The level of service offering of South Africa’s minibus taxi industry and possible ways to improve

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfillment of the requirements for the degree of Master of Business Administration

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ABSTRACT

The South African minibus taxi industry has been around for many decades. Some historic documents have suggested that the taxi industry started as early back as 1929 with 4 seater vehicles. The changes in government, demographics and legislation came with both good and bad consequences for the taxi industry. One of the negative consequences the taxi industry inherited was the image that the taxi owners as well as their drivers are a law unto themselves. Having said that, there is little body of knowledge about the question of the perceived level of service by the taxi users.

This study seeks to fill the gap of the perceived level of service by the taxi users and also to identify opportunities for the taxi industry to improve by addressing the taxi users’ concerns in order to give them the type of service that they expect.

The research was conducted by collecting data via Qualtrics from taxi users.

The study concluded that in terms of the current level of service offering of minibuses taxis, the number of taxi users who are satisfied with the level of service was marginally more than those who were not satisfied. Having said that, this research found that there are some aspects of service which most of the taxi users are not satisfied with. It is therefore recommended that the aspects of service the taxi users are dissatisfied with need urgent attention by the taxi industry and government.

There were six aspects of service which were identified as opportunities for the taxi industry to adopt to improve their service offering.

The key message is mainly for the taxi industry and government. These two stakeholders need to work in partnership to take advantage of the opportunities to improve the minibus taxi industry’s service offering to taxi users who deserve the highest level of quality of service.
DECLARATION

I, Thulani Qwabe, declare that this research report is my own work except where indicated in the references and acknowledgements. It is submitted in partial fulfillment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

THULANI QWABE

Signed at ...............................................................

On the ........................................ day of ................................2018
DEDICATION

My research is dedicated to a number of people; some whom I know and others not.

I dedicate this research to my late father who passed away on 11th October 2003. My father was a taxi operator. I trust that wherever he is, he recognises the work that I have done and continue to do for the development of the minibus taxi industry and all taxi operators. May his soul rest in peace.

I also dedicate this research to my mother, Nompumelelo Thoko Qwabe.

My mother is a taxi operator. She took over my father’s business and she currently runs it.

This research is also dedicated to the tens of thousands of minibus taxi operators in South Africa. Taxi operators in South Africa are currently faced with a number of challenges. I have experienced some of their pains and struggles first-hand. This research forms part of my many efforts help the minibus taxi industry in South Africa grow, thrive and prosper.

Lastly, but certainly not least, I dedicate this research to the millions of taxi users in South Africa. The minibus taxi industry is often said to be the life-blood of the economy; but I recognise taxi users as the life-blood of the minibus taxi industry. Taxi users are the engine behind the economy of this country and I believe that they deserve a service of the highest standard and quality possible from the minibus taxi industry.
ACKNOWLEