help	.006	16	Important
13	never too busy to respond to requests	.003	14	Necessary
14	employees behaviour instilling confidence	.018	21	Necessary
15	feeling safe in transaction	.004	18	Necessary
16	showing consistent courteous	.015	5	Necessary
17	having the knowledge to answer questions	.003	4	Important
18	giving individual attention	.010	20	Necessary
19	having convenient operating hours to all	.019	19	Necessary
20	giving personal attention	.000	10	Necessary
21	having best interests at heart	.018	8	Necessary
22	Understanding specific needs	.004	3	Important

(*Source:* **Analysis of field data)**

Table 47 set out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from government departments customer sub-group within the customer group overall interacting with MRS within 10 years. The results of the paired-samples t-test in column three indicate that the values of the significance level are within the range of .000 and .047 for all factors, which is less than .05. It is therefore concluded that there are significant differences observed between customers' expectation and perception rating for government department customer sub-group within the customer group overall interacting with MRS within 10 years, thus supporting H3 (a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was generated from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to

its respective value for factors of service dimensions by government departments' customer sub-group within the customer group overall interacting with MRS within 10 years.

The top ten factors with the highest ranked weighted mean gap are: 'Showing a sincere interest in solving a problem' (17.45), 'Doing promises to do things by a certain time' (15.66), 'Employees behaviour instilling confidence' (12.81), ' Giving prompt service' (12.12), 'Visually appealing physical facilities' (11.14), 'Never too busy to respond to requests' (10.97), 'Feeling safe in transaction' (10.80), 'Showing consistent courteous' (10.44), 'Always willing to help' (10.33), and Providing the services at the promised time' (9.74).

The result from the Un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation -perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 6.28) as x-axis and the total mean gap (Gap = 1.56) as y-axis. The critical gaps for urgent improvements are identified from factors that fell within the critical quadrant.

From the results of Test three in Table 47[12] there are seven factors listed as critical within the first ten priority factors, which are: 'Showing a sincere interest in solving a problem', 'Doing promises to do things by a certain time', 'Employees behaviour instilling confidence', 'Giving prompt service', 'Feeling safe in transaction', 'Showing consistent courteous', and 'Always willing to help. There are 3 factors in the significant improvement quadrant, which include 'Visually appealing physical facilities', 'Never too busy to responds', and 'Providing the services at the promised time'.

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[12] Please refer to Appendix 17 for paired sample t-test results, weighted means and un-weighted results.

TABLE 47: THREE TESTS FOR CRITICAL GAPS FOR GOVERNMENT DEPARTMENTS CUSTOMER SUB-GROUP UNDER CUSTOMER GROUP OVERALL WITHIN 10 YEARS OF SERVICE

Critical gaps for the service dimension of customer service for government department customer sub-group within the customer group overall interacting within 10 years of service				
Factors (F)	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
1	Modern looking equipment	.000	6	Critical
2	Visually appealing physical facilities	.000	5	Critical
3	Employees appear professionally dressed	.047	14	Critical
4	materials are visually appealing	.004	11	Critical
5	Doing promises to do things by a certain time	.000	2	Significant
6	showing sincere interest in solving a problem	.000	13	Significant
7	performing the service right the first time	.000	15	Critical
8	providing the services at the promised time	.000	16	Critical
9	insisting on error-free records	.001	12	Critical
10	telling exactly when services to be performed	.000	8	Significant
11	giving prompt service	.000	1	Significant
12	always willing to help	.000	9	Important
13	never too busy to respond to requests	.000	4	Significant
14	employees behaviour instilling confidence	.000	17	Important
15	feeling safe in transaction	.000	7	Necessary
16	showing consistent courteous	.000	10	Necessary
17	having the knowledge to answer questions	.000	22	Important
18	giving individual attention	.002	18	Necessary
19	having convenient operating hours to all	.001	19	Important
20	giving personal attention	.001	20	Necessary
21	having your best interests at heart	.002	21	Necessary
22	understanding your specific needs	.000	3	Important

(*Source:* **Analysis of field data**)

Table 48 sets out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from the overall customer group interacting with MRS for more than 10 years. The results of the paired-samples t-test in column three indicate that the value of the significance level for all factors is .000, which is less than .05. It is therefore concluded that there are significant differences observed between customers' expectation and perception rating for the customer group overall interacting with MRS over 10 years, thus supporting H3 (a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was generated from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to its respective value for factors of service dimensions by the customer group overall interacting with MRS over 10 years.

The top ten factors with the highest ranked weighted mean gap are: 'Modern looking equipment' (11.40), 'Providing the services at the promised time' (11.02), 'Doing promises to do things by a certain time' (10.61), 'Performing the service right the first time' (10.42), 'Showing sincere interest in solving a problem' (10.03), 'Always willing to help' (9.98), 'Giving prompt service' (9.85), 'Telling exactly when services to be performed' (9.72), 'Giving individual attention' (8.88), 'Employees behaviour instilling confidence'(8.85).

The result from the Un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation –perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 5.97) as x-axis and the total mean gap (Gap = 1.49) as y-axis. The critical gaps for urgent improvements are identified from factors that fell within the critical quadrant.

From the results of Test three in Table 48[13] there are three factors stated as critical within the first ten priority factors, which are: 'Modern looking equipment, 'Providing the services at the promised time', and 'Always willing to help'. However, there are five factors in the significant improvement quadrant, namely 'Doing promises to do things by a certain time', 'Performing the services right the first time', 'Showing sincere interest in solving a problem', 'Giving prompt service', and 'Telling exactly when services to be performed'. There is only one factor in the important improvement quadrant which is 'Employees behaviour instilling confidence'. Also only one factor for necessary improvement quadrant is 'Giving individual attention'.

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[13] Please refer to Appendix 18 for the paired sample t-test results, weighted means and un-weighted results.

TABLE 48: THREE TESTS FOR CRITICAL GAPS FOR CUSTOMER GROUP OVERALL OVER 10 YEARS OF SERVICE

Critical gaps for the service dimension of customer service for customer group overall interacting with MRS over 10 years				
Factors (F)	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
1	Modern looking equipment	.000	1	Critical
2	Visually appealing physical facilities	.000	8	Critical
3	Employees appear professionally dressed	.000	5	significant
4	materials are visually appealing	.000	7	significant
5	Doing promises to do things by a certain time	.000	6	significant
6	showing sincere interest in solving a problem	.000	12	critical
7	performing the service right the first time	.000	11	significant
8	providing the services at the promised time	.000	10	significant
9	insisting on error-free records	.000	18	necessary
10	telling exactly when services to be performed	.000	14	important
11	giving prompt service	.000	21	important
12	always willing to help	.000	22	important
13	never too busy to respond to requests	.000	4	important
14	employees behaviour instilling confidence	.000	15	important
15	feeling safe in transaction	.000	13	necessary
16	showing consistent courteous	.000	16	important
17	having the knowledge to answer questions	.000	9	important
18	giving individual attention	.000	19	necessary
19	having convenient operating hours to all	.000	2	necessary
20	giving personal attention	.000	17	important
21	having your best interests at heart	.000	20	necessary
22	understanding your specific needs	.000	3	important

(*Source:* **Analysis of field data**)

Table 49 sets out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from the individual customer sub-group within the overall customer group interacting with MRS over 10 years. The results of the paired-samples t-test in column three indicate that the values of the significance level for most of the factors range from .001 to .003, which is less than .05. However, two factors had value for significant greater than .05, which are 'Visually appealing physical facilities' and ''Employees appear professionally dressed', suggesting that the rating of their expectation and perception levels are not significantly different. Therefore there are significant differences observed between customers' importance and performance rating for all except two factors for the individual customer sub-group within the customer group overall interacting with MRS over 10 years, thus supporting H3 (a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was generated from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to

its respective value for factors of service dimensions by the individual customers within the customer group overall interacting with MRS for more than 10 years.

The top ten factors with the highest ranked weighted mean gap are: 'Never too busy to respond to requests' (11.84), 'Telling exactly when services to be performed' (11.66), 'Giving personal attention' (11.54), 'Giving individual attention' (11.09), 'Doing promises to do things by a certain time' (11.02), 'Modern looking equipment' (10.93), 'Materials are visually appealing' (10.75), 'Providing the services at the promised time' (10.62), 'Having your best interest at heart' (10.50), and 'Understanding your specific needs' (10.15)

The result from the Un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation –perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 5.45) as x-axis and the total mean gap (Gap = 1.72) as y-axis. The critical gaps for urgent improvements are identified from factors that fell within the critical quadrant.

From the results of Test three in Table 49[14] there are six factors stated as critical within the first ten priority factors, which are: 'Telling exactly when services to be performed', 'Giving personal attention', 'Giving individual attention', 'Modern looking equipment', 'Materials are visually appealing', and having your best interest at heart'. For significant improvement quadrant, there are 3 factors consisting of 'Never too busy to respond to requests', 'Doing promises to do things by a certain time', and 'Providing the services at the promised time'. The important improvement quadrant had one factor of 'Understanding your specific needs'.

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[14] Please refer to Appendix 19 for the paired sample t-test results, weighted means and un-weighted results.

Table 49: THREE TESTS FOR CRITICAL GAPS FOR INDIVIDUAL CUSTOMER SUB-GROUP UNDER CUSTOMER GROUP OVERALL OVER 10 YEARS OF SERVICE

Factors (F)	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
	Critical gaps for the service dimension of customer service for individual customer sub-group within customer group overall interacting over 10 years			
1	Modern looking equipment	.009	13	Significant
2	Visually appealing physical facilities	.086	10	Critical
3	Employees appear professionally dressed	.102	20	Critical
4	materials are visually appealing	.002	18	Critical
5	Doing promises to do things by a certain time	.011	5	Significant
6	showing sincere interest in solving a problem	.022	1	Critical
7	performing the service right the first time	.009	4	Critical
8	providing the services at the promised time	.016	8	Significant
9	insisting on error-free records	.015	21	Critical
10	telling exactly when services to be performed	.001	22	Important
11	giving prompt service	.001	11	Significant
12	always willing to help	.014	15	Significant
13	never too busy to respond to requests	.003	7	Significant
14	employees behaviour instilling confidence	.024	17	Important
15	feeling safe in transaction	.010	6	Necessary
16	showing consistent courteous	.017	9	Important
17	having the knowledge to answer questions	.010	14	Necessary
18	giving individual attention	.006	16	Important
19	having convenient operating hours to all	.033	12	Necessary
20	giving personal attention	.004	19	Necessary
21	having your best interests at heart	.004	3	Important
22	understanding your specific needs	.004	2	Necessary

(*Source:* **Analysis of field data**)

Table 50 sets out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from business customers within the overall customer group interacting with MRS for more than 10 years. The results of the paired-samples t-test in column three indicate that the values of the significance level for most of the factors range from .000 to .021, which are less than .05. Therefore, there are significant differences observed between customers' expectation and perception rating for all factors for business customer sub-group within the customer group overall interacting with MRS over 10 years, thus supporting H3 (a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was generated from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor against its gap value. The weighted gap values are ranked in a descending order according to its respective value for factors of service dimensions by business customer sub-group within the customer group overall interacting with MRS over 10 years.

The top ten factors with the highest ranked weighted mean gap are: 'Modern looking equipment' (15,61), 'Always willing to help' (12.18), 'Giving prompt service' (10.74), Visually appealing physical facilities' (10.44), 'Providing the services at the promised time' (10.27), 'Showing sincere interest in solving a problem' (9.90), 'Never too busy to respond to requests' (9.90), 'Employees behaviour instilling confidence' (9.43), 'Showing consistent courteous' (9.43), and 'Performing the service right the first time' (9.36).

The result from the Un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation –perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 6.19) as x-axis and the total mean gap (Gap = 1.43) as y-axis. The critical gaps for urgent improvements are identified from factors that fell within the critical quadrant.

From the results of Test three in Table 50 there are eight factors stated as critical within the first ten priority factors, which are: 'Modern looking equipment' (15.61), 'Always willing to help' (12.18), 'Giving prompt service' (10.74), 'Providing the services at the promised time' (10.27), 'Showing a sincere interest in solving a problem' (9.90), 'Never too busy to respond to requests' (9.90), 'Employees behaviour instilling confidence' (9.43), and 'Showing consistent courteous' (9.43). However, there are two factors in the significant improvement quadrant, including 'Visually appealing physical facilities' (10.44), and 'Performing the service right at the first time' (9.36)

From the results of Test three in Table 4.45[15] there are eight factors stated as critical within the first ten priority factors, which are: 'Modern looking equipment', 'Always willing to help', 'Giving prompt service', 'Providing the services at the promised time', 'Showing sincere interest in solving a problem', 'Never too busy to respond to requests', 'Employees behaviour instilling confidence', and 'Showing consistent courteous'. The two factors in the significant improvement quadrant are 'Visually appealing physical facilities', and 'Performing the service right the first time'.

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[15] Please refer to Appendix 20 for paired sample t-test, weighted means and un-weighted result.

TABLE 50: THREE TESTS FOR CRITICAL GAPS FOR BUSINESS CUSTOMER SUB-GROUP UNDER CUSTOMER GROUP OVERALL OVER 10 YEARS OF SERVICE

Critical gaps for the service dimension of customer service of MRS for business customer sub-group within the customer group overall interacting over 10 years				
Factors (F)	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
1	Modern looking equipment	.000	1	Critical
2	Visually appealing physical facilities	.001	12	Critical
3	Employees appear professionally dressed	.004	11	Critical
4	materials are visually appealing	.005	2	Significant
5	Doing promises to do things by a certain time	.017	8	Critical
6	showing sincere interest in solving a problem	.002	6	Critical
7	performing the service right the first time	.003	13	Critical
8	providing the services at the promised time	.002	14	Critical
9	insisting on error-free records	.013	16	Critical
10	telling exactly when services to be performed	.013	7	Significant
11	giving prompt service	.003	18	Significant
12	always willing to help	.001	5	Necessary
13	never too busy to respond to requests	.006	21	Important
14	employees behaviour instilling confidence	.001	19	Necessary
15	feeling safe in transaction	.010	10	Necessary
16	showing consistent courteous	.001	3	Important
17	having the knowledge to answer questions	.014	9	Necessary
18	giving individual attention	.003	15	Important
19	having convenient operating hours to all	.016	22	Necessary
20	giving personal attention	.021	4	Necessary
21	having your best interests at heart	.005	17	Important
22	understanding your specific needs	.002	20	Necessary

(*Source:* **Analysis of field data**)

Table 51 set out the outcomes of the three statistical tests: paired-samples t-test (Test 1), weighted mean gap analysis theory (Test 2), and un-weighted IPA Method (Test 3) to identify the critical gaps between expected performance and perceived performance for the factors of service dimensions of MRS performance from government department customer sub-group within the customer group overall interacting with MRS over 10 years. The results of the paired-samples t-test in column three indicate that the values of the significance level for most of the factors range from .000 to .01, which are less than .05. However, one factor of 'Never too busy to respond to requests' had a value of significant of 0.100 which is greater than .05, suggesting that this factor does not have a significant different between the rating of expectation and perception. Therefore, there are significant differences observed between customers' expectation and perception rating for all factors for government customers, except one factor, within the customer group overall interacting with MRS over 10 years, thus supporting H3 (a) and (b) for these factors.

The result of test 2 from the weighted mean gap analysis theory was generated from the calculation of the weighted mean gap value by multiplying the expectation rating of a factor

against its gap value. The weighted gap values are ranked in a descending order according to its respective value for factors of service dimensions by government department customers within the customer group overall interacting with MRS for more than 10 years.

The top ten factors with the highest ranked weighted mean gap are: 'Doing promises to do things by a certain time' (11.81), 'Providing the services at the promised time' (11.79), 'Performing thee service right the first time' (11.67), 'Showing sincere interest in solving a problem' (11.12), 'Telling exactly when services to be performed' (9.87), 'Always willing to help' (9.49), 'Understanding your specific needs' (9.28), 'Employees behaviour instilling confidence' (8.84), 'Giving prompt service'(8.71), and 'Insisting on error-free records'(8.68).

The result from the Un-weighted IPA Method under Test 3 column single out the critical gaps for each factor of service dimensions. The factors have been plotted against the expectation –perception matrix according to their expectation rating and gap values. Factors designated in the "Critical" quadrant require the most improvement efforts, while those located in the "Necessary" quadrant require the least amount of attention. The quadrant cross hairs (Hudson, Hudson & Miller 2004) on the matrix were determined by adopting the total mean expectation rating (EI = 6.11) as x-axis and the total mean gap (Gap = 1.40) as y-axis. The critical gaps for urgent improvements are identified from factors that fell within the critical quadrant.

From the results of Test three in Table 51[16] there are six factors rated as critical within the first ten priority factors, which are: 'Providing the services at the promised time, 'Performing thee service right the first time', 'Showing sincere interest in solving a problem, 'Always willing to help', 'Understanding your specific needs', and 'Employees behaviour instilling confidence'. The three factors in the significant improvement quadrant are: 'Doing promises to do things by a certain time', telling exactly when services to be performed', and 'Giving prompt service'. However, 'Insisting on error-free records' is the factor in the important improvement quadrant.

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[16] Please refer to Appendix 21 for paired sampled t-test, weighted means and un-weighted results.

TABLE 51: THREE TESTS FOR CRITICAL GAPS FOR GOVERNMENT DEPARTMENTS CUSTOMER SUB-GROUP UNDER CUSTOMER GROUP OVERALL OVER 10 YEARS OF SERVICE

Factors (F)	Service dimension	Test One: Paired Samples T-Test Sig. Value (2-tailed)	Test Two: Ranked weighted service dimensions	Test three: Improvement area
	Critical gaps for the service dimension of customer service for government departments customer sub-group within the customer group overall interacting with MRS over 10 years			
1	Modern looking equipment	.000	5	Significant
2	Visually appealing physical facilities	.000	8	Critical
3	Employees appear professionally dressed	.010	7	Critical
4	materials are visually appealing	.000	6	Critical
5	Doing promises to do things by a certain time	.000	10	Significant
6	showing sincere interest in solving a problem	.000	12	Critical
7	performing the service right the first time	.000	22	Critical
8	providing the services at the promised time	.000	14	Critical
9	insisting on error-free records	.003	11	Significant
10	telling exactly when services to be performed	.000	9	Important
11	giving prompt service	.001	1	Significant
12	always willing to help	.000	2	Significant
13	never too busy to respond to requests	.100	15	Important
14	employees behaviour instilling confidence	.001	4	Necessary
15	feeling safe in transaction	.001	19	Important
16	showing consistent courteous	.002	21	Necessary
17	having the knowledge to answer questions	.002	18	Necessary
18	giving individual attention	.002	17	Important
19	having convenient operating hours to all	.003	16	Important
20	giving personal attention	.006	3	Important
21	having your best interests at heart	.005	20	Necessary
22	understanding your specific needs	.001	13	Necessary

(*Source:* Analysis of field data)

4.3.4 Critical Gaps in MRS Customer Services

This section determines which factors of services dimensions that have critical gaps in the services of MRS to its external customers. There have been no exact recognised methods to select factors that have critical gaps other than the subjective selection method of selecting few factors of the services dimensions with the highest weighted or un-weighted gap or the most statistical significant difference in a research study. This section assesses the factors of service dimensions in MRS services to its external customers by using the results from the three analysis methods used in this research. The three analysis methods used are statistical significant difference test, the mean weighted gap analysis and the mean un-weighted IPA matrix analysis. By using the results of these three analysis methods collectively to determine the critical gaps for the factors of service dimensions in MRS services to its customers, the selection of the critical gap will be more objective and less subjective.

The statistical significant difference tests used in this research together with the two gap analysis methods provide confirmatory analysis to assess the critical gaps in the services dimensions of MRS services to its customers to provide results which will be less subjective.

The selection criteria to determine the factors of services dimensions with the critical gap in MRS services are based on the following three prerequisites:

- obtain a value less than the .05 significance level required for Test 1;
- factors of services dimensions that were ranked within the ten highest weighted gaps for Test 2; and
- factors of service dimensions that located within the 'Critical' improvement quadrant for Test 3.

After identifying the service factors with critical gaps, the effect size is then calculated. Effect size statistics provide an indication of the magnitude of the differences between the groups (Pallant 2005). Eta squared, which is commonly used, range from 0 to 1 and represents the proportion of variance in the dependent variable that is explained by the independent variable (Pallant 2005). Although not provided for by SPSS, it can be calculated by using the information provided in the output and the use of the formula as follows:

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

The guidelines as proposed by Cohen (1988) for interpreting this value are as follows: .01 refers to a small effect; .06 refers to a medium effect, and .14 refers to a large effect.

The selection criteria proposed for determining of the factors of service dimension with critical gaps for improvement in the service of MRS to its customers, and the outcome of the statistical analysis done with three tests is presented in the preceding sections. Table 52 provides a summary of service factors identified to have critical gaps by the aggregate customer group overall, as well as the three customer sub-groups including individual customers, business customers and government departments customers.

There are two service factors with critical gaps in the aggregate customer group overall, five factors in the individual customers sub-group, five factors in business customers sub-group, and four factors in the government department customers sub-group. There are eleven critical factors and eleven non-critical factors. There is no common service factor with critical gaps existed across customer group overall and the three specific customer sub-groups. However, 'Always willing to help' is the critical factor that is common across three categories (.i.e. aggregate customer group overall, business customer sub-group and government department customer sub-group). The common critical factor to two categories (.i.e. Individual customer sub-group and business customer sub-group) is 'Modern looking equipment', and the factor of 'Employees behaviour instilling confidence' is common to both aggregate customers group overall and government department customers sub-group, and the factor of 'Showing sincere interest in solving a problem' is common to business customers sub-group and government department customers sub-group.

Using the formula to calculate the effect size, the results in Appendices 10 to 13 show that the magnitude of the differences in the means for all factors of service dimensions across the aggregate customer group overall and its three customer sub-groups is relatively large.

TABLE 52: FACTORS OF SERVICE DIMENSIONS WITH CRITICAL GAPS BY THE AGGREGATE CUSTOMER GROUP OVERALL

Factor (F) No.	Aggregate customer group overall	Factor (F) No	Individual customer sub-group	Factor (F) No	Business customer Sub-group	Factor (F) No	Government departments customer sub-group
12	Always willing to help	10	Telling exactly when services to be performed	1	Modern looking equipment	6	Showing sincere interest in solving a problem
14	Employees behaviour instilling confidence	1	Modern looking equipment	12	Always willing to help	5	Doing promises to do things by a certain time
		18	Giving individual attention	11	Giving prompt service	14	Employees behaviour instilling confidence
		8	Providing the services at the promised time	2	Visually appealing physical facilities	12	Always willing to help
		20	Giving personal attention	6	Showing sincere interest in solving a problem		

(*Source*: **Analysis of field data**)

The various specific factors of service shown in Table 52 for the four categories of the aggregate customer group overall and its three customer sub-groups have been collapsed into the element of five service dimensions of service quality, namely Tangible, Reliable, Responsive Assurance and Empathy in order to consider distribution of the critical factors among these service dimensions, and the result is set out in Table 53.

The aggregate customer group overall has identified 'Responsiveness' and 'Assurance' as the most critical service dimensions with one critical factor each desiring serious attention of MRS for improvement. The individual customer sub-group has considered the most critical service dimension to be resolved is with 'Empathy' with two critical factors , and then followed by the service dimensions for 'Tangible', 'Reliable' and 'Responsive', with each critical factor each. However, 'Assurance' was not considered very dissatisfactory and critical to be resolved. The most dissatisfactory service dimension in the business customer sub-group is with 'Reliability ', with two critical factors, together with 'Tangible' and 'Responsive'. Interestingly, the business customer sub-group did not consider the service dimensions for 'Assurance' and 'Empathy' as having very serious shortfalls compared with the other service dimensions warranting appropriate and immediate actions by MRS. In the government departments customer subgroup the critical service dimensions flagged for serious consideration by MRS are 'Reliable', 'Responsive', and 'Assurance'. This customer

sub-group is still satisfied with the performance of MRS on the service dimension for 'Tangible' and 'Empathy'.

Thus, the results from this finding have indicated the services dimensions that MRS customer service have failed to leave up to the expectations of the individual, business and government departments customer sub-groups. But at the same time it is important for MRS to improve the non- critical service dimensions so that they would not deteriorate and fall into the critical improvement quadrant adding to the already mounting pressure for MRS and the Government to turn around the situation relatively quickly otherwise customers and the public alike will turn up the heat and politicise this situation which had happened before and during the public sector reform.

TABLE 53: RANKING OF SERVICE FACTORS UNDER FIVE SERVICE DIMENSIONS WITH CRITICAL GAPS BY AGGREGATE CUSTOMER GROUP OVERALL

Service dimension	Individual customer sub-group		Business customer sub-group		Government departments customer Sub-group		Aggregate customer group overall	
	Frequency	Ranking	Frequency	Ranking	Frequency	Ranking	Frequency	Ranking
Tangible	1	2	2	1				
Reliable	1	2	1	2	1	1		
Responsive	1	2	2	1	1	1	1	1
Assurance					1	1	1	1
Empathy	2	1						
Total	5		5		3		2	

(*Source:* Analysis of field data)

Table 54 shows the total eleven critical factors identified in the aggregate customer group overall and are allocated to the service dimensions with three each relating to 'Reliable' and 'Responsive', which have the highest number critical factors, and then two critical factors each for 'Tangible' and 'Empathy', and one critical factor for 'Assurance'. These results suggest the serious concern of the respondents with highest performance gaps concerning reliability and responsiveness of MRS to their needs.

Thus, the result from the aggregate customer group overall with its three specific customers subgroups shows that the most critical factors fell within the service dimensions for 'Reliable' and 'Responsive', and with 'Empathy' and 'Tangible' with the least to 'Assurance'.

TABLE 54: ELEVEN CRITICAL FACTORS FROM THE AGGREGATE CUSTOMER GROUP OVERALL UNDER FIVE SERVICE DIMENSIONS

Service Dimension	Frequency	Ranking
Reliable	3	1
Responsive	3	1
Empathy	2	2
Tangible	2	2
Assurance	1	3
Total	11	

(*Source:* Analysis of field data)

Based on the selection criteria proposed for determining of the factors of service dimension with critical gaps for improvement in the service of MRS to its customers, and the outcome of the statistical analysis done with three tests in the preceding sections, Table 55 provides a summary of service factors identified to have critical gaps by the customer group overall interacting with MRS within 10 years, as well as the three customer sub-groups including individual customers, business customers and government departments customers.

There are four service factors identified with critical gaps by the customer group overall interacting with MRS within 10 years as a whole, five factors specified by individual customer sub-group, six factors by business customer sub-group, and seven factors by government department customer sub-group. There are twelve factors considered with critical performance gaps, and ten non-critical factors. There is one common service factor with critical gaps across customer group overall interacting within 10 years and three customer sub-groups, which is 'Feeling safe in transaction'. However, the service factor of 'Showing a sincere interest in solving a problem' is common to three categories consisting of customer group overall, business customer sub-group and government department customer sub-group. Similarly, the factor of 'Showing consistent courteous' is common to three categories including customer group overall, individual customer sub-group and government department customer sub-group. The other critical factors are shared by two categories but most of them by one of the four categories.

The formula for the effect size was used and the results are shown in in Appendices 14 to 17. The magnitude of the differences in the means for all factors of service dimension across the customer group interacting with MRS within 10 years, and its three specific customers was relatively large.

TABLE 55: FACTORS WITH CRITICAL GAPS BY CUSTOMER GROUP OVERALL WITHIN TEN YEARS OF SERVICE

Factor (F)	Customer group overall interacting within 10 years of service	Factor (F)	Individual customer sub-group	Factor (F)	Business customer sub-group	Factor (F)	Government department customer sub-group
6	Showing sincere interest in solving a problem	16	Showing consistent courteous	1	Modern looking equipment	6	Showing a sincere interest in solving a problem
15	Feeling safe in transaction	9	Insisting on error - free records	15	Feeling safe in transaction	5	Doing promises to do things by a certain time
16	Showing consistent courteous	10	Telling exactly when services to be performed	12	Always willing to help	14	Employees behaviour instilling confidence
14	Employees behaviour instilling confidence	15	Feeling safe in transaction	2	Visually appealing physical facilities	11	Giving prompt service
		18	Giving individual attention	6	Showing sincere interest in solving a problem	15	Feeling safe in transaction
				11	Giving prompt service	16	Showing consistent courteous
						12	Always willing to help

(*Source:* Analysis of field data)

The various factors of service shown in Table 55 for the overall customer group interacting with MRS within 10 years and its three specific customers subgroups are collapsed into the element of five service dimensions of service quality, namely Tangible, Reliable, Responsive Assurance and Empathy in order to consider which service dimension(s) that dominate(s) the critical factors in the overall customer group and its three specific customers, and the result is set out in Table 56.

The customer group overall interacting within 10 years took up the service dimensions for 'Assurance' and 'Reliable' as the most critical service dimensions, with 'Assurance' dominating the performance gap with three service factors, and only one service factor for 'Reliable'. This result suggests that there has been relatively less serious concern with the performance gaps of MRS on the service dimensions for 'Tangible', 'Responsive', and 'Empathy' compared to the other two top priorities.

However, the individual customers sub-group has brought up its serious concern with the customer service shortfall in all the service dimensions except 'Tangible'. The gravest concern is with the performance gaps for 'Assurance', with critical gaps in two service factors. There is also a serious concern with the critical gaps in one service factor each for 'Reliable', 'Responsive', and 'Empathy'.

In addition, the business customers' sub-group has picked on 'Tangible' and 'Responsive' as the most serious service dimensions with critical performance deficit on two critical factors each. It also flagged disappointment with MRS performance on the service dimensions relating to 'Reliability' and 'Assurance', with one critical factor for each of them.

The assessment by the government departments customers sub-group have identified the critical gaps to be associated with three service factors in the service dimension for 'Assurance', and then two service factors each for 'Reliable' and 'Responsive'. It still has considered critical the service performance of MRS on the service dimensions for 'Tangible', 'Responsive', and 'Empathy'.

In summary, the overall results suggest that individual customer sub-group has serious concern with ability of MRS to assure them with its service. The Business customer sub-group, on the other hand, has highlighted 'Tangible' and 'Responsive' as the most critical service dimensions for improvement, and 'Assurance' is the service dimension that government departments customer subgroup has singled out with critical performance gap. The customer group overall has also marked 'Empathy' as the most priority service dimension to be fixed by MRS.

TABLE 56: RANKING OF FACTORS WITH CRITICAL GAPS UNDER FIVE SERVICE DIMENSIONS BY CUSTOMER GROUP OVERALL WITHIN 10 YEARS OF SERVICE AND CUSTOMER SUB-GROUPS

Service dimension	Individual customer sub-group		Business customer sub-group		Government departments customer Sub-group		Customer group overall interacting within 10 years	
	Frequency	Ranking	Frequency	Ranking	Frequency	Ranking	frequency	Ranking
Tangible			2	1				
Reliable	1	2	1	2	2	2	1	2
Responsive	1	2	2	1	2	2		
Assurance	2	1	1	2	3	1	3	1
Empathy	1	2						
Total	5		6		7		4	

(*Source:* Analysis of field data)

Further, Table 57 shows that this category for the customer group overall interacting with MRS within ten years has brought out twelve critical factors, and their distribution among the five service dimensions is that three critical factors each relate to reliable, responsive and assurance, and then two critical factors for tangible and one critical factor for empathy. Thus, this customer group who has interactions with MRS since the implementation of the public sector reform program in 2001 highlighted their serious concern with the reliability, responsiveness and assurance concerning the customer service of MRS despite their high expectation of a better performance.

Thus, the result for the customer group overall interacting with MRS within 10 years of service experience and its three specific customers sub-groups shows that the most critical factors fell within the service dimension for 'Reliable', 'Responsive' and Assurance'. These

are the three service dimensions that MRS should try to fix immediately in order to turn around the customers' attitude on their service delivery. However, in the current situation all service dimensions have critical factors for MRS to deal with.

TABLE 57: TWELVE FACTORS WITH CRITICAL GAPS IN FIVE SERVICE DIMENSIONS FROM CUSTOMER GROUP OVERALL WITHIN 10 YEARS OF SERVICE

Service Dimension	Frequency	Ranking
Reliable	3	1
Responsive	3	1
Assurance	3	1
Tangible	2	2
Empathy	1	3
Total	12	

(*Source:* Analysis of field data)

The selection criteria proposed for determining of the factors of service dimension with critical gaps for improvement in the service of MRS to its customers, and the outcome of the statistical analysis done with three tests has been presented in the preceding sections. Table 58 provides a summary of service factors identified to have critical gaps by the customer group overall interacting with MRS within 10 years, and three customer sub-groups.

There are three service factors with critical gaps identified by the customer group overall interacting with MRS over 10 years, six factors specified by individual customer sub-group, eight factors by business customer sub-group, and six factors by government department customer sub-group. There are fifteen factors considered critical and seven non-critical factors. There is no common service factor with critical gaps found across customer group overall and three specific customer sub-groups. However, three service factors, namely 'Modern looking equipment', 'Providing the services at the promised time' and 'Always willing to help' are common critical factors for three categories. Two service factors including 'Showing a sincere interest in solving a problem' and 'Employees behaviour instilling confidence' are common factors for two categories.

Using the formula to calculate the effect size, the results in Appendices 18-21 show that the magnitude of the differences in the means for all factors of service dimension across the customer group overall interacting with MRS over 10 years together with its three customer sub-groups is relatively large.

TABLE 58: FACTORS WITH CRITICAL GAPS BY CUSTOMER GROUP OVERALL OVER TEN YEARS AND THREE CUSTOMER SUB-GROUPS

Factor (F)	Overall customer group interacting over 10 years of service	Factor (F)	Individual customer sub-group	Factor (F)	Business customer sub-group	Factor (F)	Government department customer sub-group
1	Modern looking equipment	10	Telling exactly when services to be performed	1	Modern looking equipment	8	Providing the services at the promised time
8	Providing the services at the promised time	20	Giving personal attention	12	Always willing to help	7	Performing the service right the first time
12	Always willing to help	18	Giving individual attention	11	Giving prompt service	6	Showing sincere interest in solving a problem
		1	Modern looking equipment	8	Providing the services at the promised time	12	Always willing to help
		4	Materials are visually appealing	6	Showing sincere interest in solving a problem	22	Understanding your specific needs
		21	Having your best interests at heart	13	Never too busy to respond to requests	14	Employees behaviour instilling confidence
				14	Employees behaviour instilling confidence		
				16	Showing consistent courteous		

(*Source:* **Analysis of field data**)

The various specific factors of critical gaps shown in Table 58 for the customer group overall interacting with MRS over ten years and its three specific customer sub-groups are converted into the element of five service dimensions of service quality, namely Tangible, Reliable, Responsive Assurance and Empathy. This is to consider which service dimension(s) that dominate(s) the critical factors in the customer group overall and its three specific customer sub-group, and the result is set out in Table 59.

The customer group overall interacting with MRS over 10 years put up the service dimensions for 'Tangible', 'Reliable', and 'Responsive' as the most serious for attention, with one critical service factor each.

However, the individual customers sub-group has placed its most concern with the performance gaps of the service dimension relating to 'Empathy' with three critical service factors. It also raised concern with the poor performance of MRS on the service dimension for 'Tangible' with two service factors, and 'Responsive' with one service factor. Interestingly, this category still regarded 'Reliable' and 'Assurance' as not having critical gaps compared with the other dimensions.

In addition, the business customers' sub-group has stated that the most critical service dimension is associated with 'Responsive', with three critical service factors. There is also concern with the performance gaps of MRS on the dimensions for 'Reliable' and 'Assurance', with two critical service factors each, and 'Tangible' with one critical factor.

The customers sub-group from government departments is mostly concern with the 'Reliability' of MRS customer service, and has identified critical gaps with three service factors. There is also concerned with 'Responsive', 'Assurance', and 'Empathy' of MRS, with one critical service factor for each of them.

TABLE 59: RANKING OF FACTORS WITH CRITICAL GAPS UNDER FIVE SERVICE DIMENSIONS BY CUSTOMER GROUP OVERALL OVER 10 YEARS OF SERVICE, AND THREE CUSTOMER SUB-GROUPS

Service dimension	Individual customer sub-group		Business customer sub-group		Government departments customer Sub-group		Customer group overall interacting over 10 years	
	Frequency	Ranking	Frequency	Ranking	Frequency	Ranking	Frequency	Ranking
Tangible	2	2	1	3			1	1
Reliable			2	2	3	1	1	1
Responsive	1	3	3	1	1	2	1	1
Assurance			2	2	1	2		
Empathy	3	1			1	2		
Total	6		8		6		3	

(*Source:* Analysis of field data)

Table 60 shows the fifteen critical factors that the customer group overall interacting with MRS over ten years has highlighted. The service dimensions for responsive and empathy have the highest number of critical factors of four, and then reliability with three critical factors, and tangible and assurance with two critical factors each. These results could indicate the concern of this group of customers who have interactions and experiences with the service of MRS for more than ten years and yet identified the highest number of critical factors of fifteen compared to eleven critical factors highlighted by the aggregate customer group overall, and twelve critical factors flagged by the customer group interacting with MRS within ten years. This could be an indication that the quality of the customer service of MRS is deteriorating rather than the expectation of a great improvement as a result of the public sector reform that emphasised enhancing of the quality of customer service. Thus, the performance gap of MRS seems widening.

Thus, the result for the customer group overall interacting with MRS over 10 years of service and its three specific customer sub-groups representing individual, business and government departments customers shows that the most critical factors fell in the service dimension for 'Responsive' and empathy and then followed by 'Reliable', 'assurance' and 'tangible'.

TABLE 60: FIFTEEN FACTORS WITH CRITICAL GAPS IN FIVE SERVICE DIMENSIONS FROM CUSTOMER GROUP OVERALL OVER 10 YEARS OF SERVICE

Service Dimension	Frequency	Ranking
Responsive	4	1
Empathy	4	1
Reliable	3	2
Assurance	2	3
Tangible	2	3
Total	15	

(*Source:* **Analysis of field data**)

4.3.5 Correlation of the Critical Factors

The results for the analysis of the critical factors by all the three categories of customers group overalls (.i.e. aggregate customer group overall, customer group overall interacting with MRS within 10 years, and customer group interacting with MRS over 10 years) and their three customers subgroups are consolidated to consider their correlations, and the results are presented in Table 61. There are nineteen total critical factors identified out of the twenty two overall from the consolidation of the results derived from all the three customers groups overalls and the three customer sub-groups. The three exceptions from these nineteen critical factors are: 'Employees appear professionally dressed', 'Having the knowledge to answer questions', and 'Having convenient operating hours to all'.

The distribution of the nineteen critical factors across the four categories has seen seven in the consolidated customer groups overall, and ten each in the three customer sub-groups. Three service factors with critical gaps are common across these four categories, which are: 'Providing the services at the promised time', 'Feeling safe in transaction', and 'Showing consistent courteous'. In addition, four service factors are common across three categories, which are: 'Modern looking equipment', 'Showing a sincere interest in solving a problem', 'Always willing to help', and 'Employees behaviour instilling confidence'. One service factor, which is 'Giving prompt service, is shared by two categories. The remaining eleven critical factors are related to individual category, with six for individual customer sub-group, two for business customer sub-group, and three for government departments' customer sub-group. There should be special attention to the needs of the individual customer sub-group who has identified the highest number of performance gaps in the customer service of MRS compared to the other two customer sub-groups.

Thus, there are eight factors out of the nineteen critical factors that have been identified in common by two to four categories, and they are those factors that MRS should be given priority to address urgently, before dealing with the other eleven factors. At the same time, MRS should note that the identification of the nineteen factors out of the twenty two factors altogether is an indicative that its customers are not satisfied with its current performance on customer service. It is therefore imperative that MRS should devise a

customer service strategy as a matter of priority to alleviate the critical performance gaps so as to make it customers and the public at large happy. MRS should remember that customers are required by laws to pay tax and that it is wise to make them happy to pay their dues with good heart and spirit in order to generate more revenue for the country from their imports and successful businesses. Everyone should be made feel better off though providing excellent customer service.

TABLE 61: FACTORS WITH CRITICAL GAPS BY CONSOLIDATED THREE CUSTOMER GROUP OVERALLS

Factor (F) No.	Consolidated customer groups overalls	Factor (F) No	Consolidated Individual customer sub-group	Factor (F) No	Consolidated business customer sub-group	Factor (F) No.	Consolidated government departments customer sub-group
1	Modern looking equipment	1	Modern looking equipment	1	Modern looking equipment	5	Doing promises to do things by a certain time
6	Showing sincere interest in solving a problem	4	Materials are visually appealing	2	Visually appealing facilities	6	Showing a sincere interest in solving a problem
8	Providing the services at the promised time	8	Providing the services at the promised time	6	Showing a sincere interest in solving a problem	7	Performing the services at the promised time
12	Always willing to help	9	Insisting on error-free records	8	Providing the services at the promised time	8	Providing the services at the promised time
14	Employees behaviour instilling confidence	10	Telling exactly when services to be performed	11	Giving prompt service	11	Giving prompt service
15	Feeling safe in transaction	15	Feeling safe in transaction	12	Always willing to help	12	Always willing to help
16	Showing consistent courteous	16	Showing consistent courteous	13	Never too busy to respond to requests	14	Employees behaviour instilling confidence
		18	Giving individual attention	14	Employees behaviour instilling confidence	15	Feeling safe in transaction
		20	Giving personal attention	15	Feeling safe in transaction	16	Showing consistent courteous
		21	Having your best interests at heart	16	Showing consistent courteous	22	Understanding your specific needs

(*Source:* **Analysis of field data**)

The various specific factors with critical gaps shown in Table 61 in the four categories are collapsed into the five dimensions of service quality. This classification is important to

consider which service dimension(s) that dominate(s) the critical factors across all categories and customer sub-groups, and the result is set out in Table 62.

The result in the consolidated aggregate customer group indicates that the highest critical gaps are with 'Assurance' with three critical factors. There is also serious concern with 'Reliable', with two critical factors, as well as both 'Tangible' and 'Responsive' with one critical factor each. There is no factor with critical gaps observed relating to 'Empathy' which could indicate that customers collectively may not seriously concern with this service dimension at this stage relative to the other dimensions.

However, the highest number of factors with critical gaps in the category for the consolidated individual customers is the service dimension for 'Empathy' with three critical factors. There is also concern with 'Tangible', 'Assurance and 'Reliable' with two critical factors each, as well as 'Responsive' with one critical factor.

There is a slightly different picture seen in the critical service dimensions identified by the category for the consolidated business customer sub-group, where 'Responsive' and 'Assurance' are the top the ranking concerns with three critical factors each. There is also dissatisfaction with the service dimensions of 'Tangible' and 'Reliable', with two critical factors each. However, 'Empathy' is not considered as critical at this stage.

The consolidated government customer sub-group has identified that the highest gaps in the service dimension is 'Reliable' with four critical factors. There is also discontented with the performance of MRS relating to 'Assurance' with three critical factors, as well as 'Responsive' with two critical factors, and 'Empathy' with one critical factor. This sub-group seems to satisfy with the service dimension concerning 'Tangible'.

TABLE 62: RANKING OF FACTORS WITH CRITICAL GAPS IN FIVE SERVICE DIMENSIONS BY CONSOLIDATED AGGREGATE CUSTOMER GROUP OVERALL, AND THREE CONSOLIDATED CUSTOMER SUB-GROUPS

Service dimension	Consolidated Individual customer sub-group		Consolidated Business customer sub-group		Government departments customer Sub-group		Consolidated Aggregate customer group overall	
	Frequency	Ranking	Frequency	Ranking	Frequency	Ranking	Frequency	Ranking
Tangible	2	2	2	2	0	5	1	3
Reliable	2	2	2	2	4	1	2	2
Responsive	1	3	3	1	2	3	1	3
Assurance	2	2	3	1	3	2	3	1
Empathy	3	1			1	4		
Total	10		10		10		7	

(*Source:* Analysis of field data)

The result in Table 63 shows that this category for the consolidation of the results of the three categories of the customer group overalls and the three customer sub-groups has brought out nineteen critical factors, and these are allocated to the service dimensions, with

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the highest critical factors of 5 relate to reliability, four critical factors each for responsiveness and empathy, and then three critical factors each for tangible and assurance. Only three factors within the service dimensions, with one factor each, for tangible, assurance and empathy that fell outside the critical factors for improvement. The results suggest that the critical service gaps in all of the five service dimensions cause serious dissatisfaction with the customer service of MRS. However MRS should pay priority attention to address the critical concerns with the performance gaps in the top three ranking service dimensions before resolving the rest given the resource constraints it faces. There must be a wiling in the leaders and the employees to transform their ministry to a better customer service. The current situation as revealed by this research is not tenable and therefore the objective of the public sector reform to provide an efficient and effective customer service is in question.

Thus, this result highlights the serious concerns with the reliability of the service of MRS and also with responsiveness and empathy. In addition, given that nineteen of the total twenty two factors of the service dimensions of MRS have been singled out as seriously critical for improvement this is a very serious wake-up call that customers have assessed the MRS performance on customer service and found wanting. It appears that the public sector reform has not done much to improve the performance of MRS compared to the government intention that has raised high expectation for the public but only found out falling short to deliver

TABLE 63: NINETEEN FACTORS WITH CRITICAL GAPS FROM CONSOLIDATION OF THREE CUSTOMER GROUP OVERALLS BY FIVE SERVICE DIMENSIONS

Service Dimension	Frequency	Ranking
Reliable	5	1
Responsive	4	2
Empathy	4	2
Assurance	3	3
Tangible	3	3
Total	19	

(*Source:* Analysis of field data)

Having identified the critical gaps in the service dimensions of MRS customers' service, the next section discusses the other important factors in MRS services to its customers.

4.4   Other Related Important Issues

This section discusses the qualitative data gathered from the open-ended questions regarding the ten most importance service dimensions for MRS services to its customers and other factors identified for improving of MRS services going forward. Table 64 shows the summary of the ten most important factors of service dimensions stated by the respondents. The data collated was coded into SPSS and the results were analysed by frequency distribution.

4.4.1 Ten Most Important Factors of Customer Service of MRS by Respondents

Respondents to the survey were asked to list ten factors of service they would consider most important to be met by MRS in serving their needs. Of the ninety two total respondents, ninety one provided their priority list. Of the ninety one selected the priority factors, 24 were respondents from individual customer sub-group, 32 from business customer sub-group and 35 from government department customer sub-group. The result compiled from this list would be considered as important factors to compare with the factors identified as critical gaps from the analysis of the data.

The ten most important service factors out of the twenty two that the respondents have identified are shown in Table 64 by customer group overall and three customer sub-groups. The ten most important factors have been selected on the basis of the first ten factors that the majority of the respondents have picked. Thirteen factors have been selected. Of the thirteen service factors selected, seven are shared in common by the four categories, and they are: 'Understanding of specific needs', 'Performing the service right the first time', 'Showing sincere interest in solving problem', 'Employees behaviour instilling confidence', 'Providing the service at the promised time', 'Having the knowledge to answer questions', and 'Giving prompt service'. However, three factors are shared by three categories, which are: 'Always willing to help', 'Doing promises to do things by a certain time', and 'Telling exactly when services to be performed'. The remaining three service factors are related to the Individual customer sub-group, which are" 'Insisting on error-free record', 'Having your best interests at heart', and 'Materials are visually appealing'.

TABLE 64: TEN MOST IMPORTANT FACTORS RESPONDENTS IDENTIFIED UNDER CUSTOMER GROUP OVERALL AND THREE CUSTOMER SUB-GROUPS

Factor (F)	Overall Customer group	Factor (F)	Individual customer group	Factor (F)	Business customer group	Factor (F)	Government Customer group
6	Showing sincere interest in solving a problem	22	Understanding your specific needs	6	Showing sincere interest in solving a	5	Doing promises to do things by a certain time
8	Providing the services at the promised time	7	Performing the service right the first time	22	Understanding your specific needs	8	Providing the services at the promised time
22	Understanding your specific needs	6	Showing sincere interest in solving a problem	11	Giving prompt service	6	Showing sincere interest in solving a problem
11	Giving prompt service	14	Employees behaviour instilling confidence	12	Always willing to help	10	Telling exactly when services to be performed
17	Having the knowledge to answer questions	8	Providing the services at the promised time	8	Providing the services at the promised time	17	Having the knowledge to answer questions
5	Doing promises to do things by a certain time	17	Having the knowledge to answer questions	17	Having the knowledge to answer questions	11	Giving prompt service
7	Performing the service right the first time	11	Giving prompt service	5	Doing promises to do things by a certain time	14	Employees behaviour instilling confidence
14	Employees behaviour instilling confidence	9	Insisting on error-free records	7	Performing the service right the first time	7	Performing the service right the first time
10	Telling exactly when services to be performed	21	Having your best interests at heart	10	Telling exactly when services to be performed	22	Understanding your specific needs
12	Always willing to help	4	Materials are visually appealing	14	Employees behaviour instilling confidence	12	Always willing to help

(*Source:* Analysis of field data)

In consolidating the result of ranking of the ten most important factors of service out of the twenty two into five service dimensions, the outcome is shown in Table 65. It is considered that the ten most important factors signify how the customers prefer MRS to treat them. These five service dimensions have allocated the twenty two service factors among themselves as follows: factors one to four relate to 'Tangibility', 5 to 9 to 'Reliability', 10 to 13 to 'Responsiveness', 14 to 17 to 'Assurance' and 18 to 22 to 'Empathy'.

The result indicates that the top ranking dimension among the five service dimensions that respondents highly value in the MRS customer service is given to 'Reliability' and it is

common across the four categories. 'Responsiveness' came second, and is shared by three categories, except individual customer sub-group, who has decided to pick 'Empathy' instead. 'Assurance' is placed in the third position by all categories except business customer sub-group, who placed 'Empathy' in that position. Both the overall customer group and the government customer sub-group had given the fourth priority to 'Empathy, but the business customer group selected 'Assurance', and individual customer group favoured 'Responsiveness'. However, all categories placed 'Tangibility' as the least important factor of the five service dimensions.

It stands out from the result in Table 65 that the three customer sub-groups have placed common emphasis on the reliability of the service of MRS. However they are slightly different when it comes to second priority. Both business sub-group and government department sub-group have pitched 'Responsive' for second place, whereas individual customer sub-group has opted for 'Empathy'. In all, the results for overall customer group have placed the priority of the five service dimensions as follows: 'Reliable', Responsive', 'Assurance', 'Empathy', and then 'Tangible'.

TABLE 65: RANKING OF 10 MOST IMPORTANT FACTORS IN FIVE SERVICE DIMENSIONS BY OVERALL CUSTOMER GROUP AND THREE CUSTOMER SUB-GROUPS

Service Dimension	Individual customer group			Business Customer group			Government customer group			Overall Customer group		
	Frequency	%	Ranking	Frequency	%	Ranking	Frequency	%	Ranking	Frequency	%	Ranking
Tangible	29	12	5	30	9	5	34	10	5	94	10	5
Reliable	71	30	1	94	30	1	114	33	1	281	31	1
Responsive	40	17	4	74	23	2	75	22	2	190	21	2
Assurance	46	19	3	59	19	4	73	21	3	181	20	3
Empathy	53	22	2	61	19	3	51	15	4	164	18	4
Overall	239	100		318	100		347	100		910	100	

(Source: Analysis of field data)

The thirteen factors identified by the respondents out of the list of the ten most important factors are stated in Table 66 by service dimensions. Reliable is the most important service dimension followed by responsive, empathy and assurance. The least is tangible. All the five factors concerning reliability have been stated a crucial for MRS to keep up with. Three out of four factors for responsive have been brought up as important. Only two out of five factors concerning empathy have been listed. Also assurance has only two factors elevated as important out of the four total factors, and only one out of four factors for tangible that are vital for customers to be given priority by MRS. The results suggest the importance for customers that MRs does its service in a reliable, responsive and with empathy and assurance. The service dimension for tangible is least important with only one factor valued by customers.

TABLE 66: THIRTEEN FACTORS IDENTIFIED AS THE TEN MOST IMPORTANT FACTORS BY SERVICE DIMENSIONS

Service Dimension	Frequency	Ranking
Reliable	5	1
Responsive	3	2
Empathy	2	3
Assurance	2	3
Tangible	1	4
Total	13	

(*Source:* **Analysis of field data**)

4.4.2 Correlation of Ten Most Important Factors with nineteen factors of Critical Gaps

In comparing the result in Table 66 on the translation of thirteen factors into the service dimensions with that in Table 63 (see page 171), setting out the service dimension for nineteen factors with critical gaps identified in the consolidation of the three customer group overalls and three customer sub-groups by service dimensions they share interesting features. The ranking of the ten most important factors demonstrate the values that respondents have attached to these service dimensions. They ranked from the most important to least in the order starting with reliability, responsiveness, empathy, assurance and then tangible. The result from the data analysis shown in Table 63 indicated that the same order has emerged but in the opposite direction from most critical service dimensions to least serious. It could be inferred from this that the service performance of MRS has failed to convince the customers that it has done a good job to make itself deem reliable and responsive as well as having empathy and assurance and also good tangibility.

4.4.3 Suggestions for Ways to Improve the Quality of Customer Service

The respondents were asked in the questionnaire to state their view base on their experience on ways to improve the quality of service of MRS to its customer. The specific areas suggested by the respondents for improvement in the quality of customer service of the Ministry are outlined in Table 67 under the category of five service dimensions of customer service.

TABLE 67: SUGGESTED AREAS FOR IMPROVEMENT OF CUSTOMER SERVICE IN FIVE SERVICE DIMENSIONS

Service dimension	Area for improvement
Tangibility	-need regular upgrading of computers and facilities to reduce downtime and provide quick service for reducing of waiting time to reasonable level - simplified documents for custom and income tax purposes to make service quicker and user friendly -need modern and best equipment to detect illegal imports
Reliability	-make work transparent -apply service equally to everyone -do service honestly and legally -leadership should lead motivating good performance -provide consistent and accurate advice -reduce management discretion to avoid corruption -provide information on processes and operation
Responsiveness	-provide training for customer service to increase knowledge for prompt response -implement training to change attitude to customer orientation -need staff willingness to direct people to right places for service -need cooperation between Custom officials and custom brokers to speed up service -employ more staff to provide quick services -need to inform public about changes to law and processes and provide training to enhance knowledge -need to consider streamlining paper works involved to provide quicker service - manage personal and phone conversations that slow down services -need physical fitness for staff to be more active - set guidelines defining response dates for communication with customers to avoid prolong delay -always place someone at the counter during working hours to attend to customers' needs -keep promises and words to complete work on time -ensure timeliness of service -more qualified staff at Income tax to ensure compliance and efficiency off service -timely refund of consumption tax to avoid long delay -to serve customer professionally, politely and friendly -manage replacement of computers regular to ensure smooth operation and minimise broken down causing delay and waiting time -provide a power back up for business continuity and for smooth operation -improve physical security to safeguard goods intact at warehouses -provide long working hours at peak time such as Christmas season and provide service during lunch time
Assurance	-provide training for staff to know their functions and able to perform them professionally -have a customer review card to assess satisfaction level by customers -training to increase expertise on accounting standard for income tax service to expedite assessment of tax returns -to define customer service guidelines -train public on custom procedures and processes to supply service quickly -provide a mechanism to obtain customer feedback and analyse complaints to improve areas of weakness - to develop employees experience -provide in-house training for customer service and technical works -training on reception and hospitality -improve transparency of employees work with assessment of duty and income tax -need training to have more charter accountants for income tax and other related services -all remuneration should tie to performance -need staff performance appraisal regularly
Empathy	-require to treat everyone the same without nepotism -always place someone at the counter during working hours to attend to customers -more communication with customers about the processes and any change to laws and procedures -desire to build close work relation between custom officials and customers -provide all services at one location for customers convenient and quick service delivery

(*Source*: Analysis of field data)

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4.4.4 Results of the Interview

Interviews were undertaken with twenty two respondents to the survey with the purpose to clarify the reasons behind their ranking of the level of expectation and perception about the service of MRS, as well as their responses to questions asked in the survey. They were also asked to explain their understanding of the term 'quality service' and how it relates to the customer service of MRS. Figure 25 shows the number of interviewees participated by customer group together with the gender. Of the total twenty two respondents participated in the interview there were eight from the individual customer sub-group, seven from the business customer sub-group, and seven from government customer sub-group. In terms of gender, the individual customer group has five female and three male, the business customer group involved three female and four male, and government customer group consisted of one female and six male.
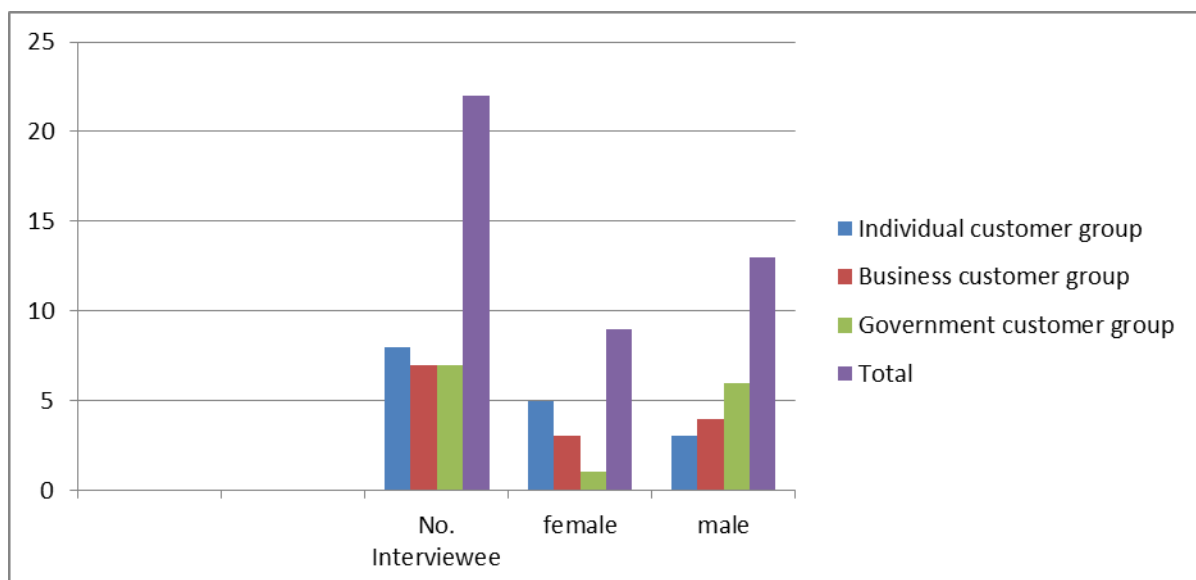
FIGURE 25: NUMBER OF INTERVIEWEES BY CUSTOMER GROUP
(*Source:* Analysis of field data)

4.4.5 Position of Interviewees

The positions of the twenty two interviewees participated in the interview are shown in Figure 26 The majority of the interviewees are at managerial positions (7), followed by economists (3), chief executive officers (2), deputy chief executive officers (2), domestic workers (2), secretary (2), supervisor (2), accountant (1), and nursing officer (1).
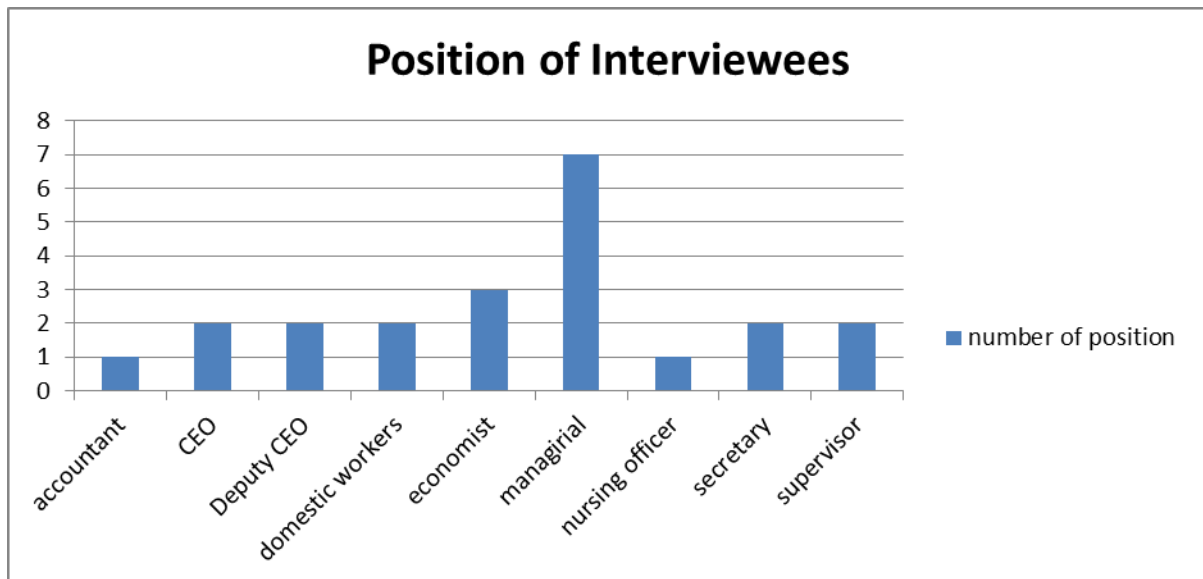
FIGURE 26: POSITION OF INTERVIEWEES
(Source: Analysis of field data)

The next section discusses the respondents view about the concept of quality service in relation to the customer service of MRS.

4.4.6 Meaning of the term 'Quality Service'

Interviewees were asked to explain their practical understanding of the term 'quality service' and its application to the customer service rendered by MRS. Excerpts from some of the interviewees' responses are stated to illustrate their point of views.

Some of the responses viewed quality service as ability of the organisation to provide the service to the satisfaction of the customer in terms of timeliness and efficiency. A CEO indicated that:

"Quality service has several elements such as timeliness, efficiency, effectiveness, economy, completeness and legality. If the ministry gets these three qualities of economy, effectiveness and efficiency it can provide a quality service to its customers."

Reducing of waiting time is seen as a reflection of the quality of service provided to customers. A manager drove home this point and said that:

"My answer to the quality service is the provision of service to the satisfaction of the thinking and expectation of the other party you are doing the service for the quickest, excellent and most accurate provision of service and not spending their time waiting for officials to provide what they wanted from their office."

Quality service is also related to satisfying customers' needs and to be considered within the resources and legal confinement in which the service provider is operating. A Deputy CEO indicated that:

"Quality service is the reflection of the good result of serving the customer. That is the results of good service by MRS to its customers in improving its service standard, and satisfying the customer to the extent allowed within MRS regulations and laws in considering their needs and requests and other things relating to processing of imported goods and tax returns."

Commitment to customer service is considered as a crucial factor for sustaining the quality of service to the public. A secretary stressed that:

"Quality service of any organization such as this ministry shall offer their service to the best they can within the resources they have. Their best service is to be shown in timeliness, caring to the public to make them feel being cared for. What is the most important to improve is their commitment to the public service. If they are committed and dedicated to their service they will provide a much better customer service. They know their work, but they are lazy. Most of the government ministries suffer the same problem of laziness. Most government ministries have this problem of custom services that custom office has unfortunately shown."

Quality service is a process that starts from the point of contact of customer and the service provider right through to the end of providing of service which should aim to ensure making customers felt welcome at the counter, attending to their needs promptly and providing them with accurate information to meet their needs satisfactorily. To the accountant, she thought that:

"Quality service to me starts at the front desk, where, when you entered the work place, you can tell if the atmosphere is friendly or not. This is the first point of contact with customers and is very important to give them a friendly welcome when they arrive at the counter. It is crucial that when you go to the custom office their staff should advise and explain to you the right things to be done and the process to be followed for the service you want. Sometime they gave you information that you found out later that it was not accurate. That is what I meant in the survey for the term quality service. Employees should be friendly and make the customers felt welcome when they get to the front desk, and they should ask customer right away what service they need and then explain to them the right process and actions to be fulfilled to serve their needs satisfactorily."

The quality of leadership is important in taking a leading role in ensuring that the organisation is rendering a good quality of service to the public. A domestic work shared his view that:

"Quality service to the public should be the first priority of the leader and then down to the rest of employees in the government offices. We are working in the plantation and when we come to the government offices for service most of the time we are disappointed. Most of their services are not done in the morning. The example is the custom warehouse. We come in the morning to the custom office to complete the processing of our working papers but they told us to come in the afternoon. That is the reason for our disappointment. The leaders should inform their workers to do their service to the public. The employees should welcome us properly rather than busy talking among themselves and doing their own things when we come in to their office."

Integrity of the service provider is an important attribute of quality service as well as the way in which customer is treated by officials when he gets into the office. Another domestic worker highlighted this issue and said that:

"My thinking is that good quality service is someone who tell the truth in providing the service and doing it timely to satisfy the customer. When you met with the official in the office she should look well and speak to you with nice and polite words."

Safeguarding the security of goods of customers at the warehouses is an important element of quality service for meeting fully the needs of customers and would welcome them back to business again. It is the view of a manager that:

"It means to do the best we can to serve the people well. The best service will bring more people back to our business. We have not reached the best standard of our service yet, but we are trying to get there to do our best in welcoming people, looking after their needs and ensure the safe keeping of their goods and properties while being kept in our warehouse without any loss or damages."

Treating every customer in the same manner is a crucial feature of quality service that service provider should aim to maintain. To a manager, he said that:

"Quality service is to treat everyone the same. There is a lot on that that cause disquiet in the public. There are clear regulations and laws for serving the King's requirements from this ministry, but serving the rest of the people is a problem; so quality service to me is the equal treatment of everyone coming to this ministry for their service. Equal treatment of everyone is a reflection that God loves is the same to everyone."

Establishing a good mutual understanding between service provider and customer is vital for achieving a satisfactory outcome. This view was emphasised by supervisor in saying that:

"To me quality service is to ensure that both sides, the ministry and the customer, should have mutual understanding of what is needed to do and how much to be paid in order to minimize misunderstanding and dissatisfaction over their service; so understanding is very important. That relates to my previous comments that understanding between both parties

are the most important thing. We need to understand what they have taken out from our pockets through payment of tax and duty. Here in Tonga it is difficult for people from the rural areas to understand their services and processes but when there is a good understanding than both sides should accept and satisfy with the final outcome."

The ability of the service provider to meet fully the needs of the customers or the public in a quick, easy, helpful and polite manner is the essence of quality service. The accountant also asserted that:

"Quality service for the public, to my interpretation, is the ability to meet fully the needs of, and any enquiry from, the public about our business or organisation or ministry, in a manner that is easy and quick; and to carry it out in a polite manner and be helpful. It is important also to understand beforehand by the employees in the organisation or ministry the information and service that is correct and clear to provide to the public who make uses of our business or organisation."

In summing up the collective responses of the Interviewees to their understanding of the concept of quality service there are several points that come through worth noting. Firstly, quality service is seen from the perspective of the customers as the ability of the service provider to satisfy their needs promptly, efficiently, politely, legally, equitably, and friendly. Secondly, it is also considered as a process that starts from the initial point of contacting between the customer and the service provide right through to the stage of service delivery, and through this process the service provider should treat the customers properly to satisfy his needs. Thirdly, it is also recognised that it is idealistic to expect a high level of quality service without considering the legal and resources constraint within which the service provider is operating. Fourthly, mutual understanding between the customer and service provider is crucial for a successful outcome on customer service. Finally, achieving quality service needs good leadership to exact his influence over his workers to perform their service superbly at all times. These several characteristics of quality service are important for MRS to know and take into account in formulating its customer service strategy to resolving the current performance gaps.

4.5   Conclusion

The analysis of data in this chapter has generated a number of findings. Firstly, this research has concluded that there is no statistically significant difference existed in the mean expected performance level and means perceived performance level of MRS services among the three Customer Group overalls (.i.e. aggregate customer group overall, customer group overall interacting with MRS within 10 years, and customer group overall interacting with MRS over 10 years). Also, there are no statistically significant differences observed in the means for the expected level and perceived level of MRS services within the three specific customer sub-groups for all the customer groups overalls, except for the significant difference found in the expectation level of the three specific customer sub-groups within

the customer group overall interacting with MRS within 10 years, and in the perception level of the three specific customer sub-groups within the aggregate customer group overall.

Secondly, there are statistically significant differences existed between the expected level and the perceived level of the quality of service of MRS among the three categories of the customer group overalls, and within the three specific customer sub-groups, representing individual, business and government departments. Thirdly, there are statistically significant differences between the expected level and the perceived level on all factors of service dimensions in all three Customer Group overalls and within three specific customer sub-groups of MRS.

The application of the outcomes from the three analysis methods of statistical significant difference, the mean weighted gap analysis and the mean un-weighted IPA matrix analysis provided a more objective approach to critical gap analysis. These analysis methods were collectively used to consider the selection of the critical gaps in service dimensions based on three premises. These three premises are: the factors of service dimensions that had the highest statistical significant differences in the study; the factors that were ranked within the ten highest weighted gaps; and the factors of service dimension that fell within the 'Critical' improvement area.

This chapter has found that all factors of service dimensions used in this study concerning the service of MRS to all its customers group overall and three specific customers' sub-groups had gaps that were unsatisfactory and need improvements.

The combined results from the statistical difference test and the two gap analysis methods for the factors of service dimensions have identified the critical factors with performance gaps for the Aggregate Customer Group Overall, Customer Group Overall interacting with MRS within 10 years, and Customer Group Overall interacting with MRS over 10 years, and the three customer sub-groups. The Aggregate Customer Group and it three customer subgroups have brought up eleven factors of service dimension with critical gaps. Even though there is no common service factor with critical gaps existed across these four categories, there are critical factors that are shared in common across three and two categories. 'Always willing to help' is the critical service factor that is common across the three categories of aggregate customer group overall, business customers sub-group, and government department customers subgroup. The two categories of individual customers' subgroup and business customers' subgroup have commonality in the service factor relating to 'Modern looking equipment'. The service factor of 'Employees behaviour instilling confidence' is common to two categories of aggregate customers group overall and Government department customer sub-group. 'Showing sincere interest in solving a problem' is the service factor that common to both business customers' customer sub-group and government department customers sub-group. In addition, in term of service dimensions the highest performance gaps are with reliable and responsive with three

factors each, and then followed by empathy and tangible with two critical factors each, and then assurance with one critical factor.

The Customer Group Overall interacting with MRS within 10 years and its three customer sub-groups have identified twelve critical factors. They have one common service factor with critical gap, which is 'Feeling safe in transaction'. There are some critical factors that are common to three and two categories. The service factor of 'Showing a sincere interest in solving a problem' is common to three categories of customer group overall interacting with MRS within 10 years, business customers sub-group and government department customers subgroup. Similarly, the factor of 'Showing consistent courteous' is common to three categories including customer group overall interacting with MRS within 10 years, individual customers sub-group and government department customers sub-group. The other critical factors are shared by two and one of the four categories. In term of service dimensions, the highest performance gaps are with reliable, responsive and assurance with three critical factors each, and then tangible with two critical factors and empathy with one critical factor.

The Customer Group Overall interacting with MRS over 10 years and its three customer sub-groups have flagged fifteen service factors with critical gaps. Even though these four categories do not share any single critical factor in common, three and two of them share some common critical factors. The service factor for 'Modern looking equipment' is common to three categories including customer group overall interacting with MRS over 10 years, individual customer sub-group and business customers sub-group. 'Providing the services at the promised time' and 'Always willing to help' are common critical factors identified by the three categories of customer group overall interacting with MRS over 10 years, business customers sub-group and government customers sub-group . The service factors for 'Showing a sincere interest in solving a problem' and 'Employees behaviour instilling confidence' are common critical factors selected by the two categories of business customer subgroup and government customers sub-group. In terms of service dimensions, the highest performance gaps are with responsive and empathy with four critical factors each, then reliable with three critical factors and assurance and tangible with two critical factors each.

In the consolidation of the three categories of customer groups' overalls and three customer sub-groups, there were nineteen critical factors identified. Three service factors with critical gaps existed across these four categories, which are: 'Providing the services at the promised time', 'Feeling safe in transaction', and 'Showing consistent courteous'. In addition, four service factors are common across three categories, which are: 'Modern looking equipment', 'Showing a sincere interest in solving a problem', 'Always willing to help', and 'Employees behaviour instilling confidence'. One service factor, which is 'Giving prompt service, is shared by two categories. The remaining eleven critical factors are related to individual category, with six for individual customer sub-group, two for business customer sub-group, and three for government departments' customer sub-group. There should be

special attention to the needs of the individual customer sub-group who has identified the highest number of performance gaps in the customer service of MRS compared to the other two customer sub-groups. In terms of service dimensions, the highest performance gaps were with reliability with five critical factors, and then responsive and empathy with four critical factors each, and then assurance and tangible with three critical factors each.

The respondents' prioritisation of the ten most important service factors reveals that the three customer sub-groups have placed common emphasis on the 'Reliability' of the service of MRS. However, they are slightly different when it comes to second priority. Both business sub-group and government department sub-group have pitched 'Responsive', whereas individual customer sub-group has opted for 'Empathy'. Overall, the result for the overall customer group has placed the priority of the five service dimensions in the order starting from 'Reliable', Responsive', 'Assurance', 'Empathy, to 'Tangible', the least.

The findings from the qualitative research on the respondents understanding of the concept of quality service have highlighted a number of points. First, the significance of satisfying of the customers' needs promptly, efficiently, politely, legally, equitably, and friendly. Secondly, it is a process that starts from the initial point of contacting between the customer and the service provider right through to the final stage of service delivery, and going through this process the service provider should treat the customers properly in meeting their needs. Thirdly, the level of quality service should be considered within the legal and resources constraint of service provider. Fourthly, achieving quality service needs good leadership to make excellent customer service happen and sustain it over times. These several characteristics of quality service are important for MRS to know and take into account in formulating a customer service strategy to reduce and eliminate the current performance gaps.

Having explained the data analysis for the factors of service dimensions for the service of MRS to its customers, Chapter five provides the conclusion and implications for this research.

CHAPTER 5.   CONCLUSION

The chapter summarises and discusses the findings relating to the expected performance level and perceived performance level of MRS to its customers on the factors of service dimensions. The chapter continues to discuss the differences between the expected performance level and the perceived performance level of MRS services based on the factors of service dimensions among the three customer groups' overalls and within three specific customer sub-groups are discussed along with the critical gaps in the services dimension of MRS customer services. This is followed by the consideration of the implications of the findings, firstly in relation to the expected performance level and perceived performance level of the factors of service dimensions in MRS services to its customers, then in relation to the differences between expectation and perception among and within customers on the factors of service dimensions in MRS services. The chapter concludes with examining the impacts of any critical gaps in MRS services among and within its customers, explanation of the contribution to theory this research has made, discussion of the limitations faced during this research and suggestions for future research relating to MRS services are made and summing up of the research findings and implications relating to the quality of MRS services to its customers.

5.1.   Introduction

Chapter four provided a detailed data analysis relating to the customers' expected level and perceived level on the customer service of MRS, and identified the critical gaps in the service of MRS to its customers.

Chapter five is made of ten sections. The chapter summarises and discusses the findings relating to the expected performance level and perceived performance level of MRS to its customers on the factors of service dimensions (Sections 5.2 to 5.4). Differences between the expected performance level and the perceived performance level of MRS services based on the factors of service dimensions among the three customer groups overalls and within three specific customer sub-groups are discussed along with the critical gaps in the services dimension of MRS customer services.

Section 5.5 considers the implications of the findings, firstly in relation to the expected performance level and perceived performance level of the factors of service dimensions in MRS services to its customers, then in relation to the differences between expectation and perception among and within customers on the factors of service dimensions in MRS services. Finally, this section examines the impacts of any critical gaps in MRS services among and within its customers.

Findings and implications from the qualitative research relating to other important factors in the service of MRS to its customers are discussed in Section 5.6.

The findings and implications are followed by an explanation of the contribution to theory this research has made. A discussion of the limitations faced during this research is also provided. A number of suggestions for future research relating to MRS services are made. The conclusion sums up the research findings and implications relating to the quality of MRS

services to its customers which are important for the consideration of the strategy for improvement of the customers' services of MRS in particular and the government in general.

5.2. Level of Expectation and Perception on MRS Customer Service

This section discusses the findings relating to the expected level and perceived level of the service of MRS to its customers.

5.2.1. Expectation and Perception of Customers

No significant differences were found in the expected level and perceived level of the service of MRS among the three customer groups overalls, and within the three customer sub-groups, except a significant difference existed in the expected level within the three customer sub-groups in the customer group overall interacting with MRS within 10 years, and also in the perceived level of the service of MRS within three customer sub-groups in the aggregate customer group overall.

Having summarised the findings on the significant differences for the expected performance level and perceived performance level of the services of MRS among its customer groups' overalls and within its three customer sub-groups, the next section discusses the significant differences between the expected performance level and perceived performance level of MRS services to its customers.

5.3. Significant differences between the levels of Expectation and Perception

This section discusses the findings relating to the significant differences between the expected performance level and perceived performance level over the service of MRs for its customers. The significant difference results for MRS customers' service within each customer sub-groups should be regarded as indicative only due to the small number of respondents in each subgroup. These results are considered together with other data to assist in identifying those factors of service dimensions with critical gaps between the expected performance level and perceived performance level of MRS.

5.3.1. Significant Differences between levels of Expectation and Perception among Customers' Group Overalls and within Customer Sub-groups

Significant differences were found between the expected performance level and perceived performance level of MRS customer services in all categories of customers' group overalls, and also within all customer sub-groups. These customer sub-groups are individuals, businesses, and government departments, excluding MRS.

5.3.2. Significant Differences between levels of Expectation and Perception on Factors of Service Dimensions

Significant differences were found between the expected level and perceived level for all factors of service dimensions for MRS customer service in all three categories of customer groups overalls, and also within three customer subgroups.

Having summarised the findings of the significant differences between the expected level and perceived level of the customer service of MRS, the next section discusses the critical gaps for MRS performance.

5.4. Critical Gaps in MRS Customer Services

This section provides a summary of the critical gaps identified in this research with the factors of service dimensions that have aroused dissatisfactions and serious concerns with the performance of MRS to its customers. Critical gaps in the factors of service dimensions were identified by the formulation of a selection criterion that assessed the results from the three analysis methods undertaken in this research. This selection criterion used the results from the weighted gap analysis and the un-weighted gap analysis IPA matrix to confirm the statistically significant differences for the factors of the service dimensions. This selection criterion was formulated to provide a less subjectively method to select the factors of the service dimensions with critical gaps. There are three perquisites that must be met for selecting a factor with a critical gap, which are: (a) statistically significant difference, (b) ranked within the ten largest weighted gaps, and (c) fell within the 'Critical' quadrant of the un-weighted IPA gap analysis matrix.

There are eleven factors altogether with critical gaps brought up by the Aggregate Customer Group overall and its three customers sub-groups. Two service factors with critical gaps in the aggregate customer group overall, five factors in the individual customers subgroup, five factors in business customers subgroup, and four factors in the government department customers subgroup. Even though there is no common service factor with critical gaps existed across these four categories, there are common critical factors across three and two categories. 'Always willing to help' is the critical service factor that is common across the three categories of aggregate customer group overall, business customers sub-group, and government department customers subgroup. The two categories of individual customers' subgroup and business customers' subgroup have commonality in the service factor for 'Modern looking equipment'. The service factor of 'Employees behaviour instilling confidence' is common to both aggregate customers group overall and Government department customer sub-group. 'Showing sincere interest in solving a problem' is the service factor that common to both business customers' customer sub-group and government department customers sub-group.

In addition, in term of service dimensions the highest performance gaps are with reliable and responsive with three factors each, and then followed by empathy and tangible with two critical factors each, and then assurance with one critical factor.

The critical gaps in the service dimensions identified by the customer group overall interacting with MRS within ten years and its three customer sub-groups as adversely affecting the perception of the customers over the MRS performance are illustrated in Figure 27. The Customer Group Overall interacting with MRS within 10 years and its three customer sub-groups have identified twelve critical factors.

There are four service factors identified with critical gaps in the Customer group overall interacting with MRS within 10 years, five factors in the individual customers' subgroup, six factors in business customers' sub-group, and seven factors in government department customers' sub-group. They have one common service factor with critical gap, which is 'Feeling safe in transaction'. There are some critical factors that are common to three and two categories. The service factor of 'Showing a sincere interest in solving a problem' is common to three categories of customer group overall interacting with MRS within 10 years, business customers sub-group and government department customers subgroup. Similarly, the factor of 'Showing consistent courteous' is common to three categories including customer group overall interacting with MRS within 10 years, individual customers sub-group and government department customers sub-group. The other critical factors are shared by two and one of the four categories.

This category of the customer group interacting with MRS within ten years, consisting of forty one respondents out of the total ninety two, has been design in this research to capture the effect of the public sector reform implemented since 2001. The finding on the factors of service with critical gaps

In term of service dimensions, the highest performance gaps are with reliable, responsive and assurance with three critical factors each, and then tangible with two critical factors and empathy with one critical factor.
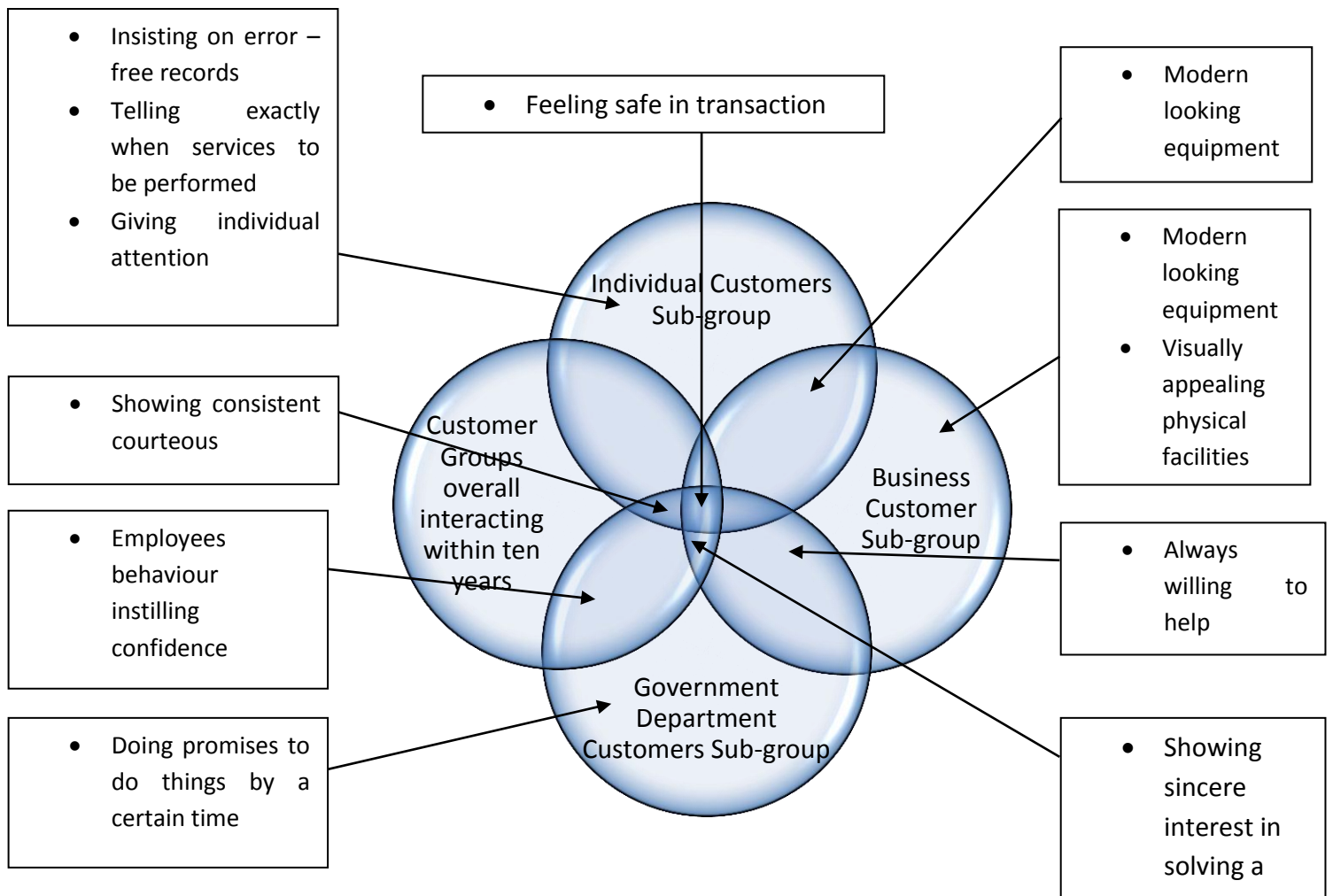
FIGURE 27: FACTORS WITH CRITICAL GAPS WITHIN THE INTERCEPTION OF CUSTOMER GROUP OVERALL WITHIN TEN YEARS OF SERVICE AND THREE CUSTOMERS SUB-GROUPS (*Source*: Analysis of field data)

The critical gaps in the service dimensions identified by the customer group overall interacting with MRS over ten years, and its three customer sub-groups as adversely affecting their perception over the customer service of MRS are illustrated in Figure 28.

There are three service factors with critical gaps identified by the Customer group overall interacting with MRS over 10 years, six factors specified by individual customers sub-group, eight factors by business customers' subgroup, and six factors by government departments' customers sub-group. The Customer Group Overall interacting with MRS over 10 years and its three customer sub-groups have flagged fifteen service factors with critical gaps. Even though these four categories do not share any single critical factor in common, three and two of them share some critical factors in common. The service factor for 'Modern looking equipment' is common to three categories of customer group overall interacting with MRS over 10 years, individual customer sub-group and business customers sub-group. 'Providing the services at the promised time' and 'Always willing to help' are common critical factors identified by three categories of customer group overall interacting with MRS over 10 years,

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business customers sub-group and government customers sub-group . The service factors for 'Showing a sincere interest in solving a problem' and 'Employees behaviour instilling confidence' are common critical factors selected by two categories of business customer subgroup and government customers sub-group.

In terms of service dimensions, the highest performance gaps are with responsive and empathy with four critical factors each, then reliable with three critical factors and assurance and tangible with two critical factors each.
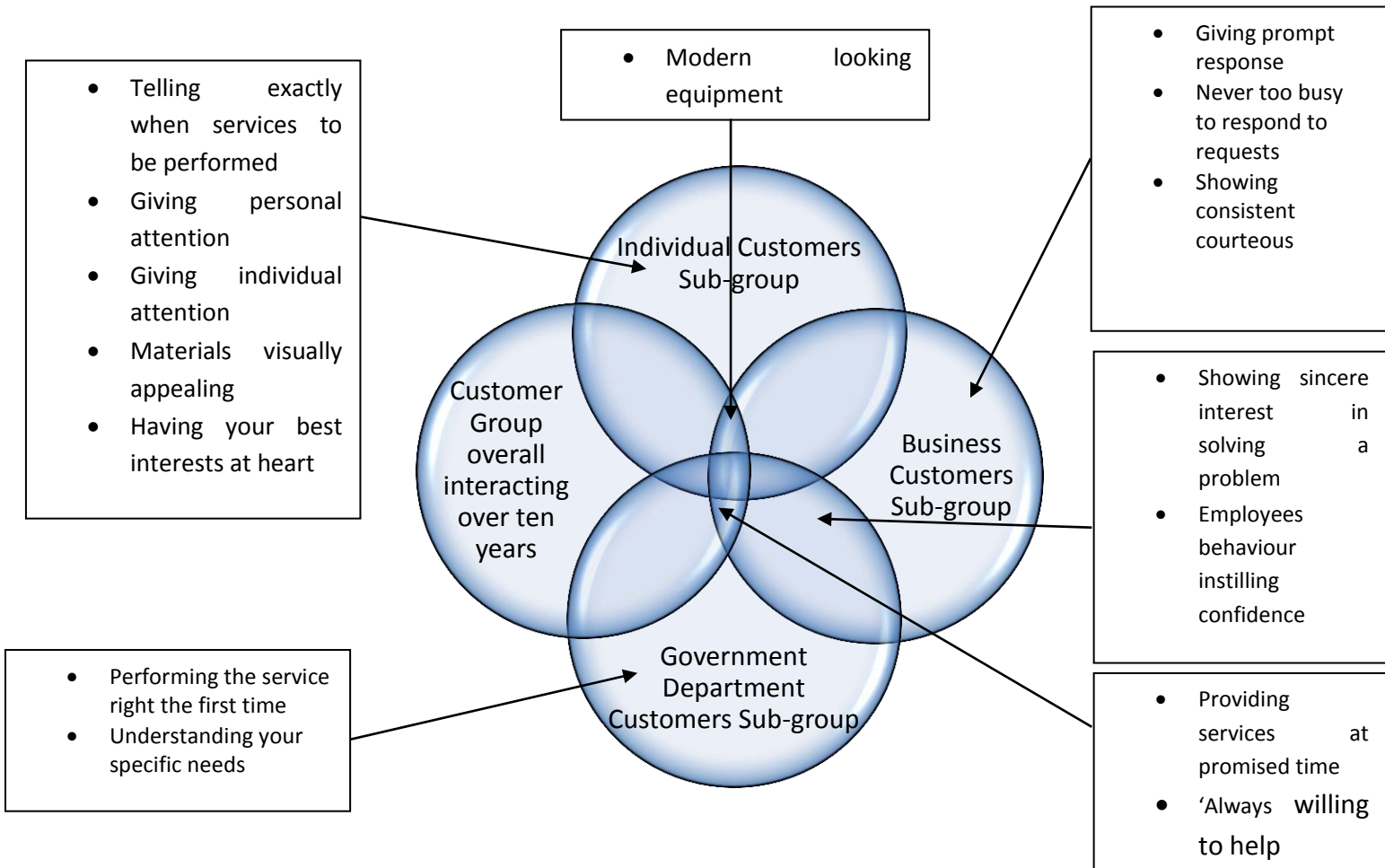
FIGURE 28: FACTORS WITH CRITICAL GAPS WITHIN THE INTERCEPTION OF CUSTOMER GROUP OVERALL OVER TEN YEARS OF SERVICE AND THREE CUSTOMER SUB-GROUPS
(*Source*: Analysis of field data)

The consolidation of the critical factors from the three categories of Customer Groups Overalls and the three customers sub-group provides for the identification of their correlation, and these critical factors adversely affecting their perception over the customer service of MRS are illustrated in Figure 29.

There are nineteen total critical factors identified out of the twenty two overall from the consolidation of the results. The three exceptions from these nineteen critical factors are: 'Employees appear professionally dressed', 'Having the knowledge to answer questions',

and 'Having convenient operating hours to all'. These results show that customers are seriously concerns with the customer service of MRS in almost all aspects. This is a very poor performance that MRS should consider seriously to formulate a customer service strategy to address the serious issues to improve dramatically the current situation in order to shift the perception in their favour.

The distribution of the nineteen critical factors across the four categories has seen seven in the consolidated customer groups overall, and ten each in the three customer sub-groups. Three service factors with critical gaps are common across these four categories, which are: 'Providing the services at the promised time', 'Feeling safe in transaction', and 'Showing consistent courteous'. In addition, four service factors are common across three categories, which are: 'Modern looking equipment', 'Showing a sincere interest in solving a problem', 'Always willing to help', and 'Employees behaviour instilling confidence'. One service factor, which is 'Giving prompt service, is shared by two categories. The remaining eleven critical factors are related to separate customer sub-group, with six for individual customer sub-group, two for business customer sub-group, and three for government departments' customer sub-group. There should be special attention to the needs of the individual customer sub-group who has identified the highest number of performance gaps in the customer service of MRS compared to the other two customer sub-groups.

Thus, there are eight factors out of the nineteen critical factors that have been identified in common by two to four categories, and they are those factors that MRS should be given priority to address urgently, and then move on to the other eleven factors. At the same time, MRS should note that the identification of the nineteen factors out of the twenty two factors altogether is an indicative that its customers are not satisfied with its current performance on customer service. It is therefore imperative that MRS should devise a customer service strategy as a matter of priority to alleviate the critical performance gaps so as to make it customers and the public at large happy. MRS should remember that customers are required by laws to pay tax, and providing them with better customer service would induce good compliance with their legal obligation to pay duties and taxes on time and in the right way in order to maximise government revenue, which is one of the core mandates of MRS.

In terms of service dimensions, the highest performance gaps were with reliability with five critical factors, and then responsive and empathy with four critical factors each, and then assurance and tangible with three critical factors each.

- Telling exactly when services to be performed
- Giving personal attention
- Giving individual attention
- Materials visually appealing
- Insisting on error-free records
- Having your best interests at heart

- Modern looking equipment

- Visually appealing facilities
- Never too busy to respond to requests

- Providing the services at the promised time
- 'Feeling safe in transactions
- 'Showing consistent courteous

- Giving prompt service

- Doing promises to do things by a certain time
- Understanding your specific needs
- Performing the service s at the promised time

- Showing a sincere interest in solving problem
- Always willing to help
- 'Employees behaviour instilling confidence

Consolidated Individual Customers Sub-group

Consolidated Customer Group overalls

Consolidated Business Customers Sub-group

Consolidated Government Departments Customers Sub-group

FIGURE 29: FACTORS WITH CRITICAL GAPS WITHIN THE INTERCEPTION OF CONSOLIDATED CUSTOMER GROUP OVERALLS AND THREE CUSTOMER SUB-GROUPS
(*Source:* Analysis of field data)

This section has discussed the service factors with critical gaps in MRS customer service in three categories of customer groups' overalls and associated three customer sub-groups, and also the critical factors by which they are correlated. The next section considers the implications of the finding of this research.

5.5. Implication of the Findings Relating to MRS Quality of Customer Service

The first part of this section looks at the implications of the findings relating to the expected level and perceived level for the factors of service dimensions in the performance of MRS among the three categories of customer groups overalls and within the customers sub-groups. The next part of this section discusses the significant differences between

expectation and perception, and the critical gaps identified within the factors of service dimensions among and within customers.

5.5.1. Implications of the Levels of Expectation and Perceptions on Customer Services

This research has found out that both three categories for all customers groups overalls and three customer subgroups have established that the overall mean expected level is greater than the perceived level of customer service of MRS (see Table 22, page 111).

In both the three categories of customer groups overalls and their three associated customer sub-groups, 'Performing the service right the first time' was the single critical factor with the lowest mean of the perceived level of customer service of MRS. This comparatively low level of perception indicates a weakness in the ability of the MRS to accurately performing its service accurately to the customer at the first instance. The low level in perception relating to doing the service right the first time can adversely affect the confidence of the customers on the accuracy of the service of MRS in assessing the values of duty paid on imported goods and tax levied on salary earnings and corporate income.

Across the three categories of customer groups overall (.i.e. Aggregate customer group overall, customer group interacting with MRS within 10 years from public sector reform, and customer group interacting with MRS over 10 years) the lowest mean perceived level of customer service was found in the individual customer sub-group. It can be implied that the individual customer sub-group felt that they are not served equitably relative to the two other customer subgroups for business and government departments.

There are variations in the results of the highest mean expectation and highest mean perception across the three categories of the customer group overalls and within the three customer sub-groups. In the Aggregate Customer Group Overall, the government customer sub-group recorded the highest expectation level and perception level. It could be assumed that the government departments expected more highly of MRS services than the other customers subgroups because of their knowledge of the financial resources that government has given to MRS in the annual budget to serve its operation for collecting the main source of government annual revenue. The higher perception could be viewed that MRS serves the government departments relatively well than the other customer sub-groups as it is a part of the government as a whole. This could also mean that MRS was less concerned with undervaluation of goods from government departments than with individual and business customers as the net effect to the government overall finance of inter-departmental payments and receipts would be neutral.

However, in the category of the customer group overall interacting with MRS within 10 years from the inception of the public sector reform, where the highest expectation was recorded in the individual customer sub-group, but the higher perception was in the

government customer sub-group. The higher expectation in the individual customer sub-group could be due to their high hope in the government expressed intention to improve the quality of the public service with the implementation of the public sector program in 2001, which MRS was central to this reform. However, the lowest perception level in the individual customer sub-group relative to the other two customer sub-groups could be the reflection of their disappointment with the actual performance of MRS. There was a very high expectation for a much better customer service from its involvement in the public sector reform. This reform provided good prospects for significant structural and psychological changes for the better. Unfortunately, the performance proved otherwise.

In the Customer Group Overall interacting with MRS over ten years, the highest expectation and perception was in the business customer sub-group which could reflect some improvements in their working relation with MRS over the years.

There are three factors of service dimension with the same highest mean expectation level in the Aggregate Customer Group Overall which are: 'Insisting on error- free records', 'Showing consistent courteous', and 'Understanding your specific needs'. 'Insisting on error-free records is expected to maintain by MRS to ensure that duty and tax is charged accurately and equitably. It is also expected that having a complete error-free records would somehow help MRS in understanding the customers' specific needs. Mrs is also expected to 'Show consistent courteous' at all times to customers.

The service factor with the highest mean expectation level in the Customer Group Overall interacting with MRS within ten years is 'Feeling safe in transaction'. This factor is very crucial especially to business customers subgroup as businesses wanted to ensure that their income tax returns and documents for imported goods are kept safely by MRS without the access of other business competitors.

Both service factors of 'Showing consistent courteous' and 'Understanding your specific needs' have the highest mean of expectation level in the Customer Group Overall interacting with MRS over ten years. The same service factors that were highly rated in the Aggregate Customer Group Overall. Customers are expecting MRS to serve them in a courteous manner all the time, expressed in polite words and friendly welcome at all times. Customers believe that MRS would carry out its services satisfactory to them if it fully understands their specific needs well in the first place.

Having considered the implications that the expected level and perceived level of customer service of MRS have for the customers' group overalls, the next subsection considers the implications of the expected performance level and perceived performance level of MRS customer service.

5.5.2. Implications of the Significant Difference between the Levels of Expectation and Perception

This section explains the implications of significant differences between the expected level and perceived level of customers' service of MRS in the three customer groups' overalls.

This research has established that there is a significant difference in the three categories of the customers groups overalls (.i.e. Aggregate Customer Group Overall, Customer Group Overall interacting with MRS within ten years, and Customer Group overall interacting with MRS over ten years) between the overall mean expectation level and the overall mean perception level of MRS customer service (see Table 23, page 113).

There is a significant difference between the mean expectation level and mean perception level for the factor of service of 'Showing a sincere interest in solving a problem' in the categories for Aggregate Customer Group Overall and Customer Group Overall interacting with MRS within ten years. This significant difference recognises that there is a gap in the customer service of MRS in solving with sincerity the problem that customers have faced. This gap could have an adverse effect on the reliability of MRS to solve the problems that customers have in relation to its service. This could cause a reputation risk to MRS in its public relation with its customers and the public at large.

There is also a significant difference between the mean expectation level and mean perception level for the factor of service of 'Modern looking equipment' in the category for Customer Group Overall interacting with MRS within ten years. This significant difference provides indication that there is gap in the service of MRS relating to lack of high quality computers to ensure the smooth operation of its management information system and mitigate regular breaking downs that occurred previously causing delays in service and high inefficiency, and also lack of modern equipment to detect at the wharf any illegal goods imported, and also to screen and record all goods imported to confirm the accuracy and completeness of the goods listed in the custom import entry documents produced by customers to MRS for duty and tax purposes.

A significant difference occurs between the mean expected level and the mean expected level of customer service in the individual customer sub-group across the three categories of the Customer groups' overalls. It could be considered that this situation is a reflection of the extent of the discontentment of the individual customers sub-group with the performance of MRS in serving their needs relative to the other customers' sub-groups for businesses and government departments.

Furthermore, a significant difference in customer service also observed between the mean expected level and the mean perceived level in the government customer sub-group. This could be an indicative of the negative experiences that government departments have had

with MRS in clearing their imported goods, filing of employees PAYE tax returns, responding not promptly to official correspondences with other government departments.

The smallest difference existed between the expected level and the perceived level of customer service of MRS was seen in the business customers subgroup in the categories for the Aggregate Customer Group overall and the Customer group Overall interacting with MRS within 10 years. This result could reflect the improving working relation that the business community and MRS have developed and enjoyed over the years.

Having considered the implications of significant differences between the expectation level and perception level of the customer service of MRS in the Aggregate Customer Group Overall, Customer Group Overall interacting with MRS within ten years, and Customer Group Overall interacting with MRS over ten years, the next subsection discusses the implications of the critical gaps for the factors of service in these three categories of Customer Group Overalls.

5.5.3. Implications of the Factors of Services Dimensions with Critical Gaps

Nineteen factors have been identified from the consolidation of the correlations (see Figure 29) between the customer groups' overalls and the three customer sub-groups in this research has having critical gaps in the customer service of MRS.

The first critical factor is 'Providing the service at the promised time'. This factor relates to the service dimension of 'Reliability' which concerns with performing by MRS of the promised service dependably and accurately. It is important that the time set to perform the service is fulfilled. Not keeping to their words could cause frustration in the customers and could provide the impression that MRS did not treat their time with importance. Customer said, "...The time originally promised to complete the service has been changed; and it appears that the time that they had set was not treated with importance because they told you one time to come by to clear your cargo but when you went there they delayed it to another time". The unreliability of MRS in not providing the customers service at the promised time could create a public uproar that would tarnish the image and reputation of the whole government.

The next critical factor is 'Feeling safe in transactions' which is within the service dimension of 'Assurance', concerning with the customers level of trust and confidence in the service of MRS. The serious concern of all customers with this factor could indicate their lack of confidence and trust in MRS to safeguard and protect the confidentiality of the information they have provided for their imports and tax returns from others access such as their business competitors without their prior knowledge and permission. This is a serious issue that MRS should resolve otherwise the customers may try to overcome this problem through providing inaccurate information that could adversely lead to longer delays in the

customers' service. Customers need to be assured by MRS that their information they have are kept confidential as required by the legislations for income tax and Customs administration. The critical gap with this factor could be assumed that customers are not feeling confidence with the safety of their information with MRS.

The other factor with critical gap is 'Showing consistent courteous' to customers which is within the service dimension of 'Assurance' as well. It could be assumed that MRS employees are not considerate in serving the needs of the customers. A customer said on this factor that "We had that experience during Christmas holiday last year with our visitors from overseas for they almost went back before they got their cargo; and when their cargo arrived the custom office is close for the holiday. If the custom office can be more considerate of the public they would work longer hours during this time of Christmas to clear the cargos that brought in for Christmas. That is the common problem when you talked to other people." The implication of this unsatisfactory performance is that customers may not feel encouraged to bring in more goods from their relatives overseas as MRS is not considerate of their needs especially for the special occasion such as Christmas season.

'Showing a sincere interest in solving a problem' is another critical gap with greater concerns especially by customers from businesses and the government departments. This factor is within the service dimension for 'Reliability' which relates to MRS performing the promised service dependably and accurately. A business customer has expressed discontent"...if there is any goods lost at the Customs warehouse it will take endless time to find out who was responsible for it and for payment of the compensation. We felt this will involve great work and delays because no one owns-up the responsibility for the lost. The parties involved such as shipping agents and custom office would both blame each other..."The implication with this service gap is that customers could take up their problem with the higher authority in the government and media if MRS fails to resolve their problems timely and satisfactorily.

'Always willing to help' is a critical factor that is related to the service dimension of responsiveness, which is, in essence, helping customers and providing them with a prompt service. The customers from businesses and government departments expect MRS to help them out on any matters they might need clarification and explanation on. The dissatisfaction with this factor implies that customers are not satisfied with the help they have been receiving from MRS over the years. The sharing by a customer of his negative experience provides evidence stating"...there is time when you asked them to clarify the reason for the tax they have charged us to pay and their response was if you do not satisfy with what we have explained then you can go and see a higher senior officer. That response to me is simply to let you know that you cannot change their decision and you had to finally yield to them". The implication of the critical gap with the kind of help that MRS has been providing to the customers could lead to temptation to consider paying money to MRS

employees in order to help out with what they need which is leading to corruption. There is also a possibility that dissatisfied customers could report their case to the media causing damage to the reputation of MRS and government as well.

The other critical factor is 'Employee behaviour instilling confidence' in the customers which is a serious concern of customers from businesses and government departments. Customers expect MRS to do its services in a way that would make them feel confidence. The concern with this factor was commented on by a customer who said that"...one staff came in and set the value of the goods at our warehouse at one level, and then later on staff rotation occurred and new staff came in and decided to set the value at higher level compared to the previous assessment, and then another staff reshuffle took place which saw a new staff coming in and reset the values of goods in our warehouse at a lower level than the previous one. The changes of staff through their rotation exercise had caused huge variations in the valuation of the goods at our warehouse causing problems that we would like to solve and improve upon". There is also concern with the equity of the service of employees. One customer expressed that "The problem is that if you have no relative or someone in the custom office that you are familiar with and know you very well no one would care to serve you. They would only come to help you when they have done their works. They do not seem to care. "One customer also reinforces this issue and commented that "For any service the service provider should value equally everyone who come for their services and enquire anything they want to know from them. That equal treatment would make the customers feel happy and keen to come for their service again. When treated someone as insignificant it is not good. Even though the ministry aims to collect money from the public they should aim at the same time to value and respect the customers who provide them with money to pay for their salaries. In addition another customer also added that "From my own experience while being in Philippines their customer services are very good. They make you feel important. That is the kind of skills that our employees need to be trained on, so that they can understand the importance of their services to the public. Tonga is regarded as a religious people which should be reflected in their performance, but that is not the case in actual situation. Government needs improvement of its customer service. Culture is sometime used as a reason to blame for poor service. I do not subscribe to that view. This is simply used as an excuse. Our culture promotes respect and respectable treatment of everyone. What is needed is training and changing of the heart of the worker to serve the public well. "The lack of confidence with the behaviour of MRS employees implies a need for further training to drill them on the needs to treat everyone equally in order to avoid dissatisfaction and inducement open for corruption practices, and also to serve the public well in meeting their needs satisfactorily and to provide a consistent decision on valuation of goods for determining of appropriate duty and taxes to be paid.

'Modern looking equipment' is a critical factor that concerns the customers from businesses and individuals which is within the service dimension for 'Tangible', concerning with physical facilities and equipment available to MRS. A customer raised a concern on this factor saying

"Sometime their computers have inflicted by virus. Although it is better now, they need to replace their old computers. There was a time when we have a serious problem with running out of custom formal working papers. We raised this matter in our meeting with the custom officers. Our concern was with their computers having virus causing problem not to print out documents for custom import entry forms to use for releasing of our customers goods from the custom warehouses. However, they blamed us for spreading the virus to them, but it was their own doing..."In addition, one customer made another observation on this critical factor asserting that "Most ministries use computers but sometime I went to the custom office and found out their computers and equipment are out of order due to power failure, and as a result you would have to wait before electricity is back on. That showed that Custom office has no power back up to continue their business if and when the power is out. They should have a power back up in order not to prolong their work in case of a problem with power..." The implication could be that the equipment that MRS has at present would not be in good condition and in need of replacement to ensure smooth service and avoid the operational risk of frequent disruptions causing inconvenience to customers.

'Giving prompt service' is also a critical factor and is within the service dimension for 'Responsive' concerning with helping and providing prompt service to customers. Customers expected that the public sector reform would make service delivery of MRS more promptly. It appears that this is not the case. One customer alluded to this issue and said that "When there is any issue it should be resolved quickly. I came across this experience when I wrote to this ministry on a specific issue and after a while there was no response from them. This is an indication to me that there is a lacking on this matter. So if there is any issue raised from the public, and even if it is considered trivial, it is important to address and reply to them to get it clear and allay that concerns promptly." The other customer also intimated her dissatisfactory experience that "...I had experiences with submitting of tax return on PAYE to the Income tax division to claim tax refund. When I submitted my tax return I had to wait for a very long time, and if I did not follow it up, there would be no reply from the ministry. In my experience with the custom office, if there is any urgent matter and important that I wanted to process urgently, no one of the employees seems to bother and care to help me get it done quickly as desired. I would have to wait for a very long time at the counter without anyone coming quickly to ask me what service I am after..." The same concern was also made that "Most of the time you waited at the counter for more than 30 minutes until a staff came up and asked you what you need. There should be someone to meet you when you got at the counter of the office. Sometime you want to go and see the manager or specific staff in the ministry's office but they were away. It is needed that the custom officials should value customers' time as they have other important works to do. Some customers are business people and they need to go back to their work as earliest as possible. They need to come to the custom office to clear their goods and containers. Custom Office should always place someone at the counter to cater for customers' needs

quickly when customers show up at the counter in their office. "The implication from this critical factor is that the service of MRS to the public has not been done efficiently causing serious complaints on slow service and also accumulation of backlogs and outstanding matters need to be resolved and responded to promptly.

'Visually appealing facilities' is not satisfactory to customers which is part of the 'Tangible' feature of the service of MRS. The identification of this factor as critical implies that MRS facilities are not in good condition commensurate with what customers have expected and are therefore in needs of replacement.

Further, 'Never too busy to respond to requests' has been identified to have critical performance gap which indicate that MRS is not responsive to customers' requests. With the public sector reform customers raise their expectation for a higher standard of customer service and respond to their requests would be done more readily. However, the performance short fall with this factor could imply that MRS has not been reformed in its service as expected. One customer stated his concern on this factor that "...Normally, the work drags on because they are busy to work for your needs for they have commitment internally and that is their priority. When I was working in MRS it was a challenge to speed up their work and to change the system to become customer oriented so that when the taxpayers come to the office they are given the top priority to attend to their needs, which was not the nature of the work before. That is the situation when I was there." The customers having low perception on this factor could imply the need for further training of MRS employees to change their attitude so that they could become more customer oriented otherwise the numbers of dissatisfied customers will continue to rise and complain more in the future for slow response from MRS to their requests, and stalling the effort of the government to improve the public sector's customer service.

Customers have suggested that 'Doing promises to do thing by a certain time' is not satisfactory yet, challenging the reliability of the MRS to act according to their time schedule. This dissatisfaction was raised by a customer that "In some instant we were told that the cargo ship would arrive on a certain date and time, but later on we found out that the arrival schedule had been changed and delayed. The custom office should have contacted and informed us of the change when there is a delay in the shipping arrival to make it convenient to the customers. In another case, I was told that my consignment will be released on a certain date, but when we went to the custom office we found out that the container in which my goods were stored has not been paid and that had caused a delay in getting our goods out. This has resulted in the lost in time and fuel in running to the custom office when there is a delay in the shipping arrival without a public notice. This occurrence shows the failure of the custom office to serve the public at the exact time they had been advised as ship would not arrive on scheduled time. You have high expectations of the employees of the custom office in doing their service, but when you went there their actual performance was not encouraging causing you to lose your hope on them." The failure of

MRS to deliver its service on the promised time could further deteriorate the public perceptions about its credibility.

Customers felt that the factor of 'Understanding of your specific needs' by MRS is yet to be satisfactory with critical gaps to be resolved. A customer commented that "there is a time you wanted to rush to complete the paper works quickly due to an urgent need of the customer but the custom office advised us to give them enough time to do the paper work properly to reduce mistakes. Some customers came from an island such as Fafaa and they wanted to process things quickly in order to enable them to catch the boat schedule going back to the island. And we sent that request to the custom office. "The same sentiment was made by another customer stating that '... when I went to get the cargo sent from my relatives overseas, I am a worker, and wanted to get the service completed in the morning to clear my cargo and then get back to work. But most of the time it was not possible. My expectation is that I wanted their service to be at 100 per cent but I understand they have not got to that standard yet and therefore there are few things they need improvement on to get to the desired level". This concern implies that MRS is not so sensitive to the specific needs of customers causing dissatisfaction for their services. This seemingly insensitive attitude towards customers' specific needs could be due to the fact that this is a mandatory service that customers must be complied with, and only MRS can render that service without any competitive organizations.

'Performing the service right at the first time' is a concerned that challenge the reliability of MRS to perform its service accurately in the first instant. A customer brought up this issue that "There is variation on valuation of goods to be duty and taxed. We import virtually the same goods all the times, but their valuations of the duty are varied for each shipment. Valuations should be similar as they have the same information to use for all shipments. Our business imports goods and when we wanted to process the goods for duty the value of the same goods have been considered differently per shipment. They have a list of our imported goods and their monetary values. They were given information on the same goods for each shipment but custom office has valued each shipment differently without a clear and convincing explanation for the causes of the variations on each shipment. "This concern implies that this will be an on-going issue until MRS has set up a mechanism to show and explain satisfactorily to customers the basis for variations in their assessment of each consignment.

'Telling exactly when services to be performed' is a critical factor about which customers have indicated their concerns concerning the performance of MRS. A Customer has expressed the concern with this issue that "I can say that it is satisfactory but there are things need to be improved and can be done. For example, it is keeping to the time that the custom office has set to complete its function on specific work. About 70 per cent of the service for customers' goods and consignments to be cleared from the custom or private warehouse is taken up by us, custom broker, which was the responsibility that the custom

office had performed until 2008. Our work is to confirm and state the valuation of the goods imported by importers on which the calculation of the duty and consumption tax is based. After our work has been completed then it is forwarded to the custom office for verification of the duty and consumption tax to be paid by the customer." The concern with this issue implies that MRS is not keeping up to the time that it sets out to complete the service to customers and therefore causing on-going dissatisfactions with the unreasonable delays.

'Giving personal attention' has been identified as a critical factor with unsatisfactory outcome that need addressing by MRS. A customer commented on his concern with this matter saying "As I was waiting at the counter of the Ministry for Income Tax division after a while one personnel came up and asked me for what I wanted. After explaining what I came for, she went back inside the office and then another person came up asking me the same question of what I am waiting for. It came to my mind that may be the first person who came up to me went back to her office after telling her what I wanted, and did her own work without informing the appropriate staff that I am waiting to see him. This has caused a long waiting time. It is so important to serve the public at the counter well. It is needed that when someone comes to the office a staff should be there at the counter to attend to his needs and find the right employee who can cater for the needs of each customer. "The lack of giving personal attention to customer needs implies that MRS will continue to receive negative feedback from the public until it will change this situation.

There is also a serious concern with the performance of MRS concerning the factor for 'Giving individual attention' to customers. The issue was raised by a customer saying that "The question is true that they paid individual attention to some and not all. What is needed now is to pay equal attention to everyone. There are a lot of changes around in the custom officers serving in it various offices through their monthly staff rotation. These changes of custom officers have sometime caused inconsistencies in the application of the law, but we tried to follow the right thing..." Customers expect that MRS would inform them when there are any changes to its laws, processes and staff stationing at its various offices. The concern with the dissatisfaction of the service of MRS on this aspect implies that MRS is not sensitive to individual customer needs and that could cause adverse impact on its public relation with customers until the performance gap will have been rectified.

'Materials visually appealing' has been registered as a critical factor under the service dimension for 'Tangible'. Customers expect that the official documents such as custom entry form for processing of imported goods are user friendly. However, this seems not to be the case. One customer said: "I was among those who had designed those forms that were discarded by the major reform implemented in 2007 and 2008. I did expect that the new forms would be much better, much clearer and easier for usage to come out from this reform. But after this, I believed and still believe it is much complicated and difficult to understand some of these forms, and that can cause differences in the information collated by MRS. It will require much longer time for complicated forms to be familiarised with,

understand and fill correctly by the public. One of the weaknesses of the current forms is the absence of information giving instruction and guidance to be provided together with the form." It could be assumed that the complication of the official documents could cause further delay in the completion of the customer service on time and could cause confusion that might lead to misunderstanding between customers and MRS.

Customers have highlighted their concern with the issue of 'Insisting on error free records'. This concern was expressed by a customer saying "In the past 10 years I believed the main weaknesses of MRS was that no staff assigned to focus on managing the records of the ministry, mainly for providing guidelines to determine which records to be kept in the archive and those to be made available for usage. The importance of keeping proper records is to examine and confirm that taxpayer supply reliable information on which the appropriate tax is levied. It is a part of the major reform of the administrative taxing system to establish a dedicated division to manage and provide advice on record maintenance, assessment and confirmation of such records. There were arrangements for this in the implementation of changes to the tax service and in the present time there are still a high percentage of organisations that are yet to practice a better recording system. The absence of a proper recording management system in MRS to assess the appropriate tax to be collected from taxpayers is a major loophole that has led and will contribute to leakages in revenue collection. As a result it appears that tax laws are a laughing stock, and very easy to evade if they are not enforced appropriately. The main difficulty faced by MRS is the failure to assess all tax payers equitably; some tax payers are fully assessed but some organisations are not done so due to incomplete records. "The concern with this factor implies that MRS has scope to improve on this loophole and the tax incident has not been applied consistently and equitably due to variations in the quality of information submitted to and accepted by MRS and this is a compliance issue need addressing across the board.

The last critical factor that customers have seriously concerned about in the performance of MRS is "Having your best interests at heart'. A remark by a customer pointed out this issue: 'My marking was based on what we have experienced in our work with the Custom officers of what could have been done much better. This is the ministry who collects the highest revenue for the government. If the service has been done better and has managed to collect the actual revenue set in the budget then it would be better. What we should aim at is to improve the service and get better revenue. If we can all work to motivate people to increase their imports then revenue for the ministry will be higher and generate better income for us as well. Everyone would be better off'. Another customer also shared the problem he had experienced: "... There were times problems happened when the law was changed causing problem to the people. When there is a change to the law it is needed to explain to the public to understand it properly. For example, the introduction of a new duty system for the vehicles requiring the usage of engine capacity rather than the CIF value of the vehicles was a surprise to most of the public. Any new law should be explained to the public to understand them well..."The customer initial high expectation was met with some

surprises with the actual service and said this, "...we, custom broker, came in since 2008 to do this work, which the custom office handled all the works related with the documents on imported goods and the collection of payment. Thus my expectation was that there will be satisfaction with their work. Now, we face with the custom office and the expectation is related to what we agree with them to complete. There are a lot of changes to the custom processes without informing us, causing delays for making corrections... although we were sometime blamed for mistakes in valuation of imported goods, but it all depends on the invoices we have received for imported goods to determine the basis of our valuation for charging of duty and tax to be paid. Our valuation and supporting documents are forwarded to the Custom office for confirmation and payment of the duty and tax..." Another customer expressed her view on this factor saying: "Having your best interests at heart was one of the most important factors to me as a customer. When you go to an office such as MRS you can tell by their service whether they are caring and attentive to your need or not, and the reason you are there for..."

Having considered the implications of the critical gaps for the factors of service in the customer service, the next section discusses the contribution of this research to theory.

5.6. Contribution to Theory

This research has made a contribution to gap analysis theory by initiating the strategy of using three methods of analysis to identify the factors with critical gaps in the customer service of MRS representing the public sector in Tonga. The selection criterion for identifying the factors with critical gaps was derived from the results from statistical testing for significant differences, mean weighted gap analysis, and mean un-weighted matrix IPA theory.

The next contribution to theory relates to the formulation of the selection criteria developed in this research to identify the factors with critical gaps. The selection criteria used three selection criteria. The first selection criterion was based on a factor having a statistical significant difference in the statistical testing. The second criterion was that a factor was ranked within the ten highest weighted gaps from the mean weighted gap analysis. The third criterion was that the factors fell within the 'Critical' improvement area from the mean un-weighted matrix IPA theory. This selection criterion provides an analysis method that is more objective and less subjective. Traditionally, critical gaps were subjectively selected from three to five factors that demonstrated the largest un-weighted or weighted mean gap or statistical significant difference.

This is also the first research undertaken to examine the expected level and perceived level of the customer service of MRS in the public sector in Tonga. This research will help in contributing to the advancement of the customer service of the government ministries, in particular and the whole Government of Tonga, in general.

Having explained the contribution this research has provided to the theory, the next section discusses the limitations this research has experienced and how they were managed.

5.7. Limitations

The first limitation is the focus of this research on the public sector in Tonga and use only one case study, which is that of MRS, to explore the quality of services delivered by a government ministry. There are twenty ministries in the government and this research has managed to deal with only one ministry, given the time and funding constraints of this research. Thus, this research can only provide finding on critical gaps concerning only to MRS.

This research was also limited to the geographical area of Tongatapu, which is one of the five islands of the country, although sixty per cent of the people are residing in Tongatapau and where most of the interactions between MRS and its customer are taken place. Consequently, this research can only provide an example of the critical gaps in the customer service specific for the island of Tongatapu.

Having discussed the limitations of this research, the next section provides some areas of interest for future study that could be considered relating to the factors of customer service in the public sector.

5.8. Future Research

There are a number of future research studies that could be undertaken to advance research on the quality of customer service in the public sector in Tonga and also in the Pacific Island countries.

Following the work undertaken in this area, a further study could be undertaken to produce a longitudinal study of changes in the critical gaps in the factors measuring expectation level and perception level of customer service in the MRS and other Government ministries in the other sectors. This further study would enable the government to measure and compare the changes in either increases or reduction in the size of the critical gaps. This study could be undertaken every three years.

To further advance the knowledge of the quality of the government customer services this research could be extended to compare the customer service in the main island of Tongatapu to that in the other islands in Tonga such as Vava'u and Ha'apai.

In addition, potential exists to extend this work to include other governments of similar size to Tonga in the Pacific Islands to compare over time their standard of the quality of customer service and how they changes over time to improve their performance. This study would contribute to understanding of critical gaps that may exist between Tonga and other

island states in relation to the factors of quality service setting a framework for improvement strategies.

The foundations of this research could be used to assess and compare the customer services in the public sector and private sector in Tonga, and other pacific island states. This is considered as an important contribution of this research.

Having discussed the possible future research areas that could be considered to advance the body of knowledge on customer service in the public sector, the next section provides the conclusion to this chapter.

5.9. Conclusion

This chapter has provided a discussion of the findings and implications to draw a conclusion on the fundamental research question of: 'What are the critical gaps for the customer service of MRS in the public sector in Tonga?

The research has identified nineteen service factors with critical gaps adversely affecting the quality of the customer service of MRS. These have been stated as 'Providing the services at the promised time', 'Feeling safe in transaction', 'showing consistent courteous', 'Modern looking equipment', 'Showing a sincere interest in solving a problem', 'Always willing to help', 'Employees behaviour instilling confidence', 'Giving prompt service', 'Visually appealing facilities', 'Never too busy to respond to requests', 'Doing promises to do things by a certain time', 'Understanding your specific needs', Performing the service right at the first time', 'Telling exactly when services to be performed', 'Giving personal attention', 'Giving individual attention', 'Materials visually appealing', 'Insisting on error-free records', and 'Having your best interests at heart'. In terms of the service dimensions, the highest performance gaps were with reliability with five critical factors, and then responsive and empathy with four critical factors each, and then assurance and tangible with three critical factors each

The expectation level and perception level of the external customers in the customer service of MRS have been investigated through hypothesis testing applying t-tests and One-way Anova tests for the significant differences between the expectation level and the perception level by three categories of the Customer Groups Overalls (.i.e. Aggregate Customer Group Overall, Customer Group Overall interacting with MRS within ten years, and Customer Group Overall interacting with MRS over ten years) and three customer sub-groups.

The hypothesis testing resulted in one negative and two positive propositions for statistically significant difference. Firstly, there was no statistically significant difference existed in the mean expected level and mean perceived level of MRS service among the three categories of customer groups overalls (.i.e. Aggregate Customer Group Overall, Customer Group Overall interacting with MRS within ten years, and Customer Group Overall interacting with MRS over ten years)). Also, there was no statistically significant difference

observed in the means for expected level and perceived level concerning the customer service of MRS, except for the significant difference found in the expectation level of the three specific customers within the customer group overall interacting with MRS within 10 years, and in the perception level of the three specific customers within the aggregate customer group overall. Secondly, statistically significant differences existed between the expected level and the perceived level of the quality of service of MRS among the three categories of the customer group overalls, and within the three specific customer sub-groups, representing individual, business and government departments. Thirdly, statistically significant differences existed between the expected level and the perceived level on all factors of service dimensions in all three Customer Group overalls and within three specific customers of MRS.

In conclusion, the future of the quality of the customer service of MRS representing the public sector and the government of Tonga depends on the renewed commitment of the leader to improve the current situation with the significant performance gaps. As stated by one of the customer, "Leadership has an important influence to change the service to the better. The boss needs to go around and observe the manner and nature in which his staffs are discharging their work, and to put himself in the shoes of the customer to see and judge if the service being provided is satisfactorily or not. The leader needs also to lead and champion the good customer service. It does not help if the leader stays in office and does not go around and know what would be the public reactions to their service. He can motivate the workers to do their service well to everyone. "Thus, there is a great and urgent need for MRS to invest a great deal of its resources and time to devise a customer service strategy to reverse the prevailing very low perception over its customer services. Based on the finding of this research, the objective of the public sector reform program for great improvement of the quality of the customer service of MRS has somewhat failed to deliver the desired outcome.

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Appendix 1: Participant Information Sheet and Consent Form

USQ
AUSTRALIA

The University of Southern Queensland

Participation Information Sheet

HREC Approval Number:H11REA211

To: Participant

**Full Project Title: An Exploratory Study on the Quality of Service in the
Public Sector in Tonga**

Student Researcher: Mr. Aisake Valu Eke, (who is assisted by Rev. Dr. 'Ungatea Fonua Kata, Dean of Academic, Tupou Tertiary Institute, in conducting the survey and interview to comply with the University's Ethic Committee requirement).

I would like to invite you to take part in this research project. This research is conducted to complete the academic requirement for conferring of the Doctor in Business Administration (DBA).

BACKGROUND

Quality services in the public sector in Tonga is one of the main objectives of the public sector reform program that the Government of Tonga has embarked upon since 2001. This research is being conducted to examine and analyse this objective, that is, the quality of services in the public sector. Data will be collected through field survey and interview.

The survey questionnaire and a follow up interview are designed to consider your opinions and gather data to assist in obtaining a better understanding of the expectations and perceptions of the external customers over the quality of services in the Government of Tonga using the Ministry of Revenue Services (MRS) as the case study. Information compiled will be used to (a) identify the expectations and perceptions of the external customers on the service dimensions of the performance of MRS; (b) identify the gap between expectations and perceptions of the external customers on the service dimensions of the performance of MRS; and (c) identify the critical service dimensions that MRS should improve to bridge the identified performance gaps between customers' expectation and perception.

All information about the participants will be treated confidentially. No question of a personal nature will be asked; and no inconvenience or discomfort is expected. You are free to withdraw your consent and to discontinue your participation in the interview at any time without consequences.

Procedures

Participation in this project will involve filling-in of a survey questionnaire and a follow up interview. The interview will be carried out to clarify and explain any issues related with the response to the questionnaires and to note any other comments.

Voluntary Participation

Participation is entirely voluntary. **If you do not wish to take part you are not obliged to.** If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Any information already obtained from you will be destroyed.

Your decision whether to take part or not to take part, or to take part and then withdraw, will not affect your relationship with the University of Southern Queensland and the researcher.

In compliance with the University Ethic Committee's requirement for ensuring of the impartiality of the fieldwork process Rev. Dr. 'Ungatea Fonua Kata, Dean of Academic, Tupou Tertiary Institute, is acting as the Assistant Researcher to conduct the survey and the interview.

Please notify the Assistant Researcher if you decide to withdraw from this research.

Should you have any queries regarding the progress or conduct of this research, you can contact Rev. Dr. 'Ungatea Fonua Kata, on phone number 28-890 and/or email: Ungatea.kata@tti.to.

Your cooperation and willingness to participate in this study is highly valued and appreciated.

If you have any ethical concerns with how the research is being conducted or any queries about your rights as a participant please feel free to contact the University of Southern Queensland Ethics Officer on the following details.

Ethics and Research Integrity Officer
Office of Research and Higher Degrees
University of Southern Queensland
West Street, Toowoomba 4350
Ph: +61 7 4631 2690
Email: ***ethics@usq.edu.au***

The University of Southern Queensland

Consent Form

HREC Approval Number: H11REA211

TO: Participant

Full Project Title: An Exploratory Study on the Quality of Service in the Public Sector in Tonga

Student Researcher: Mr. 'Aisake Valu Eke, (who is assisted by Rev. Dr. 'Ungatea Fonua Kata, Dean of Academic, Tupou Tertiary Institute, in conducting the survey and interview to comply with the University's Ethics' Committee requirement**).**

I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.

I understand the purpose of the research project and my involvement in it.

I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.

I confirm that I am over 18 years of age. .

I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential

I understand that I will be audio taped if I am involved and agreed to it in the follow up interview following the collection and review of the survey questionnaires to clarify any matters in my answers to the questionnaires and to note any further comments I may make.

I understand that, if I am interviewed, the tape for the interview will be stored safely in a locked filing cabinet in the researcher home office and any access to it will be decided by the researcher with the assurance that the personal information will be kept confidentially.
Name of participant……………………………………………………………........

Signed……………………………………………………….**Date**……………………….

If you have any ethical concerns with how the research is being conducted or any queries about your rights as a participant please feel free to contact the University of Southern Queensland Ethics Officer on the following details.
Ethics and Research Integrity Officer
Office of Research and Higher Degrees
University of Southern Queensland
West Street, Toowoomba 4350
Ph: +61 7 4631 2690
Email: ***ethics@usq.edu.au***

Appendix 2: SURVEY QUESTIONNAIRE FOR PARTICIPANTS

EXPLORATORY STUDY ON THE QUALITY OF SERVICES IN THE PUBLIC SECTOR IN TONGA

PART A: GENERAL AND DEMOGRAPHIC DETAILS

Name:_____

Job Title:_____

Business/organization name:_____

Business Address:_____

Contact email Address:_____

_____

Please circle your answer

Q1. What is your gender?

    a. Male*;*
    b. Female*;*

Q2. Which organization are you working for?

    a.   Large business[17]*;*
    b.   Small business[18]*;*
    c.   Government department*;*
    d.   Individual/household*;*

Q3. How often do you use the service of the Ministry of Revenue Services?

    a. Weekly*;*
    b. Monthly*;*
    c. Quarterly*;*
    d. Yearly *;*

Q4. How many years have you been dealing with the Ministry of Revenue Services?

    a. 1 to 4 years*;*
    b. 5 to 10 years*;*
    c. 11 to 20 years*;*
    d. More than 20 years;

---

[17] Large business with sales over $100,000 per year;
[18] Small business with sales equal or less than $100,000 per year;

Q5. Which division of the Ministry of Revenue Services do you deal with the most?

   a. Custom and trade*;*
   b. Income tax*;*
   c. Consumption tax*;*
   d. Excise tax*;*
   e. Others- e.g. Administration

Q6. What type of service(s) do you require the most from the Ministry of Revenue Services*?*

   a. Custom and trade;
   b. Income tax;
   c. Consumption tax*;*
   d. *Excise tax;*
   e. Others – e.g. Administration;

Q7. How much do you pay on average per year to the Ministry of Revenue Services on custom dues, consumption tax, excise tax and income tax combined?

   a. $1 to 10,000 *;*
   b. $10,001 to 50,000 ;
   c. $50,001 to 100,000*;*
   d. $100,001 to 500,000*;*
   e. More than $500,000 ;

Q8. Who do you use to prepare your documents required for clearance of imported goods from the Custom and Trade Division?

   a. Custom broker;
   b. Private Accounting firm;
   c. Own organization*;*
   d. Do it personally*;*

Q9. Who do you use to prepare your returns for consumption tax and income tax?

   a. Accounting firm/ hired accountant*;*
   b. Own organization;
   c. Do it personally;

Q10. Which type of tax do you pay the most per year to the Ministry of Revenue Services?

   a. Custom dues;
   b. Consumption tax;
   c. Excise tax*;*
   d. Income tax;

QUALITY SERVICE IN THE PUBLIC SECTOR IN TONGA - QUESTIONNAIRE

PART B: EXPECTATION AND PERCEPTIONANALYSIS ON THE SERVICE DIMENSIONS OF THE PERFORMANCE OF THE MINISTRY OF REVENUE SERVICES (MRS) TO ITS EXTRNAL CUSTOMERS.

EXPECTATION: This column reflects your expectation about what you believe the performance of MRS should be on its service dimensions to its external customers. If you strongly agree that a service is critically important, please circle **7.** If you strongly disagree that a service is important, please circle **1.**

PERCEPTION: The column deals with your perception of what you know about the actual performance of the Ministry of Revenue Services (MRS) on the service dimensions to its external customers. If you strongly agree that a service has performed very well by MRS, please circle **7**. If a service has performed poorly, please circle **1**. If you feel less strongly, then circle one of the numbers in the middle. There are no right or wrong answers – all I am interested in is a number that truly reflect your perception regarding the performance of MRS.

	Questions:	What is your **expectation of the performance** of the Ministry of Revenue Services **should be** to its external customers.	What is your **perception of the actual performance** the Ministry of Revenue to its external customers.
	Rating System: 1 = lowest rating 7 = Highest rating	1234567	1234567
Q1	Ministry of Revenue Services (MRS) has modern looking equipment.	1234567	1234567
Q2	The physical facilities of MRS are visually appealing.	1234567	1234567
Q3	Employees of MRS do appear professionally dressed.	1234567	1234567
Q4	Materials associated with the service of MRS (such as custom forms, tax returns, invoices etc.) are visually appealing.	1234567	1234567
Q5	When MRS promises to do something by a certain time, they will do so.	1234567	1234567
Q6	When you have a problem, MRS shows a sincere interest in solving it.	1234567	1234567
Q7	MRS performs the service right the first time.	1234567	1234567
Q8	MRS provides its services at the time it promises to do so.	1234567	1234567

Q9	MRS insists on error – free records.	1234567	1234567
Q10	Employees in MRS tell you exactly when services will be performed.	1234567	1234567
Q11	Employees in MRS give you a prompt service.	1234567	1234567
Q12	Employees in MRS are always willing to help you.	1234567	1234567
Q13	Employees in MRS are never too busy to respond to your requests.	1234567	1234567
Q14	The behaviour of employees in MRS instils confidence in you.	1234567	1234567
Q15	You feel safe in your transactions with MRS.	1234567	1234567
Q16	Employees in MRS are consistently courteous with you.	1234567	1234567
Q17	Employees in MRS have the knowledge to answer your questions.	1234567	1234567
Q18	MRS gives you individual attention.	1234567	1234567
Q19	MRS has operating hours convenient to all its customers.	1234567	1234567
Q20	MRS has employees who give you personal attention	1234567	1234567
Q21	MRS has your best interests at heart.	1234567	1234567
Q22	Employees of MRS understand your specific needs.	1234567	1234567

Please circle the correct answer

Q1. How long on average in your experience did you wait before the office (during office hours)?(Please circle the correct number).

a. Served at once
b. Up to 5 minutes
c. From 6 to 10 minutes
d. From 11 to 15 minutes
e. From 16 to 20 minutes
f. More than 20 minutes

Q2. What in your opinion was/were the reason(s) for waiting? (Please circle the right number and multiple answers are possible; do not respond if you were served at once.

a. Queue
b. Slowness of the employee
c. Employee was not in the office
d. Employee's conversation with his/her peers or by telephone
e. Other reasons (please indicate below):

_____
_____
_____
_____

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Q3.Where did you get the information on what you need? (Please indicate – multiple answers are possible.)

    a. Reception office/information desk
    b. Internet
    c. Procedure was presented to me by an officer
    d. Ministry's publication
    e. I did not search for information
    f. Other (indicate below)

_____

_____

_____

_____

Q4. Select the 10 most important service dimensions from the 22 questions stated above, indicating the question number in ascending order starting from $\underline{a}$, the most important, to $\underline{j}$, the least important?

a_____b._____c. _____d._____e. _____f._____

g. _____h. _____i._____j. _____

Q5. Write down on the space below your opinion on ways for improving the quality of services of the Ministry of Revenue Services to its customers.

_____
_____
_____
_____
_____

(Please return the completed survey to Rev. Dr. 'Ungatea Fonua Kata, Dean of Academic, Tupou Tertiary Institute. Thank very much for your cooperation and assistance)

Appendix 3: Sample of the interview questions

Please state your name, your work and position, if you are working in the government and businesses in the private sector.

Explain to the interviewee the purpose of the interview, which is to clarify the reasons for the response made in survey and comments made in it.

Ask the interviewee for permission to using of pen, paper and tape recorder for recording of the interview. The tape recorder will be turned off if the interviewee would not agree with its usage.

Ask the interview to explain the reasons for the specific response he/she made in the survey including the rating given to level of expectation and perception for twenty two factors of service dimensions relating to the customer service of MRS. Each interviewee will be asking specific questions base on individual response to the survey. So different clarification questions and issues will be taken up with each member of the 22 interviewees participated in the survey.

Asking for the reasons behind the selection of the 10 most important services dimensions from the 22 service factors stated in the questionnaire concerning the customers' expectation and perception over MRS service delivery.

Asking for understanding about the idea of service quality in relation with MRS customer service.

Asking for any other comment one may like to make about MRS customer service.

Thank the interviewee for the time and cooperation.

University of Southern Queensland

CRICOS: QLD 00244B NSW 02225M

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AUSTRALIA

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OFFICE OF RESEARCH AND HIGHER DEGREES
Ethics Committee Support Officer
PHONE (07) 4631 2690 | FAX (07) 4631 1995
EMAIL ethics@usq.edu.au

Wednesday, 18 April 2012

Mr Aiseke Eke
Email: akeaiseke@yahoo.com

Dear Aiseke

The Chair of the USQ Human Research Ethics Committee (HREC) recently reviewed your responses to the HREC's conditions placed upon the ethics approval for the below project. Your proposal now meets the requirements of the National Statement on Ethical Conduct in Human Research (2007) and full ethics approval has been granted.

Project Title	An Exploratory Study on the Quality of Service in the Public Sector in Tonga
Approval no	H11REA211
Expiry date	30 June 2012
FT-HREC Decision	Approved

The standard conditions of this approval are:
   (a) conduct the project strictly in accordance with the proposal submitted and granted ethics approval, including any amendments made to the proposal required by the HREC
   (b) advise (email: ethics@usq.edu.au) immediately of any complaints or other issues in relation to the project which may warrant review of the ethical approval of the project.
   (c) make submission for approval of amendments to the approved project before implementing such changes
   (d) provide a progress report for every year of approval
   (e) provide a final report when the project is complete
   (f) advise in writing if the project has been discontinued

For (c) to (e) forms are available on the USQ ethics website: http://www.usq.edu.au/research/ethicsob/human

Please note that failure to comply with the conditions of approval and the National Statement (2007) may result in withdrawal of approval for the project.

You may now commence your project. I wish you all the best for the conduct of the project.

Melissa McKain
Ethics Committee Support Officer
Office of Research and Higher Degrees

Appendix 5: Agreement with Research Team from Tupou Tertiary Institute for conducting of field work

To: Rev. Dr. 'Ungatea F Kata, Dean of Academic, Tupou Tertiary Institute, Tonga
From: Aisake V Eke
Date: 19 April 2012

Re: Memorandum of Understanding between the Research Assistant, Rev. Dr. 'Ungatea F Kata and Student Researcher, Mr. Aisake Valu Eke, for conducting of the survey and Interview of the participants in the Student Researcher's project in compliance with the University of Southern Queensland's Ethic Committee requirements
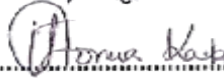
I sincerely appreciate and acknowledge your willingness to act as the Research Assistant for this project, bringing with you your invaluable academic experiences in conducting research which is very appropriate for meeting the Ethic Committee requirements.

I hereby advise the requirements by the Ethic Committee of the University of Southern Quensland for an independent Research Assistant to conduct the survey and interview of the participants involved in the research for the dissertation of Mr. Aisake Valu Eke relating to "An Exploratory Study in the Quality of Service of the Public Sector in Tonga" in fulfillment of the academic prerequisite for conferring of the Doctor in Business Adminiutsration. The reason for the engagement of the independent Research Assistant to conduct the field work is to avoid any perceived and/or potential conflict of interest and imbalance of power in view of my political position.

The Research Assistant is aware of, and will comply with, the specific requirement by the Ethic Committee to conduct the field work and collect the data from the survey and interview, and then provide it in a de-idenified form, incapable of re-identification, to the Student Researcher, Aisake V Eke, for data analysis. In other word, the partcipants in the research are required to be made anonymous to the Student Researcher.

In your capacity as the Research Assistant for this research, you agree to be bound by the University of Southern Queensland's confidential requirements whereby all the data collated from the field work will be kept confidential, and you will also administer the field work in accordance with the conditions stipulated in the "Participation Information Sheet" and "Consent Form" for the research.

Name of Research Assistant: Rev. Dr. Ungatea Fonua Kata, Dean of Academic, Tupou Tertiary Institute, Tonga

Signed by Research Assistant: ....../Fonua Kata................Date: ...19/April 2012

Appendix 6: Prime Minister Office Letter Approving Conducting of Research

PRIME MINISTER'S OFFICE
NUKU'ALOFA, TONGA

REF: ORG 1/8

Mr. 'Aisake Eke
Parliament
Nuku'alofa
Tonga

Re: Seeking approval for Mr. Eke to carry out Research on "An Exploratory Study on the Quality of Services in the Public Sector in Tonga"

I write to officially approve the request for Mr. Eke to commence his research on the Exploratory Study on the Quality of Services in the Public Sector in Tonga. He has met all the requirements needed for acquiring a Research permit and should precede working on his research.

We understand that this research is important to the progress of the quality of services in the Public sector in Tonga. The Prime Minister's Office is pleased to encourage Mr. Eke's explorative endeavor.

Sincerely,

Hon. Fatafehi Tuita
For Chief Secretary & Secretary to Cabinet

Appendix 7: Independent-samples t-test results for Expectation rating of MRS customer service

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Aggregate Customer Group Overall	1.869	.175	.742	90	.460	.15414	.20781	-.25872	.56699
			.770	80.678	.443	.15414	.20006	-.24385	.55222
Customer Group Interacting within ten years	1.151	.290	.373	39	.711	.09011	.24163	-.39863	.57884
			.431	37.524	.669	.09011	.20912	-.33341	.51362
Customer Group interacting over ten years	1.092	.301	.738	49	.464	.23543	.31913	-.40588	.87674
			.751	45.786	.456	.23543	.31337	-.39544	.86629

(*Source:* Analysis of field data)

Appendix 8: Independent-samples t-test results for perception rating of MRS customer service

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Aggregate Customer Group Overall	3.703	.057	1.152	90	.252	.30639	.26601	-.22209	.83488
			1.207	82.569	.231	.30639	.25377	-.19839	.81117
Customer Group Interacting within ten years	12.751	.001	.535	39	.595	.20786	.38828	-.57752	.99323
			.691	35.963	.494	.20786	.30060	-.40181	.81753
Customer Group interacting over ten years	.054	.817	1.067	49	.291	.39590	.37111	-.34986	1.14167
			1.054	41.227	.298	.39590	.37579	-.36290	1.15471

(*Source:* Analysis of field data)

Appendix 9: Paired-samples t-test results for expectation and perception rating of customer service

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
Paired Differences				Lower	Upper			
Aggregate Customer Group Overall	1.55576	1.40136	.14610	1.26555	1.84597	10.648	91	.000
Individual Customer sub-group	1.98917	1.64932	.33667	1.29272	2.68561	5.908	23	.000
Business Customer sub-group	1.34061	1.39966	.24365	.84431	1.83690	5.502	32	.000
Government departments customer sub-group	1.46143	1.17702	.19895	1.05711	1.86575	7.346	34	.000
Customer group overall interacting within ten years	1.63683	1.26811	.19805	1.23656	2.03710	8.265	40	.000
Individual Customer sub-group	2.31182	1.55202	.46795	1.26915	3.35448	4.940	10	.001
Business Customer sub-group	1.24063	1.38078	.34519	.50486	1.97639	3.594	15	.003
Government departments customer sub-group	1.55929	.55684	.14882	1.23778	1.88079	10.478	13	.000
Customer group overall interacting over ten years	1.49059	1.50927	.21134	1.06610	1.91508	7.053	50	.000
Individual Customer sub-group	-1.71615	1.74078	.48281	-2.76810	-.66421	-3.555	12	.004
Business Customer sub-group	1.43471	1.45303	.35241	.68763	2.18179	4.071	16	.001
Government departments customer sub-group	1.39619	1.46371	.31941	.72992	2.06246	4.371	20	.000

(*Source:* Analysis of field data)

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Appendix 10: Gap analysis for service factors by aggregate customer group overall

Test 1: Paired-samples t-test for service factors

Factor No	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
Modern looking equipment	-1.86793	1.75542	.18302	-2.23147	-1.50440	-10.206	91	.000
Visually appealing physical facilities	-1.56130	1.58435	.16518	-1.88941	-1.23320	-9.452	91	.000
Employees appear professionally dressed	-1.03261	1.57906	.16463	-1.35962	-.70559	-6.272	91	.000
Materials are visually appealing	-1.39130	1.52601	.15910	-1.70733	-1.07528	-8.745	91	.000
Doing promises to do things by a certain time	-1.86957	2.00668	.20921	-2.28514	-1.45399	-8.936	91	.000
Showing a sincere interest in solving problem	-1.88043	1.92064	.20024	-2.27819	-1.48268	-9.391	91	.000
Performing the service right the first time	-1.81522	1.81525	.18925	-2.19115	-1.43929	-9.591	91	.000
Providing the services at the promised time	-1.72826	1.92213	.20040	-2.12632	-1.33020	-8.624	91	.000
Insisting on error - free records	-1.45652	1.78155	.18574	-1.82547	-1.08757	-7.842	91	.000
Telling exactly when services to be performed	-1.60870	1.73494	.18088	-1.96799	-1.24940	-8.894	91	.000
Giving prompt response	-1.73913	1.75956	.18345	-2.10352	-1.37474	-9.480	91	.000
Always willing to help	-1.61957	1.67622	.17476	-1.96670	-1.27243	-9.267	91	.000
Never too busy to respond to requests	-1.60870	1.90405	.19851	-2.00301	-1.21438	-8.104	91	.000
Employees behaviour instilling confidence	-1.56522	1.66611	.17370	-1.91026	-1.22018	-9.011	91	.000
Feeling safe in transaction	-1.53261	1.64050	.17103	-1.87235	-1.19287	-8.961	91	.000
Showing consistent courteous	-1.47826	1.58619	.16537	-1.80675	-1.14977	-8.939	91	.000
Having the knowledge to answer question	-1.36957	1.48781	.15511	-1.67768	-1.06145	-8.829	91	.000
Giving individual attention	-1.51087	1.69352	.17656	-1.86159	-1.16015	-8.557	91	.000
Having convenient operating hours	-1.38043	1.75939	.18343	-1.74479	-1.01608	-7.526	91	.000
Giving individual attention	-1.31522	1.48937	.15528	-1.62366	-1.00678	-8.470	91	.000
Having your best interests at heart	-1.43478	1.73081	.18045	-1.79322	-1.07634	-7.951	91	.000
Understanding your specific needs	-1.44565	1.51450	.15790	-1.75930	-1.13201	-9.156	91	.000

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for service factors by Aggregate Customer Group Overall

Service factor		Expectation mean	Mean Gap	Weighed gap
6.	showing sincere interest in solving a problem	6.07	1.88	11.41
1	Modern looking equipment	6.04	1.87	11.29
5	Doing promises to do things by a certain time	6.03	1.87	11.28
7	performing the service right the first time	5.96	1.82	10.81
8	providing the services at the promised time	6.03	1.73	10.43
11	giving prompt service	5.99	1.74	10.42
12	always willing to help	6.18	1.62	10.02
14	employees behaviour instilling confidence	6.17	1.57	9.66
10	telling exactly when services to be performed	5.96	1.61	9.58
15	feeling safe in transaction	6.23	1.53	9.55
13	never too busy to respond to requests	5.91	1.61	9.51
16	showing consistent courteous	6.26	1.48	9.26
18	giving individual attention	6.04	1.51	9.13
9	.insisting on error-free records	6.26	1.46	9.12
2	.Visually appealing physical facilities	5.83	1.56	9.10
22	understanding your specific needs	6.26	1.45	9.05
21	having your best interests at heart	6.07	1.43	8.70
4	materials are visually appealing	6.10	1.39	8.48
17	having the knowledge to answer questions	6.17	1.37	8.46
19	having convenient operating hours to all	6.11	1.38	8.43
20	giving personal attention	5.87	1.32	7.72
3	Employees appear professionally dressed	6.21	1.03	6.41

(*Source:* Analysis of field data)
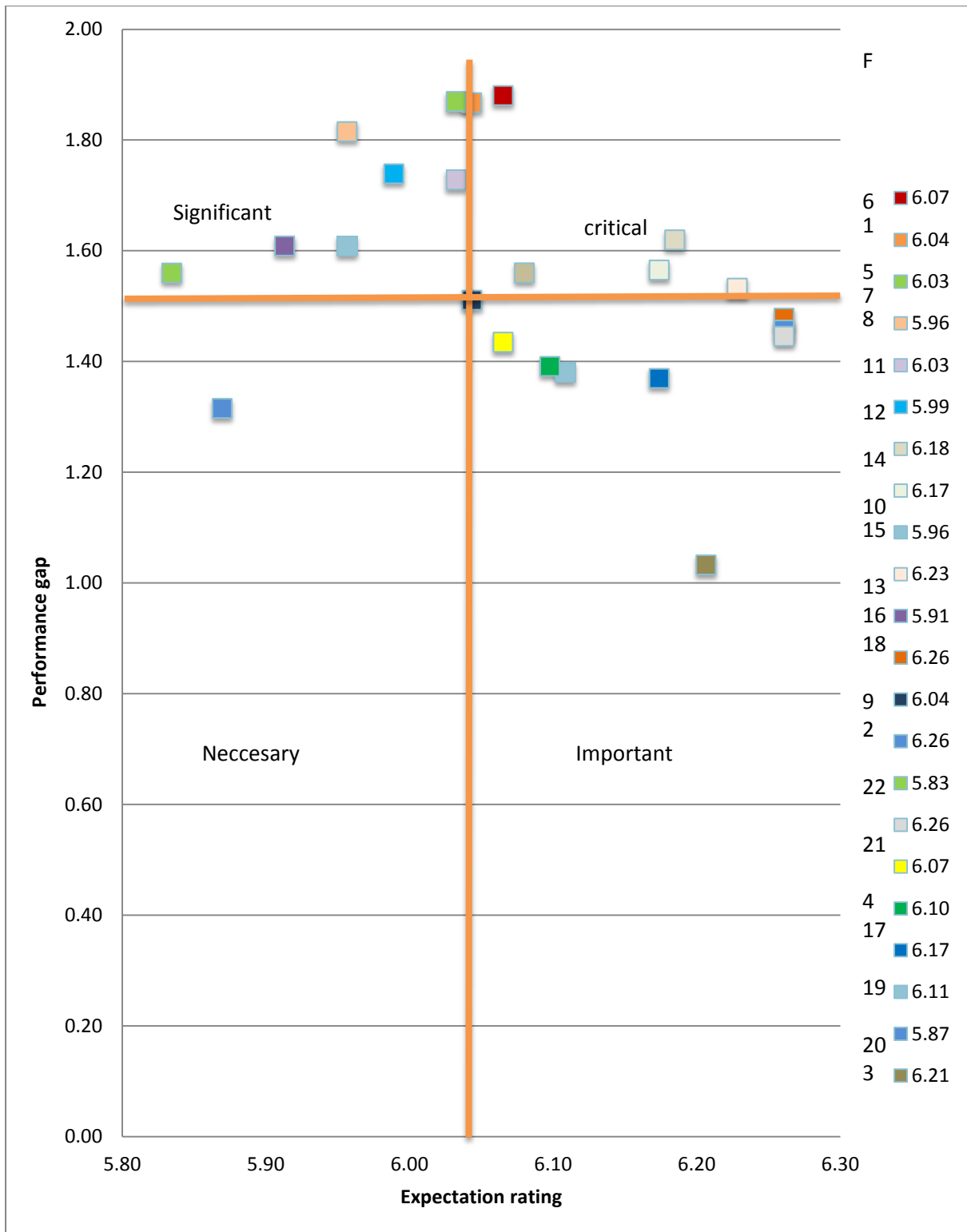
Un-weighted IPA for factors (F) by aggregate customer group overall

Test 3: List of service factors in improvement areas by aggregate customer group overall

Significant Quadrant	Critical Quadrant
6. Showing sincere interest in solving problem 1. Modern looking equipment 5.Doing Promises to do things by a certain time 7.Performing the service right the first time 8. Providing the services at the promised time 11.Giving prompt service 10. Telling exactly when services to be performed 13. Never too busy to respond to requests	12. Always willing to help 14. Employees behaviour instilling confidence
Necessary Quadrant	Important Quadrant
18. Giving individual attention 2. Visually appealing physical facilities 21. Having your best interests at heart 20. Giving personal attention	15. Feeling safe in transaction 16. Showing consistent courteous 9. Insisting on error-free records 22.Understadnig your specific needs 4. Materials are visually appealing 17. Having the knowledge to answer questions 19. Having convenient operating hours to all 3. Employees appear professionally dressed

(*Source:* Analysis of field data)

Magnitude of differences of means for service dimension by aggregate customer group overall

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-10.206	104.171	92	92	0.364
2	Visually appealing physical facilities	-9.452	89.343	92	92	0.329
3	Employees appear professionally dressed	-6.272	39.343	92	92	0.178
4	materials are visually appealing	-8.745	76.474	92	92	0.296
5	Doing promises to do things by a certain time	-8.936	79.857	92	92	0.305
6	showing sincere interest in solving a problem	-9.391	88.189	92	92	0.326
7	performing the service right the first time	-9.591	91.996	92	92	0.336
8	providing the services at the promised time	-8.624	74.378	92	92	0.315
9	insisting on error-free records	-7.842	61.493	92	92	0.253
10	telling exactly when services to be performed	-8.894	79.098	92	92	0.303
11	giving prompt service	-9.480	89.877	92	92	0.331
12	always willing to help	-9.267	85.886	92	92	0.321
13	never too busy to respond to requests	-8.104	65.672	92	92	0.265
14	employees behaviour instilling confidence	-9.011	81.195	92	92	0.308
15	feeling safe in transaction	-8.961	80.297	92	92	0.306
16	showing consistent courteous	-8.939	79.906	92	92	0.305
17	having the knowledge to answer questions	-8.829	77.958	92	92	0.300
18	giving individual attention	-8.557	73.225	92	92	0.287
19	having convenient operating hours to all	-7.526	56.637	92	92	0.237
20	giving personal attention	-8.470	71.743	92	92	0.283
21	having your best interests at heart	-7.951	63.221	92	92	0.258
22	understanding your specific needs	-9.156	83.825	92	92	0.315

(*Source:* **Analysis of field data)**

Appendix 11: Gap analysis for service factors by individual customers sub-group under the aggregate customer group overall

Test 1: Paired-samples t-test for service factors by individual customers sub-group

Factor No	Paired Differences					t	df	Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Upper	Lower	t	df	Sig. (2-tailed)
1..Modern looking equipment	-2.20208	2.08559	.42572	-3.08275	-1.32142	-5.173	23	.000
2.Visually appealing physical facilities	-1.52667	1.81482	.37045	-2.29300	-.76033	-4.121	23	.000
3.Employeesappear professionally dressed	-1.37500	1.81330	.37014	-2.14069	-.60931	-3.715	23	.001
4.Materials are visually appealing	-1.75000	1.79976	.36737	-2.50997	-.99003	-4.764	23	.000
5. Doing promises to do things by a certain time	-2.29167	2.19642	.44834	-3.21913	-1.36420	-5.111	23	.000
6.Showing a sincere interest in solving problem	-2.04167	2.36789	.48334	-3.04154	-1.04180	-4.224	23	.000
7.Performing the service right the first time	-2.25000	1.98363	.40491	-3.08761	-1.41239	-5.557	23	.000
8.Providing the services at the promised time	-2.12500	2.32776	.47515	-3.10793	-1.14207	-4.472	23	.000
9.Insisting on error - free records	-1.87500	2.00678	.40963	-2.72239	-1.02761	-4.577	23	.000
10.Telling exactly when services to be performed	-2.25000	1.70038	.34709	-2.96801	-1.53199	-6.482	23	.000
11.Giving prompt response	-2.20833	1.76879	.36105	-2.95523	-1.46144	-6.116	23	.000
12.Always willing to help	-1.75000	1.91675	.39125	-2.55937	-.94063	-4.473	23	.000
13.Never too busy to respond to requests	-2.41667	2.06243	.42099	-3.28756	-1.54578	-5.740	23	.000
14.Employees behaviour instilling confidence	-1.79167	1.95558	.39918	-2.61743	-.96590	-4.488	23	.000
15.Feeling safe in transaction	-2.12500	2.04966	.41838	-2.99049	-1.25951	-5.079	23	.000
16.Showing consistent courteous	-1.95833	1.96666	.40144	-2.78878	-1.12789	-4.878	23	.000
17.Having the knowledge to answer question	-1.83333	1.68540	.34403	-2.54502	-1.12165	-5.329	23	.000
18.Giving individual attention	-2.16667	1.97080	.40229	-2.99886	-1.33447	-5.386	23	.000
19.Having convenient operating hours	-1.83333	1.97080	.40229	-2.66553	-1.00114	-4.557	23	.000
20.Giving individual attention	-2.04167	1.80529	.36850	-2.80397	-1.27936	-5.540	23	.000
21.Having your best interests at heart	-2.00000	1.91107	.39009	-2.80697	-1.19303	-5.127	23	.000
22.Understanding your specific needs	-1.95833	1.82921	.37339	-2.73074	-1.18593	-5.245	23	.000

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for service factors by Individual customer sub-group under the aggregate customer group overall

Service factor		Expectation mean	Mean Gap	Weighed gap
13	Never too busy to respond to requests	5.83	2.42	14.10
10	Telling exactly when services to be performed	6.08	2.25	13.69
1	Modern looking equipment	6.08	2.20	13.40
5	Doing promises to do things by a certain time	5.83	2.29	13.37
18	Giving individual attention	6.17	2.17	13.36
7	Performing the service right the first time	5.71	2.25	12.84
8	Providing the services at the promised time	6.00	2.13	12.75
20	Giving personal attention	6.17	2.04	12.59
15	Feeling safe in transaction	5.88	2.13	12.48
22	Understanding your specific needs	6.38	1.96	12.48
11	Giving prompt service	5.54	2.21	12.24
21	Having your best interests at heart	6.04	2.00	12.08
16	Showing consistent courteous	6.04	1.96	11.83
9	Insisting on error-free records	6.29	1.88	11.80
6	Showing sincere interest in solving a problem	5.71	2.04	11.65
17	Having the knowledge to answer questions	6.04	1.83	11.08
19	Having convenient operating hours to all	6.04	1.83	11.08
4	Materials are visually appealing	6.17	1.75	10.79
14	Employees behaviour instilling confidence	5.92	1.79	10.60
12	Always willing to help	5.71	1.75	9.99
2	Visually appealing physical facilities	5.66	1.53	8.64
3	Employees appear professionally dressed	6.21	1.38	8.54

(*Source:* Analysis of field data)

Un-weighted IPA for factors (F) by individual customer sub-group

Test 3: List of service factors in improvement areas by individual customers sub-group under the aggregate customer group overall

Significant Quadrant	Critical Quadrant
13. Never too busy to respond to requests 5. Doing promises to do things by a certain time 7. Performing the service right the first time 15. Feeling safe in transaction 11.Giving prompt service 6. Showing sincere interest in solving problem	10. Telling exactly when services to be performed 1. Modern looking equipment 18. Giving individual attention 8. Providing the services at the promised time 20. Giving personal attention 21. Having your best interests at heart
Necessary Quadrant	Important Quadrant
14. Employees behaviour instilling confidence 12.Alaways willing to help 2.Visually appealing physical facilities	22.Undersating your specific needs 16.Showing consistent courteous 9. Insisting on error-free records 17. Having the knowledge to answer questions 19.Having convenient operating hours to all 4.Materials are visually appealing 3.Employees appear professionally dressed

(*Source:* **Analysis of field data)**

Magnitude of differences of means for service dimension by individual customers sub-group in the aggregate customer group overall

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-5.173	26.756	24	24	0.368
2	Visually appealing physical facilities	-4.121	16.984	24	24	0.270
3	Employees appear professionally dressed	-3.715	13.800	24	24	0.231
4	materials are visually appealing	-4.764	22.691	24	24	0.330
5	Doing promises to do things by a certain time	-5.111	26.127	24	24	0.362
6	showing sincere interest in solving a problem	-4.224	17.843	24	24	0.407
7	performing the service right the first time	-5.557	30.878	24	24	0.402
8	providing the services at the promised time	-4.472	20.001	24	24	0.303
9	insisting on error-free records	-4.577	20.951	24	24	0.313
10	telling exactly when services to be performed	-6.482	42.023	24	24	0.477
11	giving prompt service	-6.116	37.410	24	24	0.449
12	always willing to help	-4.473	20.006	24	24	0.303
13	never too busy to respond to requests	-5.740	32.952	24	24	0.559
14	employees behaviour instilling confidence	-4.488	20.145	24	24	0.305
15	feeling safe in transaction	-5.079	25.797	24	24	0.359
16	showing consistent courteous	-4.878	23.797	24	24	0.341
17	having the knowledge to answer questions	-5.329	28.398	24	24	0.382
18	giving individual attention	-5.386	29.007	24	24	0.387
19	having convenient operating hours to all	-4.557	20.769	24	24	0.311
20	giving personal attention	-5.540	30.696	24	24	0.400
21	having your best interests at heart	-5.127	26.286	24	24	0.364
22	understanding your specific needs	-5.245	27.508	24	24	0.374

(*Source:* Analysis of field data)

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Appendix 12: Gap Analysis for service factors by business customers sub-group under the aggregate customer group overall

Test 1: Paired-samples t-test for service factors by business customers' sub-group

Factor No	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
1.Modern looking equipment	-1.96970	1.77632	.30922	-2.59955	-1.33984	-6.370	32	.000
2.Visually appealing physical facilities	-1.51515	1.60315	.27907	-2.08360	-.94670	-5.429	32	.000
3.Employeesappear professionally dressed	-1.06061	1.65717	.28848	-1.64821	-.47300	-3.677	32	.001
4.Materials are visually appealing	-1.09091	1.30776	.22765	-1.55462	-.62720	-4.792	32	.000
5. Doing promises to do things by a certain time	-1.30303	1.99193	.34675	-2.00934	-.59672	-3.758	32	.001
6.Showing a sincere interest in solving problem	-1.45455	1.76937	.30801	-2.08194	-.82715	-4.722	32	.000
7.Performing the service right the first time	-1.60606	1.95159	.33973	-2.29807	-.91406	-4.727	32	.000
8.Providing the services at the promised time	-1.36364	1.78217	.31024	-1.99557	-.73171	-4.395	32	.000
9.Insisting on error - free records	-1.18182	1.74023	.30294	-1.79888	-.56476	-3.901	32	.000
10.Telling exactly when services to be performed	-1.21212	1.88344	.32786	-1.87996	-.54428	-3.697	32	.001
11.Giving prompt response	-1.51515	1.98622	.34576	-2.21944	-.81087	-4.382	32	.000
12.Always willing to help	-1.63636	1.83402	.31926	-2.28668	-.98605	-5.125	32	.000
13.Never too busy to respond to requests	-1.48485	1.82211	.31719	-2.13094	-.83876	-4.681	32	.000
14.Employees behaviour instilling confidence	-1.33333	1.63299	.28427	-1.91237	-.75430	-4.690	32	.000
15.Feeling safe in transaction	-1.21212	1.53618	.26741	-1.75683	-.66742	-4.533	32	.000
16.Showing consistent courteous	-1.33333	1.55456	.27061	-1.88456	-.78211	-4.927	32	.000
17.Having the knowledge to answer question	-1.15152	1.48158	.25791	-1.67686	-.62617	-4.465	32	.000
18.Giving individual attention	-1.33333	1.63299	.28427	-1.91237	-.75430	-4.690	32	.000
19.Having convenient operating hours	-1.24242	1.87133	.32576	-1.90597	-.57888	-3.814	32	.001
20.Giving individual attention	-1.06061	1.27327	.22165	-1.51209	-.60912	-4.785	32	.000
21.Having your best interests at heart	-1.24242	1.69614	.29526	-1.84385	-.64100	-4.208	32	.000
22.Understanding your specific needs	-1.15152	1.30195	.22664	-1.61317	-.68986	-5.081	32	.000

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for service factors by business customers' sub-group under the aggregate customer group overall

Service factor		Expectation mean	Mean Gap	Weighed gap
1	Modern looking equipment	6.24	1.97	12.30
12	Always willing to help	6.21	1.64	10.17
7	Performing the service right the first time	5.97	1.61	9.59
11	Giving prompt service	6.12	1.52	9.27
2	Visually appealing physical facilities	6.06	1.52	9.18
6	Showing a sincere interest in solving a problem	6.12	1.45	8.90
13	Never too busy to respond to requests	5.97	1.48	8.86
16	Showing consistent courteous	6.18	1.33	8.24
14	Employees behaviour instilling confidence	6.15	1.33	8.20
8	Providing the service at the ;promised time	6.00	1.36	8.18
18	Giving individual attention	5.88	1.33	7.84
5	Doing promises to do thing by a certain time	5.91	1.30	7.70
21	Having your best interests at heart	6.12	1.24	7.61
15	Feeling safe in transaction	6.27	1.21	7.60
19	Having convenient operating hours to all	5.94	1.24	7.38
9	Insisting on error-free records	6.21	1.18	7.34
10	Telling exactly when services to be performed	5.85	1.21	7.09
17	Having the knowledge to answer questions	6.06	1.15	6.98
22	Understanding your specific needs	6.06	1.15	6.98
4	Materials are visually appealing	6.09	1.09	6.64
3	Employees appear professionally dressed	6.12	1.06	6.49
20	Giving personal attention	5.64	1.06	5.98

(*Source:* Analysis of field data)

Un-weighted IPA for factors (F) by business customer sub-group

Test 3: List of service factors in improvement areas by business customers' sub-group under the aggregate customer group overall

Significant Quadrant	Critical Quadrant
7. Performing the service right the first time 13. Never too busy to respond 8. Providing the services at the promised time	1. Modern looking equipment 12. Always willing to help 11.Giving prompt services 2.Visualy appealing physical facilities 6. Showing sincere interest in solving problem
Necessary Quadrant	Important Quadrant
18. Giving individual attention 5. Doing promises to do things by a certain time 19. Having convenient operating hours to all 10. Telling exactly when services to be performed 20. Giving personal attention	16. Showing consistent courteous 14. Employees behaviour instilling confidence 21. Having your best interests at heart 15. Feeling safe in transaction 9. Insisting on error-free records 17. Having the knowledge to answer questions 22. Understanding your specific needs 4. Materials are visually appealing 3. Employees appear professionally dressed

(*Source:* Analysis of field data)

Magnitude of differences of means for service dimension by business customers sub-group in the aggregate customer group overall

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-6.370	40.576	33	33	0.388
2	Visually appealing physical facilities	-5.429	29.477	33	33	0.315
3	Employees appear professionally dressed	-3.677	13.517	33	33	0.174
4	materials are visually appealing	-4.792	22.963	33	33	0.264
5	Doing promises to do things by a certain time	-3.758	14.121	33	33	0.181
6	showing sincere interest in solving a problem	-4.722	22.301	33	33	0.258
7	performing the service right the first time	-4.727	22.349	33	33	0.259
8	providing the services at the promised time	-4.395	19.320	33	33	0.232
9	insisting on error-free records	-3.901	15.220	33	33	0.192
10	telling exactly when services to be performed	-3.697	13.668	33	33	0.176
11	giving prompt service	-4.382	19.203	33	33	0.231
12	always willing to help	-5.125	26.270	33	33	0.291
13	never too busy to respond to requests	-4.681	21.914	33	33	0.255
14	employees behaviour instilling confidence	-4.690	22.000	33	33	0.256
15	feeling safe in transaction	-4.533	20.546	33	33	0.243
16	showing consistent courteous	-4.927	24.276	33	33	0.275
17	having the knowledge to answer questions	-4.465	19.934	33	33	0.238
18	giving individual attention	-4.690	22.000	33	33	0.256
19	having convenient operating hours to all	-3.814	14.546	33	33	0.185
20	giving personal attention	-4.785	22.897	33	33	0.263
21	having your best interests at heart	-4.208	17.706	33	33	0.217
22	understanding your specific needs	-5.081	25.815	33	33	0.287

(*Source:* Analysis of field data)

Appendix 13: Gap analysis for service factors by government departments customers sub-group under the aggregate customer group overall

Test 1: Paired-samples t-test for service factors by Government departments' customers sub-group

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
1..Modern looking equipment	-1.54286	1.46213	.24714	-2.04512	-1.04060	-6.243	34	.000
2.Visually appealing physical facilities	-1.62857	1.43662	.24283	-2.12207	-1.13508	-6.707	34	.000
3.Employeesappear professionally dressed	-.77143	1.30802	.22110	-1.22075	-.32211	-3.489	34	.001
4.Materials are visually appealing	-1.42857	1.50070	.25366	-1.94408	-.91306	-5.632	34	.000
5. Doing promises to do things by a certain time	-2.11429	1.81126	.30616	-2.73648	-1.49210	-6.906	34	.000
6.Showing a sincere interest in solving problem	-2.17143	1.68882	.28546	-2.75156	-1.59130	-7.607	34	.000
7.Performing the service right the first time	-1.71429	1.54485	.26113	-2.24496	-1.18361	-6.565	34	.000
8.Providing the services at the promised time	-1.80000	1.72865	.29220	-2.39381	-1.20619	-6.160	34	.000
9.Insisting on error - free records	-1.42857	1.65006	.27891	-1.99539	-.86176	-5.122	34	.000
10.Telling exactly when services to be performed	-1.54286	1.52128	.25714	-2.06543	-1.02028	-6.000	34	.000
11.Giving prompt response	-1.62857	1.49678	.25300	-2.14273	-1.11441	-6.437	34	.000
12.Always willing to help	-1.51429	1.35845	.22962	-1.98093	-1.04764	-6.595	34	.000
13.Never too busy to respond to requests	-1.17143	1.74028	.29416	-1.76924	-.57362	-3.982	34	.000
14.Employees behaviour instilling confidence	-1.62857	1.49678	.25300	-2.14273	-1.11441	-6.437	34	.000
15.Feeling safe in transaction	-1.42857	1.33473	.22561	-1.88707	-.97007	-6.332	34	.000
16.Showing consistent courteous	-1.28571	1.27352	.21526	-1.72318	-.84825	-5.973	34	.000
17.Having the knowledge to answer question	-1.25714	1.31379	.22207	-1.70845	-.80584	-5.661	34	.000
18.Giving individual attention	-1.22857	1.45695	.24627	-1.72905	-.72809	-4.989	34	.000
19.Having convenient operating hours	-1.20000	1.47129	.24869	-1.70541	-.69459	-4.825	34	.000
20.Giving individual attention	-1.05714	1.30481	.22055	-1.50536	-.60893	-4.793	34	.000
21.Having your best interests at heart	-1.22857	1.59200	.26910	-1.77544	-.68170	-4.566	34	.000
22.Understanding your specific needs	-1.37143	1.41600	.23935	-1.85784	-.88502	-5.730	34	.000

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for service factors by government departments customers' sub-group under the aggregate customer group overall

	Service factor	Expectation mean	Mean Gap	Weighed gap
6	Showing sincere interest in solving a problem	6.26	2.17	13.59
5	Doing promises to do things by a certain time	6.29	2.11	13.29
8	Providing the services at the promised time	6.09	1.80	10.95
7	Performing the service right the first time	6.11	1.71	10.48
14	Employees behaviour instilling confidence	6.37	1.63	10.38
11	Giving prompt service	6.17	1.63	10.05
12	Always willing to help	6.49	1.51	9.82
2	Visually appealing physical facilities	5.74	1.63	9.35
10	Telling exactly when services to be performed	5.97	1.54	9.21
15	Feeling safe in transaction	6.43	1.43	9.18
1	Modern looking equipment	5.83	1.54	8.99
9	Insisting on error-free records	6.29	1.43	8.98
22	Understanding your specific needs	6.37	1.37	8.74
4	Materials are visually appealing	6.06	1.43	8.65
16	Showing consistent courteous	6.49	1.29	8.34
17	Having the knowledge to answer questions	6.37	1.26	8.01
19	Having convenient operating hours to all	6.31	1.20	7.58
18	Giving individual attention	6.11	1.23	7.51
21	Having your best interests at heart	6.03	1.23	7.41
13	Never too busy to respond to requests	5.91	1.17	6.93
20	Giving personal attention	5.89	1.06	6.22
3	Employees appear professionally dressed	6.29	0.77	4.85

(*Source:* Analysis of field data)

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Un-weighted IPA for factors (F) by government departments' customer sub-group

Test 3: List of service factors in improvement areas by government departments' customers sub-group

Significant Quadrant	Critical Quadrant
8. Providing the services at the promised time 7. Performing the service right the first time 11. Giving prompt service 2. Visually appealing physical facilities 10. Telling exactly when services to be performed 1. Modern looking equipment	6. Showing sincere interest in solving problem 5. Doing promises to do things by a certain time 14. Employees behaviour instilling confidence 12. always willing to help
Necessary Quadrant	Important Quadrant
4. Materials are visually appealing 18. Giving individual attention 21. Having your best interests at heart 13. Never too busy to respond 20. Giving personal attention	15. Feeling safe in transaction 9. Insisting on error-free records 22. Understanding your specific needs 16. Showing consistent courteous 17. Having the knowledge to answer questions 19. Having convenient operating hours to all 3. Employees appear professionally dressed

(Source: Analysis of field data)

Magnitude of differences of means for service dimension by government departments' customers sub-group

Factor No	Service dimension	T	T Square	N1	N2	Effect size
1	Modern looking equipment	-6.243	38.972	35	35	0.364
2	Visually appealing physical facilities	-6.707	44.978	35	35	0.398
3	Employees appear professionally dressed	-3.489	12.174	35	35	0.152
4	materials are visually appealing	-5.632	31.716	35	35	0.318
5	Doing promises to do things by a certain time	-6.906	47.691	35	35	0.412
6	showing sincere interest in solving a problem	-7.607	57.862	35	35	0.460
7	performing the service right the first time	-6.565	43.099	35	35	0.388
8	providing the services at the promised time	-6.160	37.949	35	35	0.358
9	insisting on error-free records	-5.122	26.235	35	35	0.278
10	telling exactly when services to be performed	-6.000	36.000	35	35	0.346
11	giving prompt service	-6.437	41.435	35	35	0.379
12	always willing to help	-6.595	43.491	35	35	0.390
13	never too busy to respond to requests	-3.982	15.858	35	35	0.189
14	employees behaviour instilling confidence	-6.437	41.435	35	35	0.379
15	feeling safe in transaction	-6.332	40.094	35	35	0.371
16	showing consistent courteous	-5.973	35.674	35	35	0.344
17	having the knowledge to answer questions	-5.661	32.047	35	35	0.320
18	giving individual attention	-4.989	24.888	35	35	0.268
19	having convenient operating hours to all	-4.825	23.283	35	35	0.255
20	giving personal attention	-4.793	22.974	35	35	0.253
21	having your best interests at heart	-4.566	20.844	35	35	0.235
22	understanding your specific needs	-5.730	32.832	35	35	0.326

(*Source:* Analysis of field data)

Appendix 14: Gap Analysis for service factors by customer group overall interacting with MRS within ten years

Test 1: Paired-samples t-test for service factors

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
1..Modern looking equipment	-1.85000	1.65151	.25792	-2.37128	-1.32872	-7.173	40	.000
2.Visually appealing physical facilities	-1.79610	1.50354	.23481	-2.27067	-1.32152	-7.649	40	.000
3.Employeesappear professionally dressed	-1.07317	1.64909	.25755	-1.59369	-.55265	-4.167	40	.000
4.Materials are visually appealing	-1.41463	1.64280	.25656	-1.93316	-.89610	-5.514	40	.000
5. Doing promises to do things by a certain time	-1.95122	1.78817	.27927	-2.51564	-1.38680	-6.987	40	.000
6.Showing a sincere interest in solving problem	-2.09756	1.90794	.29797	-2.69978	-1.49534	-7.039	40	.000
7.Performing the service right the first time	-1.87805	1.76345	.27540	-2.43466	-1.32144	-6.819	40	.000
8.Providing the services at the promised time	-1.58537	1.73170	.27045	-2.13196	-1.03877	-5.862	40	.000
9.Insisting on error - free records	-1.63415	1.78544	.27884	-2.19770	-1.07059	-5.861	40	.000
10.Telling exactly when services to be performed	-1.56098	1.65905	.25910	-2.08464	-1.03732	-6.025	40	.000
11.Giving prompt response	-1.80488	1.70616	.26646	-2.34341	-1.26635	-6.774	40	.000
12.Always willing to help	-1.58537	1.49959	.23420	-2.05870	-1.11204	-6.769	40	.000
13.Never too busy to respond to requests	-1.85366	1.58998	.24831	-2.35552	-1.35180	-7.465	40	.000
14.Employees behaviour instilling confidence	-1.68293	1.58807	.24801	-2.18418	-1.18167	-6.786	40	.000
15.Feeling safe in transaction	-1.73171	1.53337	.23947	-2.21570	-1.24772	-7.231	40	.000
16.Showing consistent courteous	-1.68293	1.64983	.25766	-2.20368	-1.16218	-6.532	40	.000
17.Having the knowledge to answer question	-1.53659	1.32472	.20689	-1.95472	-1.11845	-7.427	40	.000
18.Giving individual attention	-1.53659	1.61396	.25206	-2.04602	-1.02716	-6.096	40	.000
19.Having convenient operating hours	-1.41463	1.54880	.24188	-1.90350	-.92577	-5.848	40	.000
20.Giving individual attention	-1.41463	1.24450	.19436	-1.80745	-1.02182	-7.278	40	.000
21.Having your best interests at heart	-1.41463	1.64280	.25656	-1.93316	-.89610	-5.514	40	.000
22.Understanding your specific needs	-1.48780	1.50203	.23458	-1.96190	-1.01371	-6.342	40	.000

(*Source:* Analysis of field data)

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Test 2: Weighted mean gap for service factors by customer group overall interacting with MRS within ten years

Service factor		Expectation mean	Mean Gap	Weighed gap
6	Showing sincere interest in solving problem	6.29	2.10	13.20
5	Doing promise to do things by a certain time	6.22	1.95	12.14
7	Performing the service right the first time	6.02	1.88	11.31
13	Never too busy to respond to requests	6.05	1.85	11.21
15	Feeling safe in transaction	6.46	1.73	11.19
11	Giving prompt service	6.17	1.80	11.14
1	Modern looking equipment	6.02	1.85	11.14
2	Visually appealing physical facilities	6.04	1.79	10.81
16	Showing consistent courteous	6.39	1.68	10.75
14	Employees behaviour instilling confidence	6.37	1.68	10.71
9	Insisting on error-free records	6.41	1.63	10.48
12	Always willing to help	6.34	1.59	10.05
17	Having the knowledge to answer questions	6.32	1.54	9.71
8	Performing the service at the promised time	6.10	1.59	9.67
22	Understanding your specific needs	6.39	1.49	9.51
18	Giving individual attention	6.15	1.54	9.44
10	Telling exactly when services to be performed	6.02	1.56	9.40
19	Having convenient operating hours to all	6.34	1.41	8.97
4	Materials are visually appealing	6.17	1.41	8.73
21	Having your best interests at heart	6.15	1.41	8.69
20	Giving personal attention	6.02	1.41	8.52
3	Employees appear professionally dressed	6.32	1.07	6.78

(*Source:* **Analysis of field data**)

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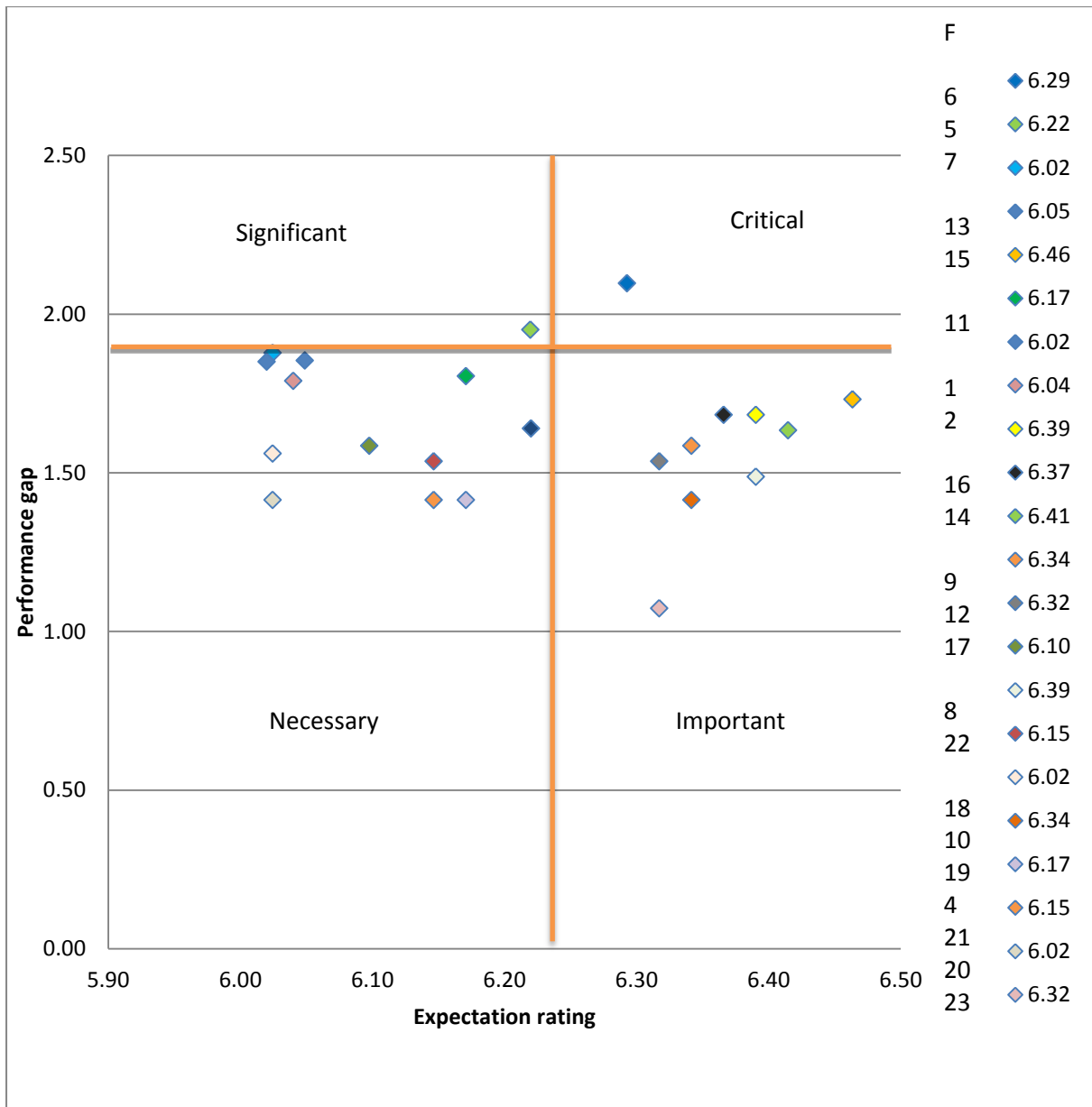
Un-weighted IPA for factors (F) by customer group overall within 10 year experience

Test 3: List of service factors in improvement areas by customer group overall interacting with MRS within ten years

Significant Quadrant	Critical Quadrant
5. Doing promises to do things by a certain time 7. Performing the service right the first time 13. Never too busy to respond 11. Giving prompt service 1. Modern looking equipment 2. Visually appealing physical facilities	6. Showing sincere interest to solving problem 15. Feeling safe in transaction 16. Showing consistent courteous 14. Employees behaviour instilling confidence
Necessary Quadrant	Important Quadrant
8. Providing the services at the promised time 18. Giving individual attention 10. Telling exactly when services to be performed 4. Materials are visually appealing 21. Having your best interests at heart 20. Giving personal attention	9. Insisting on error-free records 12. Always willing to help 17. Having the knowledge to answer questions 22. Understanding your specific needs 19. Having convenient operating hours to all 3. Employees appear professionally dressed

(*Source:* **Analysis of field data)**

Magnitude of differences of means for service dimension by customer group overall interacting with MRS within 10 years

Factor No	Service dimension	T	T Square	N1	N2	Effect size
1	Modern looking equipment	-7.173	51.447	41	41	0.386
2	Visually appealing physical facilities	-7.649	58.508	41	41	0.416
3	Employees appear professionally dressed	-4.167	17.363	41	41	0.175
4	materials are visually appealing	-5.514	30.402	41	41	0.270
5	Doing promises to do things by a certain time	-6.987	48.818	41	41	0.373
6	showing sincere interest in solving a problem	-7.039	49.554	41	41	0.377
7	performing the service right the first time	-6.819	46.502	41	41	0.362
8	providing the services at the promised time	-5.862	34.364	41	41	0.295
9	insisting on error-free records	-5.861	34.346	41	41	0.295
10	telling exactly when services to be performed	-6.025	36.296	41	41	0.307
11	giving prompt service	-6.774	45.882	41	41	0.359
12	always willing to help	-6.769	45.824	41	41	0.358
13	never too busy to respond to requests	-7.465	55.726	41	41	0.405
14	employees behaviour instilling confidence	-6.786	46.044	41	41	0.360
15	feeling safe in transaction	-7.231	52.293	41	41	0.389
16	showing consistent courteous	-6.532	42.661	41	41	0.342
17	having the knowledge to answer questions	-7.427	55.163	41	41	0.402
18	giving individual attention	-6.096	37.163	41	41	0.312
19	having convenient operating hours to all	-5.848	34.204	41	41	0.294
20	giving personal attention	-7.278	52.976	41	41	0.392
21	having your best interests at heart	-5.514	30.402	41	41	0.270
22	understanding your specific needs	-6.342	40.227	41	41	0.329

(*Source:* Analysis of field data)

Appendix 15: Gap analysis for service factors by individual customers sub-group under customer group overall interacting with MRS within ten years

Test 1: Paired-samples t-test for service factors by individual customer sub-group

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
1..Modern looking equipment	-2.62273	2.01883	.60870	-3.97900	-1.26646	-4.309	10	.002
2.Visually appealing physical facilities	-2.42182	1.82133	.54915	-3.64540	-1.19823	-4.410	10	.001
3.Employeesappear professionally dressed	-2.00000	1.78885	.53936	-3.20177	-.79823	-3.708	10	.004
4.Materials are visually appealing	-1.72727	2.10195	.63376	-3.13938	-.31517	-2.725	10	.021
5. Doing promises to do things by a certain time	-2.54545	1.86353	.56187	-3.79739	-1.29352	-4.530	10	.001
6.Showing a sincere interest in solving problem	-2.45455	2.46429	.74301	-4.11008	-.79901	-3.304	10	.008
7.Performing the service right the first time	-2.63636	1.68954	.50942	-3.77141	-1.50132	-5.175	10	.000
8.Providing the services at the promised time	-2.27273	2.10195	.63376	-3.68483	-.86062	-3.586	10	.005
9.Insisting on error - free records	-2.45455	2.20743	.66556	-3.93751	-.97158	-3.688	10	.004
10.Telling exactly when services to be performed	-2.45455	1.80907	.54545	-3.66989	-1.23920	-4.500	10	.001
11.Giving prompt response	-2.36364	1.96330	.59196	-3.68260	-1.04467	-3.993	10	.003
12.Always willing to help	-1.90909	1.86840	.56334	-3.16430	-.65388	-3.389	10	.007
13.Never too busy to respond to requests	-2.63636	2.01359	.60712	-3.98911	-1.28362	-4.342	10	.001
14.Employees behaviour instilling confidence	-2.09091	1.75810	.53009	-3.27202	-.90980	-3.944	10	.003
15.Feeling safe in transaction	-2.45455	1.91644	.57783	-3.74202	-1.16707	-4.248	10	.002
16.Showing consistent courteous	-2.54545	1.96792	.59335	-3.86752	-1.22338	-4.290	10	.002
17.Having the knowledge to answer question	-2.09091	1.44600	.43598	-3.06234	-1.11947	-4.309	10	.001
18.Giving individual attention	-2.45455	1.86353	.56187	-3.70648	-1.20261	-4.410	10	.001
19.Having convenient operating hours	-2.27273	1.67874	.50616	-3.40052	-1.14493	-3.708	10	.001
20.Giving individual attention	-2.09091	1.64040	.49460	-3.19294	-.98887	-2.725	10	.002
21.Having your best interests at heart	-2.09091	1.92117	.57926	-3.38157	-.80025	-4.530	10	.005
22.Understanding your specific needs	-2.27273	2.00454	.60439	-3.61940	-.92606	-3.304	10	.004

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for service factors by Individual customer sub-group

Service factor		Expectation mean	Mean Gap	Weighed gap
7	Performing the service right the first time	6.55	2.64	17.26
16	Showing consistent courteous	6.73	2.55	17.12
13	Never too busy to respond to requests	6.45	2.64	17.02
9	Insisting on error-free records	6.82	2.45	16.74
5	Doing promises to do things by a certain time	6.45	2.55	16.43
1	Modern looking equipment	6.27	2.62	16.43
10	Telling exactly when services to be performed	6.64	2.45	16.29
15	Feeling safe in transaction	6.64	2.45	16.29
18	Giving individual attention	6.64	2.45	16.29
6	Showing sincere interest in solving a problem	6.55	2.45	16.07
19	Having convenient operating hours	6.91	2.27	15.70
8	Providing the services at the promised time	6.82	2.27	15.50
22	Understanding your specific needs	6.82	2.27	15.50
11	Giving prompt service	6.36	2.36	15.04
2	Visually appealing physical facilities	6.16	2.42	14.91
14	Employees behaviour instilling confidence	6.73	2.09	14.07
21	Having your best interests at heart	6.73	2.09	14.07
20	Giving personal attention	6.64	2.09	13.88
17	Having the knowledge to answer questions	6.55	2.09	13.69
3	Employees appear professionally dressed	6.73	2.00	13.45
12	Always willing to help	6.64	1.91	12.67
4	Materials are visually appealing	6.27	1.73	10.83

(*Source:* Analysis of field data)

Un-weighted IPA for factors (F) by individual customer sub-group

The chart legend (F) lists:

F	Value
7	6.55
16	6.73
13	6.45
9	6.82
5	6.45
1	6.27
10	6.64
15	6.64
18	6.64
6	6.55
19	6.91
8	6.82
22	6.82
11	6.36
2	6.16
14	6.73
21	6.73
20	6.64
17	6.55
3	6.73
12	6.64
4	6.27

Test 3: List of service factors in improvement areas by individual customers sub-group

Significant Quadrant	Critical Quadrant
7. Performing the service right the first time 13. Never too busy to respond 5. Doing promises to do things by a certain time 1. Modern looking equipment 6. Showing sincere interests in solving problem 11. Giving prompt service 2. Visually appealing physical facilities	16. Showing consistent courteous 9.Insisting on error- free records 10.Tellingg exactly when services to be performed 15. Feeling safe in transaction 18. Giving individual attention
Necessary Quadrant	**Important Quadrant**
17. Having the knowledge to answer questions 4. Materials are visually appealing	19. Having convenient operating hours 8. Providing the services at the promised time 22. Understanding your specific needs 14. Employees behaviour instilling confidence 21. Having your best interests at heart 20. Giving personal attention 3.Employees appear professionally dressed 12. Always willing to help

(*Source:* Analysis of field data)

Magnitude of differences of means for service dimension by individual customers sub-group

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-4.309	18.565	11	11	0.481
2	Visually appealing physical facilities	-4.410	19.449	11	11	0.493
3	Employees appear professionally dressed	-3.708	13.750	11	11	0.407
4	materials are visually appealing	-2.725	7.428	11	11	0.271
5	Doing promises to do things by a certain time	-4.530	20.524	11	11	0.506
6	showing sincere interest in solving a problem	-3.304	10.913	11	11	0.353
7	performing the service right the first time	-5.175	26.783	11	11	0.572
8	providing the services at the promised time	-3.586	12.860	11	11	0.391
9	insisting on error-free records	-3.688	13.601	11	11	0.405
10	telling exactly when services to be performed	-4.500	20.250	11	11	0.503
11	giving prompt service	-3.993	15.943	11	11	0.444
12	always willing to help	-3.389	11.484	11	11	0.365
13	never too busy to respond to requests	-4.342	18.857	11	11	0.485
14	employees behaviour instilling confidence	-3.944	15.559	11	11	0.438
15	feeling safe in transaction	-4.248	18.045	11	11	0.474
16	showing consistent courteous	-4.290	18.404	11	11	0.479
17	having the knowledge to answer questions	-4.309	18.565	11	11	0.481
18	giving individual attention	-4.410	19.449	11	11	0.493
19	having convenient operating hours to all	-3.708	13.750	11	11	0.407
20	giving personal attention	-2.725	7.428	11	11	0.271
21	having your best interests at heart	-4.530	20.524	11	11	0.506
22	understanding your specific needs	-3.304	10.913	11	11	0.353

(*Source:* Analysis of field data)

Appendix 16 : Gap analysis for service factors by business customers sub-group under customer group overall interacting within ten years

Test 1: Paired-samples t-test for service factors

	Paired Differences					t	df	Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Upper	Lower			
1..Modern looking equipment	-1.50000	1.63299	.40825	-2.37016	-.62984	-3.674	15	.002
2.Visually appealing physical facilities	-1.31250	1.44770	.36192	-2.08392	-.54108	-3.626	15	.002
3.Employeesappear professionally dressed	-.93750	1.87861	.46965	-1.93854	.06354	-1.996	15	.002
4.Materials are visually appealing	-1.06250	1.23659	.30915	-1.72143	-.40357	-3.437	15	.004
5. Doing promises to do things by a certain time	-1.18750	1.83371	.45843	-2.16462	-.21038	-2.590	15	.020
6.Showing a sincere interest in solving problem	-1.31250	1.85180	.46295	-2.29926	-.32574	-2.835	15	.013
7.Performing the service right the first time	-1.68750	2.18232	.54558	-2.85037	-.52463	-3.093	15	.007
8.Providing the services at the promised time	-1.06250	1.69189	.42297	-1.96405	-.16095	-2.512	15	.024
9.Insisting on error - free records	-1.18750	1.79699	.44925	-2.14505	-.22995	-2.643	15	.018
10.Telling exactly when services to be performed	-1.06250	1.80624	.45156	-2.02498	-.10002	-2.353	15	.033
11.Giving prompt response	-1.31250	1.99060	.49765	-2.37322	-.25178	-2.637	15	.019
12.Always willing to help	-1.37500	1.70783	.42696	-2.28504	-.46496	-3.220	15	.006
13.Never too busy to respond to requests	-1.37500	1.58640	.39660	-2.22033	-.52967	-3.467	15	.003
14.Employees behaviour instilling confidence	-1.18750	1.79699	.44925	-2.14505	-.22995	-2.643	15	.018
15.Feeling safe in transaction	-1.31250	1.53704	.38426	-2.13153	-.49347	-3.416	15	.004
16.Showing consistent courteous	-1.18750	1.72119	.43030	-2.10466	-.27034	-2.760	15	.015
17.Having the knowledge to answer question	-1.31250	1.49304	.37326	-2.10808	-.51692	-3.516	15	.003
18.Giving individual attention	-1.18750	1.60078	.40020	-2.04050	-.33450	-2.967	15	.010
19.Having convenient operating hours	-1.12500	1.70783	.42696	-2.03504	-.21496	-2.635	15	.019
20.Giving individual attention	-1.18750	.98107	.24527	-1.71028	-.66472	-4.842	15	.000
21.Having your best interests at heart	-1.18750	1.79699	.44925	-2.14505	-.22995	-2.643	15	.018
22.Understanding your specific needs	-1.18750	1.37689	.34422	-1.92119	-.45381	-3.450	15	.004

(*Source:* Analysis of field data)

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Test 2: Weighted mean gap for service factors by business customers' sub-group

Service factor		Expectation mean	Mean Gap	Weighed gap
7	Performing the service right the first time	5.81	1.69	9.81
1	Modern looking equipment	6.00	1.50	9.00
15	Feeling safe in transaction	6.25	1.31	8.20
12	Always willing to help	5.94	1.38	8.16
2	Visually appealing physical facilities	6.00	1.31	7.88
6	Showing sincere interest in solving problem	6.00	1.31	7.88
13	Never too busy to respond to request	5.69	1.38	7.82
11	Giving prompt service	5.94	1.31	7.79
17	Having the knowledge to answer questions	5.88	1.31	7.71
9	Insisting on error-free records	6.25	1.19	7.42
22	Understanding your specific needs	6.00	1.19	7.13
16	Showing consistent courteous	5.94	1.19	7.05
14	Employees behaviour instilling confidence	5.88	1.19	6.98
21	Having your best interests at heart	5.81	1.19	6.90
18	Giving individual attention	5.75	1.19	6.83
5	Doing promises to do things by a certain time	5.69	1.19	6.75
4	Materials are visually appealing	6.25	1.06	6.64
20	Giving personal attention	5.56	1.19	6.61
19	Having convenient operating hours to all	5.75	1.13	6.47
10	Telling exactly when services to be performed	5.81	1.06	6.18
8	Providing the services at the promised time	5.75	1.06	6.11
3	Employees appear professionally dressed	6.00	0.94	5.63

(*Source:* Analysis of field data)

Un-weighted IPA for factors (F) by business customer sub-group

Test 3: List of service factors in improvement areas by business customers' sub-group

Significant Quadrant	Critical Quadrant
7.Performing the service right the first time 13. never too busy to respond 17. Having the knowledge to answer questions	1. Modern looking equipment 15. Feeling safe in transaction 12. Always willing to help 2. Visually appealing physical facilities 6. Showing sincere interest in solving problem 11. Giving prompt service
Necessary Quadrant	Important Quadrant
14. Employees behaviour instilling confidence 21. Having your best interests at heart 18. Giving individual attention 5. Doing promises to do things by a certain time 20. Giving personal attention 19. Having convenient operating hours 10. Telling exactly when services to be performed 8. Providing the services at the promised time	9.Insisting on error-free records 22. Understanding your specific needs 16. Showing consistent courteous 4. Materials are visually appealing 3. Employees appear professionally dressed

(*Source:* Analysis of field data)

**Magnitude of differences of means for service dimension by business customers'
sub-group**

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-3.674	13.5	16	16	0.310
2	Visually appealing physical facilities	-3.626	13.151	16	16	0.305
3	Employees appear professionally dressed	-1.996	3.985	16	16	0.117
4	materials are visually appealing	-3.437	11.812	16	16	0.283
5	Doing promises to do things by a certain time	-2.590	6.710	16	16	0.183
6	showing sincere interest in solving a problem	-2.835	8.038	16	16	0.211
7	performing the service right the first time	-3.093	9.567	16	16	0.242
8	providing the services at the promised time	-2.512	6.310	16	16	0.174
9	insisting on error-free records	-2.643	6.987	16	16	0.189
10	telling exactly when services to be performed	-2.353	5.536	16	16	0.156
11	giving prompt service	-2.637	6.956	16	16	0.188
12	always willing to help	-3.220	10.371	16	16	0.257
13	never too busy to respond to requests	-3.467	12.020	16	16	0.286
14	employees behaviour instilling confidence	-2.643	6.987	16	16	0.189
15	feeling safe in transaction	-3.416	11.667	16	16	0.280
16	showing consistent courteous	-2.760	7.616	16	16	0.202
17	having the knowledge to answer questions	-3.516	12.364	16	16	0.292
18	giving individual attention	-2.967	8.805	16	16	0.227
19	having convenient operating hours to all	-2.635	6.943	16	16	0.188
20	giving personal attention	-4.842	23.442	16	16	0.439
21	having your best interests at heart	-2.643	6.987	16	16	0.189
22	understanding your specific needs	-3.450	11.901	16	16	0.284

(*Source:* Analysis of field data)

Appendix 17: Gap analysis for service factors by government departments customers sub-group under customer group overall within ten years
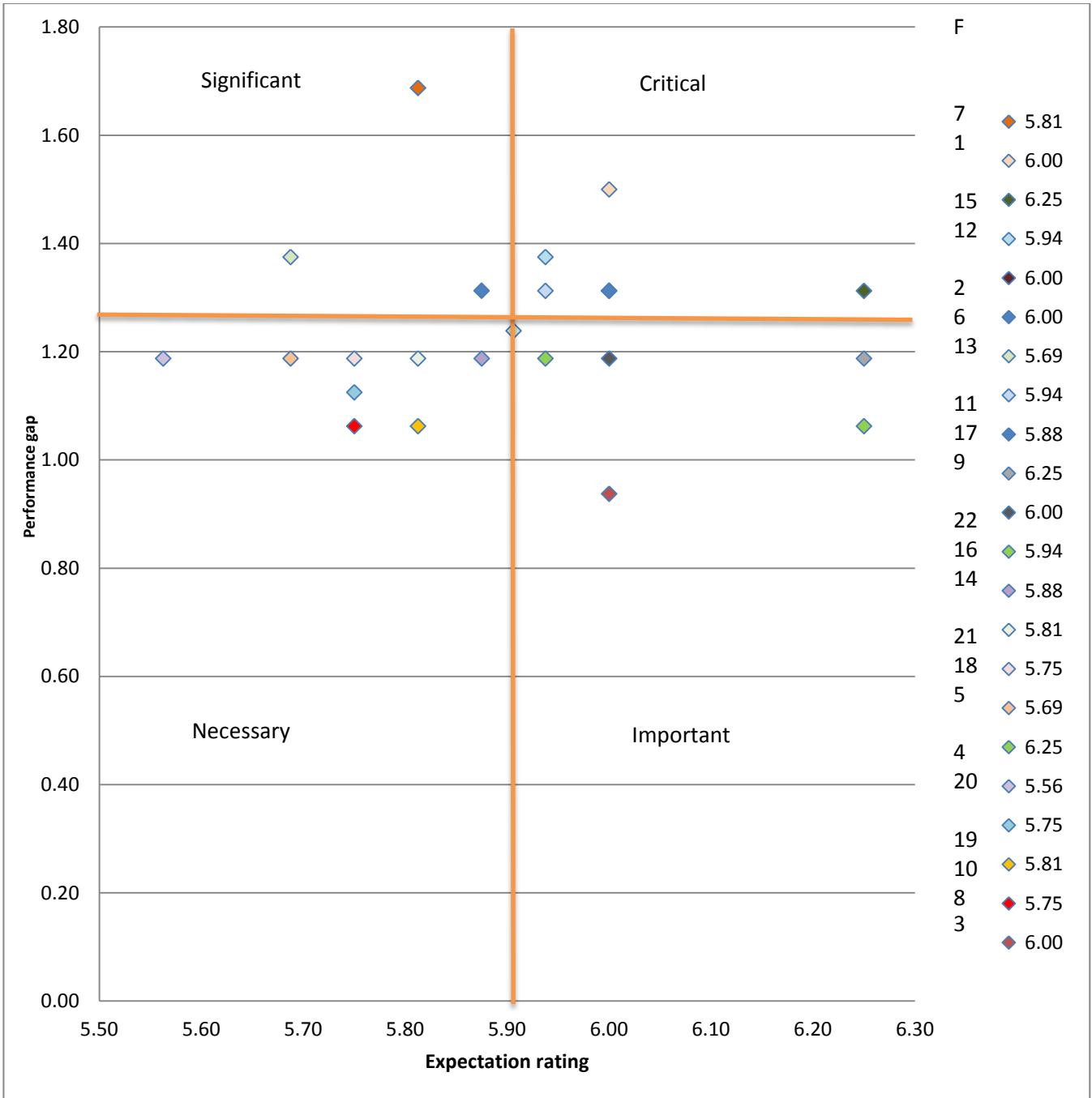
Test 1: Paired-samples t-test for service factors by government departments′ customers sub-group

Factor	Paired Differences					t	df	Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Upper	Lower			
1..Modern looking equipment	-1.64286	1.21574	.32492	-2.34480	-.94091	-5.056	13	.000
2.Visually appealing physical facilities	-1.85714	1.16732	.31198	-2.53113	-1.18315	-5.953	13	.000
3.Employeesappear professionally dressed	-.50000	.85485	.22847	-.99358	-.00642	-2.188	13	.047
4.Materials are visually appealing	-1.57143	1.69680	.45349	-2.55113	-.59173	-3.465	13	.004
5. Doing promises to do things by a certain time	-2.35714	1.44686	.38669	-3.19254	-1.52175	-6.096	13	.000
6.Showing a sincere interest in solving problem	-2.71429	1.13873	.30434	-3.37177	-2.05680	-8.919	13	.000
7.Performing the service right the first time	-1.50000	1.09193	.29183	-2.13046	-.86954	-5.140	13	.000
8.Providing the services at the promised time	-1.64286	1.33631	.35714	-2.41442	-.87130	-4.600	13	.000
9.Insisting on error - free records	-1.50000	1.22474	.32733	-2.20715	-.79285	-4.583	13	.001
10.Telling exactly when services to be performed	-1.42857	1.08941	.29116	-2.05758	-.79957	-4.907	13	.000
11.Giving prompt response	-1.92857	.91687	.24505	-2.45796	-1.39918	-7.870	13	.000
12.Always willing to help	-1.57143	.85163	.22761	-2.06315	-1.07971	-6.904	13	.000
13.Never too busy to respond to requests	-1.78571	.97496	.26057	-2.34864	-1.22279	-6.853	13	.000
14.Employees behaviour instilling confidence	-1.92857	1.07161	.28640	-2.54730	-1.30984	-6.734	13	.000
15.Feeling safe in transaction	-1.64286	1.00821	.26945	-2.22498	-1.06074	-6.097	13	.000
16.Showing consistent courteous	-1.57143	1.01635	.27163	-2.15825	-.98461	-5.785	13	.000
17.Having the knowledge to answer question	-1.35714	.92878	.24823	-1.89341	-.82088	-5.467	13	.000
18.Giving individual attention	-1.21429	1.18831	.31759	-1.90040	-.52817	-3.823	13	.002
19.Having convenient operating hours	-1.07143	.99725	.26653	-1.64722	-.49563	-4.020	13	.001
20.Giving individual attention	-1.14286	1.02711	.27451	-1.73589	-.54982	-4.163	13	.001
21.Having your best interests at heart	-1.14286	1.09945	.29384	-1.77766	-.50805	-3.889	13	.002
22.Understanding your specific needs	-1.21429	.97496	.26057	-1.77721	-.65136	-4.660	13	.000

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for service factors by government departments' customers sub-group

	Service factor	Expectation mean	Mean Gap	Weighed gap
6	Showing s sincere interest in solving a problem	6.43	2.71	17.45
5	Doing promises to do things by a certain time	6.64	2.36	15.66
14	Employees behaviour instilling confidence	6.64	1.93	12.81
11	Giving prompt service	6.29	1.93	12.12
2	Visually appealing physical facilities	6.00	1.86	11.14
13	Never too busy to respond to requests	6.14	1.79	10.97
15	Feeling safe in transaction	6.57	1.64	10.80
16	Showing consistent courteous	6.64	1.57	10.44
12	Always feeling safe	6.57	1.57	10.33
8	Proving the services at the promised time	5.93	1.64	9.74
1	Modern looking equipment	5.86	1.64	9.62
9	Insisting on error-free records	6.29	1.50	9.43
4	Materials are visually appealing	6.00	1.57	9.43
17	Having the knowledge to answer questions	6.64	1.36	9.02
7	Performing the service right the first time	5.86	1.50	8.79
10	Telling exactly when services to be performed	5.79	1.43	8.27
22	Understanding your specific needs	6.50	1.21	7.89
18	Giving individual attention	6.21	1.21	7.55
19	Having convenient operating hours to all	6.57	1.07	7.04
20	Giving personal attention	6.07	1.14	6.94
21	Having your best interests at heart	6.07	1.14	6.94
3	Employees appear professionally dressed	6.36	0.50	3.18

(*Source:* **Analysis of field data**)

Un-weighted IPA for factors (F) by government departments' customer sub-group

Test 3: List of service factors in improvement areas by government departments' customers sub-group

Significant Quadrant	Critical Quadrant
2. Visually appealing physical facilities 13. Never too busy to respond to requests 8. Providing the services at the promised time 1. Modern looking equipment 4. Materials are visually appealing	6. Showing sincere interest in solving a problem 5. Doing promises to do things by a certain time 14. Employees behaviour instilling confidence 11. Giving prompt service 15. Feeling safe in transaction 16. Showing consistent courteous 12. Always willing to help
Necessary Quadrant	**Important Quadrant**
7. Performing the service right the first time 10. Telling exactly when services to be performed 18. Giving individual attention 20. Giving personal attention 21. Having your best interests at heart	9. Insisting on error-free records 17. Having the knowledge to answer questions 22. Understanding your specific needs 19. Having convenient operating hours to all 3. Employees appear professionally dressed

(*Source:* Analysis of field data)

Magnitude of differences of means for service dimension by government departments' customers sub-group

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-5.056	25.565	14	14	0.496
2	Visually appealing physical facilities	-5.953	35.435	14	14	0.577
3	Employees appear professionally dressed	-2.188	4.789	14	14	0.156
4	materials are visually appealing	-3.465	12.008	14	14	0.316
5	Doing promises to do things by a certain time	-6.096	37.157	14	14	0.588
6	showing sincere interest in solving a problem	-8.919	79.542	14	14	0.754
7	performing the service right the first time	-5.140	26.419	14	14	0.504
8	providing the services at the promised time	-4.600	21.160	14	14	0.449
9	insisting on error-free records	-4.583	21.000	14	14	0.447
10	telling exactly when services to be performed	-4.907	24.074	14	14	0.481
11	giving prompt service	-7.870	61.941	14	14	0.704
12	always willing to help	-6.904	47.667	14	14	0.647
13	never too busy to respond to requests	-6.853	46.965	14	14	0.644
14	employees behaviour instilling confidence	-6.734	45.344	14	14	0.636
15	feeling safe in transaction	-6.097	37.173	14	14	0.588
16	showing consistent courteous	-5.785	33.468	14	14	0.563
17	having the knowledge to answer questions	-5.467	29.892	14	14	0.535
18	giving individual attention	-3.823	14.619	14	14	0.360
19	having convenient operating hours to all	-4.020	16.160	14	14	0.383
20	giving personal attention	-4.163	17.333	14	14	0.400
21	having your best interests at heart	-3.889	15.127	14	14	0.368
22	understanding your specific needs	-4.660	21.717	14	14	0.455

(*Source:* Analysis of field data)

Appendix 18: Gap analysis for service factors by customer group overall interacting with MRS over ten years

Test 1: Paired-samples t-test for service factors by customer group overall interacting over ten years

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
1..Modern looking equipment	-1.88235	1.85091	.25918	-2.40293	-1.36178	-7.263	50	.000
2.Visually appealing physical facilities	-1.37255	1.63659	.22917	-1.83285	-.91225	-5.989	50	.000
3.Employeesappear professionally dressed	-1.00000	1.53623	.21512	-1.43207	-.56793	-4.649	50	.000
4.Materials are visually appealing	-1.37255	1.44168	.20188	-1.77803	-.96707	-6.799	50	.000
5. Doing promises to do things by a certain time	-1.80392	2.18192	.30553	-2.41760	-1.19025	-5.904	50	.000
6.Showing a sincere interest in solving problem	-1.70588	1.93178	.27050	-2.24920	-1.16256	-6.306	50	.000
7.Performing the service right the first time	-1.76471	1.87177	.26210	-2.29115	-1.23826	-6.733	50	.000
8.Providing the services at the promised time	-1.84314	2.07241	.29020	-2.42601	-1.26026	-6.351	50	.000
9.Insisting on error - free records	-1.31373	1.78315	.24969	-1.81524	-.81221	-5.261	50	.000
10.Telling exactly when services to be performed	-1.64706	1.80913	.25333	-2.15588	-1.13823	-6.502	50	.000
11.Giving prompt response	-1.68627	1.81648	.25436	-2.19717	-1.17538	-6.630	50	.000
12.Always willing to help	-1.64706	1.82015	.25487	-2.15898	-1.13513	-6.462	50	.000
13.Never too busy to respond to requests	-1.41176	2.11827	.29662	-2.00754	-.81599	-4.760	50	.000
14.Employees behaviour instilling confidence	-1.47059	1.73612	.24311	-1.95888	-.98230	-6.049	50	.000
15.Feeling safe in transaction	-1.37255	1.72001	.24085	-1.85631	-.88879	-5.699	50	.000
16.Showing consistent courteous	-1.31373	1.52958	.21418	-1.74393	-.88352	-6.134	50	.000
17.Having the knowledge to answer question	-1.23529	1.60734	.22507	-1.68736	-.78322	-5.488	50	.000
18.Giving individual attention	-1.49020	1.77057	.24793	-1.98818	-.99222	-6.011	50	.000
19.Having convenient operating hours	-1.35294	1.92690	.26982	-1.89489	-.81099	-5.014	50	.000
20.Giving individual attention	-1.23529	1.66839	.23362	-1.70454	-.76605	-5.288	50	.000
21.Having your best interests at heart	-1.45098	1.81454	.25409	-1.96133	-.94063	-5.711	50	.000
22.Understanding your specific needs	-1.41176	1.53852	.21544	-1.84448	-.97905	-6.553	50	.000

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for service factors by customer group overall interacting over ten years

	Service factor	Expectation mean	Mean Gap	Weighed gap
1	Modern looking equipment	6.06	1.88	11.40
8	Providing the services at the promised time	5.98	1.84	11.02
5	Doing promises to do things by a certain time	5.88	1.80	10.61
7	Performing the service right the first time	5.90	1.76	10.42
6	Showing sincere interest in solving problem	5.88	1.71	10.03
12	Always willing to help	6.06	1.65	9.98
11	Giving prompt service	5.84	1.69	9.85
10	Telling exactly when services to be performed	5.90	1.65	9.72
18	Giving individual attention	5.96	1.49	8.88
14	Employees behaviour instilling confidence	6.02	1.47	8.85
21	Having your best interests at heart	6.00	1.45	8.71
22	Understanding your specific needs	6.16	1.41	8.69
4	Materials are visually appealing	6.04	1.37	8.29
15	Feeling safe in transaction	6.04	1.37	8.29
13	Never too busy to respond to requests	5.80	1.41	8.19
16	Showing consistent courteous	6.16	1.31	8.09
9	Insisting on error-free records	6.14	1.31	8.06
19	Having convenient operating hours to all	5.92	1.35	8.01
2	Visually appealing physical facilities	5.67	1.37	7.78
17	Having the knowledge to answer questions	6.06	1.24	7.48
20	Giving personal attention	5.75	1.24	7.10
3	Employees appear professionally dressed	6.12	1.00	6.12

(*Source:* **Analysis of field data)**
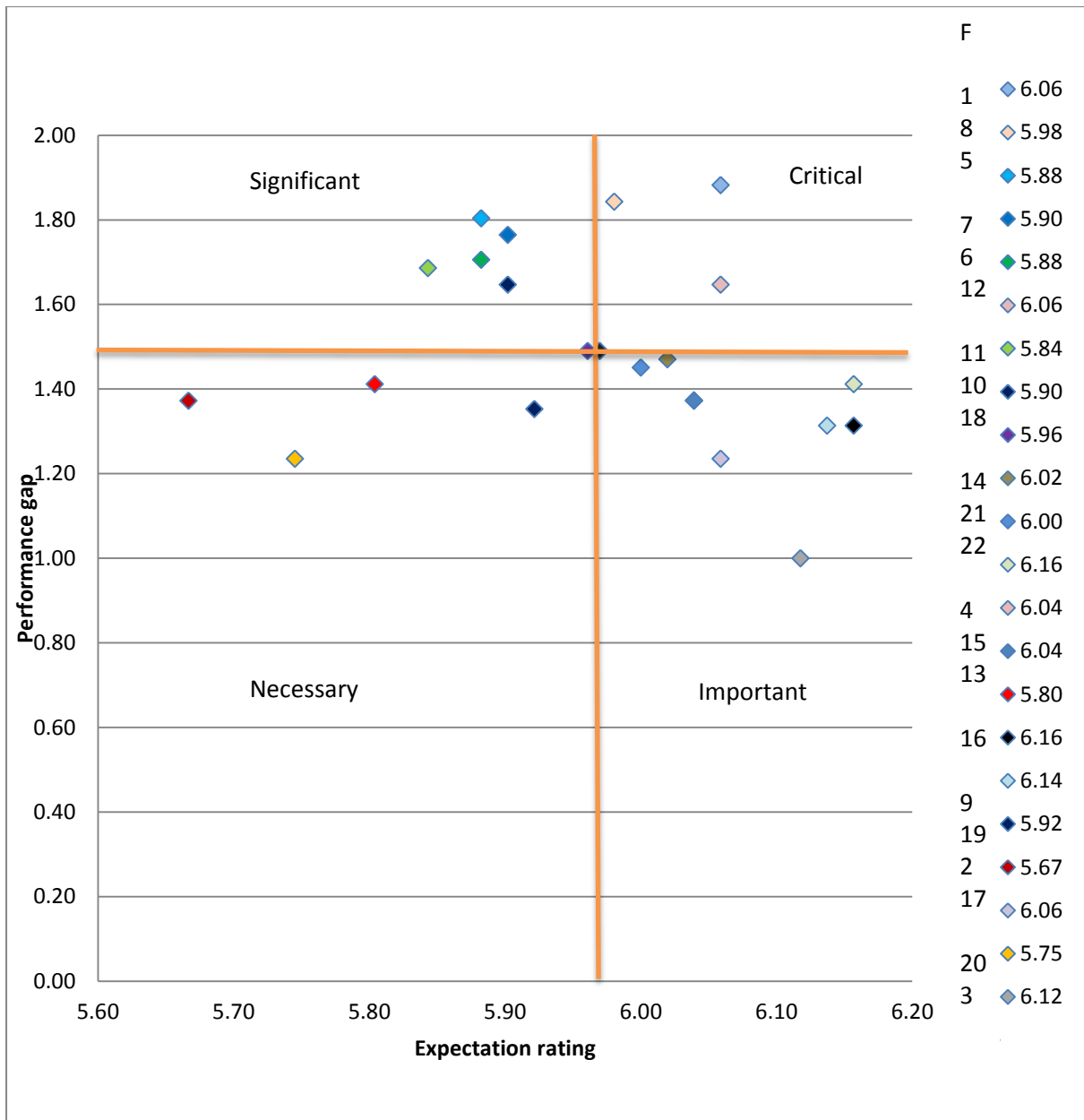
Un-weighted IPA for factors (F) by customer group overall for over 10 year experience

Test 3: List of service factors in improvement areas by customer group overall interacting over ten years

Significant Quadrant	Critical Quadrant
5. Doing promises to do things by a certain time 7. Performing the service right the first time 6. Showing a sincere interest in solving a problem 11. Giving prompt service 10. Telling exactly when services to be performed	1. Modern looking equipment 8. Providing the services at the promised time 12. Always willing to help
Necessary Quadrant	Important Quadrant
18. Giving individual attention 13. Never too busy to respond to requests 19. Having convenient operating hours 2. Visually appealing facilities 20. Giving personal attention	14. Employees behaviour instilling confidence 21. Having your best interest at heart 22. Understanding your specific needs 4. Materials are visually appealing 15. Feeling safe in transaction 16. Showing consistent courteous 9. Insisting on error-free records 17. Having the knowledge to answer questions 3 Employees appear professionally dressed

(*Source:* Analysis of field data)

Magnitude of differences of means for service dimension by customer group overall interacting over ten years

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-7.263	52.747	51	51	0.345
2	Visually appealing physical facilities	-5.989	35.871	51	51	0.264
3	Employees appear professionally dressed	-4.649	21.610	51	51	0.178
4	materials are visually appealing	-6.799	46.226	51	51	0.316
5	Doing promises to do things by a certain time	-5.904	34.860	51	51	0.258
6	showing sincere interest in solving a problem	-6.306	39.770	51	51	0.285
7	performing the service right the first time	-6.733	45.332	51	51	0.312
8	providing the services at the promised time	-6.351	40.340	51	51	0.287
9	insisting on error-free records	-5.261	27.683	51	51	0.217
10	telling exactly when services to be performed	-6.502	42.272	51	51	0.297
11	giving prompt service	-6.630	43.951	51	51	0.305
12	always willing to help	-6.462	41.761	51	51	0.295
13	never too busy to respond to requests	-4.760	22.653	51	51	0.185
14	employees behaviour instilling confidence	-6.049	36.593	51	51	0.268
15	feeling safe in transaction	-5.699	32.476	51	51	0.245
16	showing consistent courteous	-6.134	37.622	51	51	0.273
17	having the knowledge to answer questions	-5.488	30.123	51	51	0.231
18	giving individual attention	-6.011	36.127	51	51	0.265
19	having convenient operating hours to all	-5.014	25.143	51	51	0.201
20	giving personal attention	-5.288	27.959	51	51	0.218
21	having your best interests at heart	-5.711	32.611	51	51	0.246
22	understanding your specific needs	-6.553	42.942	51	51	0.300

(*Source:* Analysis of field data)

Appendix 19: Gap analysis for service factors by individual customers sub-group under customer group overall interacting over ten years

Test 1: Paired-samples t-test for service factors by individual customers sub-group

	Paired Differences					t	df	Sig. (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Upper	Lower			
1..Modern looking equipment	-1.84615	2.15430	.59750	-3.14799	-.54432	-3.090	12	.009
2.Visually appealing physical facilities	-.76923	1.48064	.41066	-1.66398	.12551	-1.873	12	.086
3.Employeesappear professionally dressed	-.84615	1.72463	.47833	-1.88834	.19603	-1.769	12	.102
4.Materials are visually appealing	-1.76923	1.58923	.44077	-2.72959	-.80887	-4.014	12	.002
5. Doing promises to do things by a certain time	-2.07692	2.49872	.69302	-3.58688	-.56696	-2.997	12	.011
6.Showing a sincere interest in solving problem	-1.69231	2.32324	.64435	-3.09623	-.28839	-2.626	12	.022
7.Performing the service right the first time	-1.92308	2.21591	.61458	-3.26214	-.58402	-3.129	12	.009
8.Providing the services at the promised time	-2.00000	2.58199	.71611	-3.56028	-.43972	-2.793	12	.016
9.Insisting on error - free records	-1.38462	1.75777	.48752	-2.44682	-.32241	-2.840	12	.015
10.Telling exactly when services to be performed	-2.07692	1.65638	.45940	-3.07786	-1.07598	-4.521	12	.001
11.Giving prompt response	-2.07692	1.65638	.45940	-3.07786	-1.07598	-4.521	12	.001
12.Always willing to help	-1.61538	2.02231	.56089	-2.83746	-.39331	-2.880	12	.014
13.Never too busy to respond to requests	-2.23077	2.16617	.60079	-3.53977	-.92176	-3.713	12	.003
14.Employees behaviour instilling confidence	-1.53846	2.14536	.59502	-2.83489	-.24203	-2.586	12	.024
15.Feeling safe in transaction	-1.84615	2.19265	.60813	-3.17116	-.52115	-3.036	12	.010
16.Showing consistent courteous	-1.46154	1.89804	.52642	-2.60851	-.31456	-2.776	12	.017
17.Having the knowledge to answer question	-1.61538	1.89466	.52548	-2.76032	-.47045	-3.074	12	.010
18.Giving individual attention	-1.92308	2.10006	.58245	-3.19213	-.65402	-3.302	12	.006
19.Having convenient operating hours	-1.46154	2.18386	.60569	-2.78123	-.14185	-2.413	12	.033
20.Giving individual attention	-2.00000	2.00000	.55470	-3.20859	-.79141	-3.606	12	.004
21.Having your best interests at heart	-1.92308	1.97744	.54844	-3.11803	-.72812	-3.506	12	.004
22.Understanding your specific needs	-1.69231	1.70219	.47210	-2.72093	-.66369	-3.585	12	.004

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for service factors by Individual customer sub-group

	Service factor	Expectation mean	Mean Gap	Weighed gap
13	Never too busy to respond to requests	5.31	2.23	11.84
10	Telling exactly when services to be performed	5.62	2.08	11.66
20	Giving personal attention	5.77	2.00	11.54
18	Giving individual attention	5.77	1.92	11.09
5	Doing promises to do things by a certain time	5.31	2.08	11.02
1	Modern looking equipment	5.92	1.85	10.93
4	Materials are visually appealing	6.08	1.77	10.75
8	Providing the services at the promised time	5.31	2.00	10.62
21	Having your best interests at heart	5.46	1.92	10.50
22	Understanding your specific needs	6.00	1.69	10.15
11	Giving prompt service	4.85	2.08	10.07
15	Feeling safe in transaction	5.23	1.85	9.66
7	Performing the service right the first time	5.00	1.92	9.62
17	Having the knowledge to answer questions	5.62	1.62	9.07
6	Showing sincere interest in solving a problem	5.00	1.69	8.46
9	Insisting on error-free records	5.85	1.38	8.09
14	Employees behaviour instilling confidence	5.23	1.54	8.05
16	Showing consistent courteous	5.46	1.46	7.98
12	Always willing to help	4.92	1.62	7.95
19	Having convenient hours to all	5.31	1.46	7.76
3	Employees appear professionally dressed	5.77	0.85	4.88
2	Visually appealing physical facilities	5.23	0.77	4.02

(*Source:* Analysis of field data)

Un-weighted IPA for factors (F) by individual customer sub-group

Test 3: List of service factors in improvement areas by individual customers sub-group

Significant Quadrant	Critical Quadrant
13. Never too busy to respond to requests 5. Doing promises to do things by a certain time 8. Providing the services at the promised time 11. Giving prompt service 15. Feeling safe in transaction 7. Performing the services right the first time	10. Telling exactly when services to be performed 20. Giving personal attention 18. Giving individual attention 1. Modern looking equipment 4. Materials are visually appealing 21. Having your best interest at heart
Necessary Quadrant	**Important Quadrant**
6. Showing a sincere interest in solving problem 14. Employees behaviour instilling confidence 12. Always willing to help 19. Having convenient operating hours to all 2. Visually appealing physical facilities	22. Understanding your specific needs 17. Having the knowledge to answer questions 9. Insisting on error-free records 16. Showing consistent courteous 3.Employees appear professionally dressed

(*Source:* Analysis of field data)

Magnitude of differences of means for service dimension by individual customers sub-group

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-3.090	9.547	13	13	0.285
2	Visually appealing physical facilities	-1.873	3.509	13	13	0.128
3	Employees appear professionally dressed	-1.769	3.129	13	13	0.115
4	materials are visually appealing	-4.014	16.112	13	13	0.402
5	Doing promises to do things by a certain time	-2.997	8.982	13	13	0.272
6	showing sincere interest in solving a problem	-2.626	6.898	13	13	0.223
7	performing the service right the first time	-3.129	9.791	13	13	0.290
8	providing the services at the promised time	-2.793	7.800	13	13	0.245
9	insisting on error-free records	-2.840	8.066	13	13	0.252
10	telling exactly when services to be performed	-4.521	20.439	13	13	0.460
11	giving prompt service	-4.521	20.439	13	13	0.460
12	always willing to help	-2.880	8.295	13	13	0.257
13	never too busy to respond to requests	-3.713	13.787	13	13	0.365
14	employees behaviour instilling confidence	-2.586	6.685	13	13	0.218
15	feeling safe in transaction	-3.036	9.216	13	13	0.277
16	showing consistent courteous	-2.776	7.708	13	13	0.243
17	having the knowledge to answer questions	-3.074	9.450	13	13	0.283
18	giving individual attention	-3.302	10.901	13	13	0.312
19	having convenient operating hours to all	-2.413	5.823	13	13	0.195
20	giving personal attention	-3.606	13.000	13	13	0.351
21	having your best interests at heart	-3.506	12.295	13	13	0.339
22	understanding your specific needs	-3.585	12.850	13	13	0.349

(*Source:* Analysis of field data)

Appendix 20: Gap analysis for factors by business customers' sub-group under the customer group overall interacting over ten years

**Test 1: Paired-samples t-test for service factors by business customers' sub-group**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
1..Modern looking equipment	-2.41176	1.83912	.44605	-3.35735	-1.46618	-5.407	16	.000
2.Visually appealing physical facilities	-1.70588	1.75943	.42672	-2.61050	-.80127	-3.998	16	.001
3.Employeesappear professionally dressed	-1.17647	1.46779	.35599	-1.93114	-.42180	-3.305	16	.004
4.Materials are visually appealing	-1.11765	1.40900	.34173	-1.84209	-.39320	-3.271	16	.005
5. Doing promises to do things by a certain time	-1.41176	2.18114	.52900	-2.53320	-.29033	-2.669	16	.017
6.Showing a sincere interest in solving problem	-1.58824	1.73417	.42060	-2.47986	-.69661	-3.776	16	.002
7.Performing the service right the first time	-1.52941	1.77192	.42975	-2.44045	-.61837	-3.559	16	.003
8.Providing the services at the promised time	-1.64706	1.86886	.45327	-2.60794	-.68618	-3.634	16	.002
9.Insisting on error - free records	-1.17647	1.74052	.42214	-2.07136	-.28158	-2.787	16	.013
10.Telling exactly when services to be performed	-1.35294	1.99816	.48463	-2.38030	-.32558	-2.792	16	.013
11.Giving prompt response	-1.70588	2.02376	.49083	-2.74640	-.66536	-3.475	16	.003
12.Always willing to help	-1.88235	1.96476	.47653	-2.89254	-.87216	-3.950	16	.001
13.Never too busy to respond to requests	-1.58824	2.06334	.50043	-2.64910	-.52737	-3.174	16	.006
14.Employees behaviour instilling confidence	-1.47059	1.50489	.36499	-2.24433	-.69684	-4.029	16	.001
15.Feeling safe in transaction	-1.11765	1.57648	.38235	-1.92820	-.30710	-2.923	16	.010
16.Showing consistent courteous	-1.47059	1.41940	.34426	-2.20038	-.74080	-4.272	16	.001
17.Having the knowledge to answer question	-1.00000	1.50000	.36380	-1.77123	-.22877	-2.749	16	.014
18.Giving individual attention	-1.47059	1.69991	.41229	-2.34460	-.59657	-3.567	16	.003
19.Having convenient operating hours	-1.35294	2.05977	.49957	-2.41198	-.29391	-2.708	16	.016
20.Giving individual attention	-.94118	1.51948	.36853	-1.72242	-.15993	-2.554	16	.021
21.Having your best interests at heart	-1.29412	1.64942	.40004	-2.14217	-.44606	-3.235	16	.005
22.Understanding your specific needs	-1.11765	1.26897	.30777	-1.77009	-.46520	-3.631	16	.002

(*Source:* Analysis of field data)

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Test 2: Weighted mean gap for factors by business customers sub-group

	Service factor	Expectation mean	Mean Gap	Weighed gap
1	Modern looking equipment	6.47	2.41	15.61
12	Always willing to help	6.47	1.88	12.18
11	Giving prompt service	6.29	1.71	10.74
2	Visually appealing physical facilities	6.12	1.71	10.44
8	Providing the services at the promised time	6.24	1.65	10.27
6	Showing sincere interest in solving a problem	6.24	1.59	9.90
13	Never too busy to respond to requests	6.24	1.59	9.90
14	Employees behaviour instilling confidence	6.41	1.47	9.43
16	Showing consistent courteous	6.41	1.47	9.43
7	Performing the service right the first time	6.12	1.53	9.36
18	Giving individual attention	6.00	1.47	8.82
5	Doing promises to do things by a certain time	6.12	1.41	8.64
21	Having your best interest at heart	6.41	1.29	8.30
19	Having convenient operating hours to all	6.12	1.35	8.28
10	Telling exactly when services to be performed	5.88	1.35	7.96
3	Employees appear professionally dressed	6.24	1.18	7.34
9	Insisting on error-free records	6.18	1.18	7.27
15	Feeling safe in transaction	6.29	1.12	7.03
22	Understanding your specific needs	6.12	1.12	6.84
4	Materials are visually appealing	5.94	1.12	6.64
17	Having the knowledge to answer questions	6.24	1.00	6.24
20	Giving personal attention	5.71	0.94	5.37

(*Source:* **Analysis of field data)**
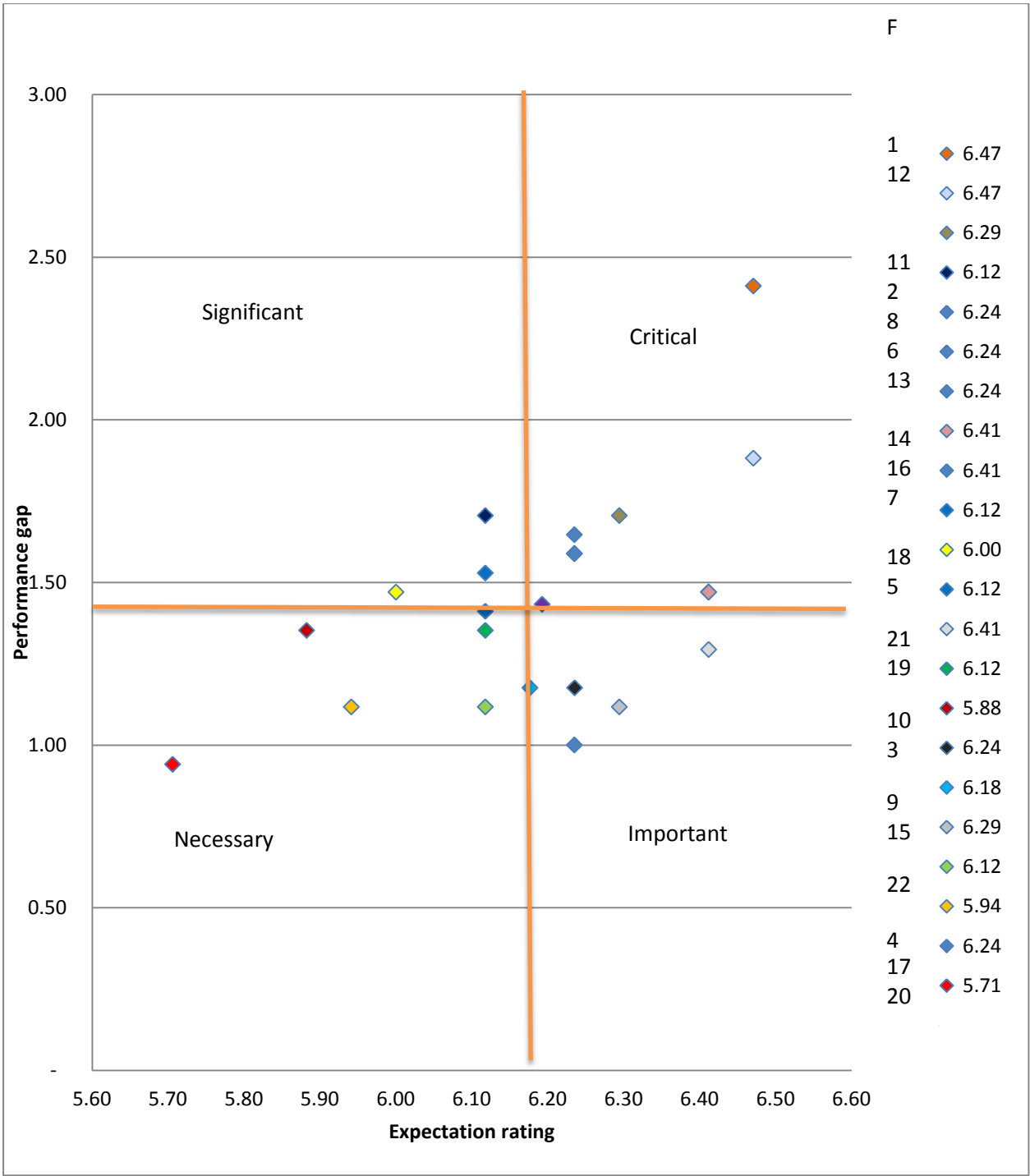
Un-weighted IPA for factors (F) by business customer sub-group

Test 3: List of factors in improvement areas by business customers' sub-group

Significant Quadrant	Critical Quadrant
2. Visually appealing physical facilities 7. Performing the services right the first time 18. Giving individual attention	1. Modern looking equipment 12. Always willing to help 11. Giving prompt service 8. Providing the services at the promised time 6 Showing a sincere interest in solving problem 13. Never too busy to respond to requests 14. Employees behaviour instilling confidence 16. Showing consistent courteous
Necessary Quadrant	Important Quadrant
5. Doing promises to do things by a certain time 19. Having convenient operating hours to all 10. Telling exactly when services to be performed 9. Insisting on error-free records 22. Understanding your specific needs 4.Materials are visually appealing 20. Giving personal attention	21. Having your best interest at heart 3. Employees appear professionally dressed 15. feeling safe in transaction 17. Having the knowledge to answer questions

(*Source:* Analysis of field data)

Magnitude of differences of means for service dimension by business customers' sub-group

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-5.407	29.235	17	17	0.477
2	Visually appealing physical facilities	-3.998	15.981	17	17	0.333
3	Employees appear professionally dressed	-3.305	10.922	17	17	0.254
4	materials are visually appealing	-3.271	10.696	17	17	0.251
5	Doing promises to do things by a certain time	-2.669	7.122	17	17	0.182
6	showing sincere interest in solving a problem	-3.776	14.259	17	17	0.308
7	performing the service right the first time	-3.559	12.665	17	17	0.284
8	providing the services at the promised time	-3.634	13.204	17	17	0.292
9	insisting on error-free records	-2.787	7.767	17	17	0.195
10	telling exactly when services to be performed	-2.792	7.794	17	17	0.196
11	giving prompt service	-3.475	12.079	17	17	0.274
12	always willing to help	-3.950	15.604	17	17	0.328
13	never too busy to respond to requests	-3.174	10.073	17	17	0.239
14	employees behaviour instilling confidence	-4.029	16.234	17	17	0.337
15	feeling safe in transaction	-2.923	8.544	17	17	0.211
16	showing consistent courteous	-4.272	18.248	17	17	0.363
17	having the knowledge to answer questions	-2.749	7.556	17	17	0.191
18	giving individual attention	-3.567	12.723	17	17	0.284
19	having convenient operating hours to all	-2.708	7.334	17	17	0.186
20	giving personal attention	-2.554	6.522	17	17	0.169
21	having your best interests at heart	-3.235	10.465	17	17	0.246
22	understanding your specific needs	-3.631	13.187	17	17	0.292

(*Source:* Analysis of field data)

Appendix 21: Gap analysis for factors by government departments' customers sub-group under customer group overall interacting over ten years

Test 1: Paired-samples t-test for factors by government departments' customers sub-group
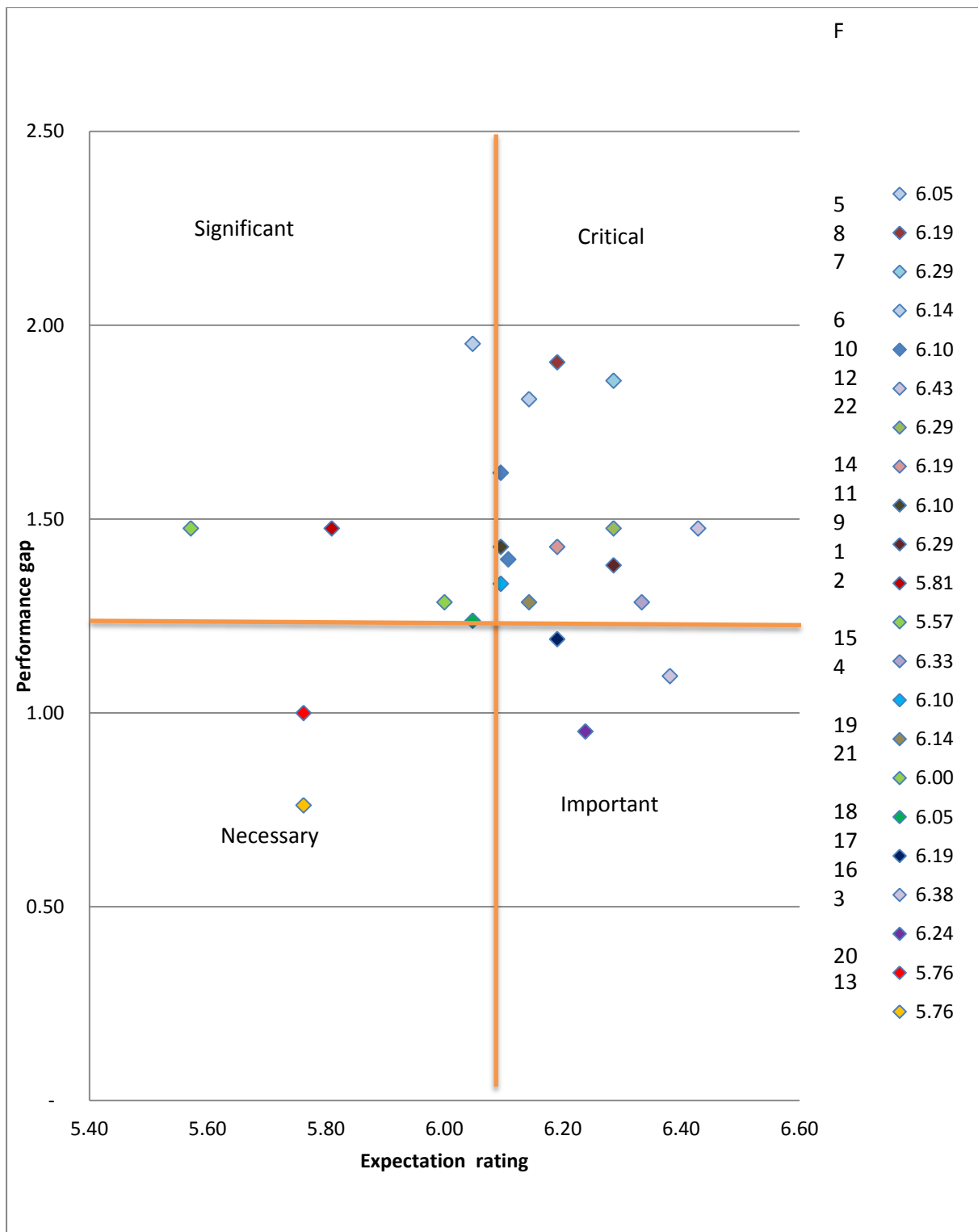
Factor	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Upper	Lower			
1..Modern looking equipment	-1.47619	1.63153	.35603	-2.21886	-.73352	-4.146	20	.000
2.Visually appealing physical facilities	-1.47619	1.60060	.34928	-2.20477	-.74761	-4.226	20	.000
3.Employeesappear professionally dressed	-.95238	1.53219	.33435	-1.64983	-.25493	-2.848	20	.010
4.Materials are visually appealing	-1.33333	1.39044	.30342	-1.96626	-.70041	-4.394	20	.000
5. Doing promises to do things by a certain time	-1.95238	2.03657	.44442	-2.87942	-1.02535	-4.393	20	.000
6.Showing a sincere interest in solving problem	-1.80952	1.91361	.41758	-2.68059	-.93846	-4.333	20	.000
7.Performing the service right the first time	-1.85714	1.79682	.39210	-2.67505	-1.03924	-4.736	20	.000
8.Providing the services at the promised time	-1.90476	1.97243	.43042	-2.80260	-1.00692	-4.425	20	.000
9.Insisting on error - free records	-1.38095	1.90987	.41677	-2.25032	-.51159	-3.313	20	.003
10.Telling exactly when services to be performed	-1.61905	1.77415	.38715	-2.42663	-.81146	-4.182	20	.000
11.Giving prompt response	-1.42857	1.77684	.38774	-2.23738	-.61977	-3.684	20	.001
12.Always willing to help	-1.47619	1.63153	.35603	-2.21886	-.73352	-4.146	20	.000
13.Never too busy to respond to requests	-.76190	2.02249	.44134	-1.68253	.15872	-1.726	20	.100
14.Employees behaviour instilling confidence	-1.42857	1.71963	.37526	-2.21134	-.64580	-3.807	20	.001
15.Feeling safe in transaction	-1.28571	1.52128	.33197	-1.97819	-.59324	-3.873	20	.001
16.Showing consistent courteous	-1.09524	1.41084	.30787	-1.73745	-.45303	-3.557	20	.002
17.Having the knowledge to answer question	-1.19048	1.53685	.33537	-1.89004	-.49091	-3.550	20	.002
18.Giving individual attention	-1.23810	1.64027	.35794	-1.98474	-.49145	-3.459	20	.002
19.Having convenient operating hours	-1.28571	1.73617	.37886	-2.07601	-.49542	-3.394	20	.003
20.Giving individual attention	-1.00000	1.48324	.32367	-1.67516	-.32484	-3.090	20	.006
21.Having your best interests at heart	-1.28571	1.87464	.40908	-2.13904	-.43239	-3.143	20	.005
22.Understanding your specific needs	-1.47619	1.66190	.36266	-2.23268	-.71970	-4.070	20	.001

(*Source:* Analysis of field data)

Test 2: Weighted mean gap for factors by government departments' customers sub-group

	Service factor	Expectation mean	Mean Gap	Weighed gap
5	Doing promises to do things by a certain time	6.05	1.95	11.81
8	Providing the service at the promised time	6.19	1.90	11.79
7	Performing the service right the first time	6.29	1.86	11.67
6	Showing sincere interest to solve problem	6.14	1.81	11.12
10	Telling exactly when services to be performed	6.10	1.62	9.87
12	Always willing to help	6.43	1.48	9.49
22	Understanding your specific needs	6.29	1.48	9.28
14	Employees behaviour instilling confidence	6.19	1.43	8.84
11	Giving prompt service	6.10	1.43	8.71
9	Insisting on error-free records	6.29	1.38	8.68
1	Modern looking equipment	5.81	1.48	8.58
2	Visually appealing physical facilities	5.57	1.48	8.22
15	Feeling safe in transaction	6.33	1.29	8.14
4	Materials are visually appealing	6.10	1.33	8.13
19	Having convenient hours to all	6.14	1.29	7.90
21	Having your best interests at heart	6.00	1.29	7.71
18	Giving individual attention	6.05	1.24	7.49
17	Having the knowledge to answer questions	6.19	1.19	7.37
16	Showing consistent courteous	6.38	1.10	6.99
3	Employees appear professionally dressed	6.24	0.95	5.94
20	Giving personal attention	5.76	1.00	5.76
13	Never too busy to respond to requests	5.76	0.76	4.39

(*Source:* **Analysis of field data**)

Un-weighted IPA for factors (F) by government departments' customer sub-group

**Test 3: List of service factors in improvement areas by government departments'
customers sub-group**

Significant Quadrant	Critical Quadrant
5. Doing promises to do things at a certain time 10. Telling exactly when services to be performed 11. Giving prompt service 1. Modern looking equipment 2.Visually appealing physical facilities	8. Providing the services at the promised time 7. Performing the services right the first time 6. Showing a sincere interest in solving problem 12. Always willing to help 22. Understanding your specific needs 14. Employees behaviour instilling confidence
Necessary Quadrant	Important Quadrant
4. Materials are visually appealing 21. Having your best interests at heart 18. Giving individual attention 20. Giving personal attention 13. Never too busy to respond to requests	9. Insisting on error-free records 15. Feeling safe in transaction 19. Having convenient operating hours to all 17. Having the knowledge to answer questions 16. Showing consistent courteous 3. Employees appear professionally dressed

(*Source:* Analysis of field data)

Magnitude of differences of means for service dimension by government departments' customers' sub- group

Factor No	Service dimension	t	T Square	N1	N2	Effect size
1	Modern looking equipment	-4.146	17.191	21	21	0.301
2	Visually appealing physical facilities	-4.226	17.862	21	21	0.309
3	Employees appear professionally dressed	-2.848	8.114	21	21	0.169
4	materials are visually appealing	-4.394	19.310	21	21	0.326
5	Doing promises to do things by a certain time	-4.393	19.300	21	21	0.325
6	showing sincere interest in solving a problem	-4.333	18.778	21	21	0.319
7	performing the service right the first time	-4.736	22.434	21	21	0.359
8	providing the services at the promised time	-4.425	19.584	21	21	0.329
9	insisting on error-free records	-3.313	10.979	21	21	0.215
10	telling exactly when services to be performed	-4.182	17.489	21	21	0.304
11	giving prompt service	-3.684	13.575	21	21	0.253
12	always willing to help	-4.146	17.191	21	21	0.301
13	never too busy to respond to requests	-1.726	2.980	21	21	0.069
14	employees behaviour instilling confidence	-3.807	14.493	21	21	0.266
15	feeling safe in transaction	-3.873	15.000	21	21	0.273
16	showing consistent courteous	-3.557	12.656	21	21	0.240
17	having the knowledge to answer questions	-3.550	12.601	21	21	0.240
18	giving individual attention	-3.459	11.965	21	21	0.230
19	having convenient operating hours to all	-3.394	11.517	21	21	0.224
20	giving personal attention	-3.090	9.545	21	21	0.193
21	having your best interests at heart	-3.143	9.878	21	21	0.198
22	understanding your specific needs	-4.070	16.569	21	21	0.293

(*Source:* Analysis of field data)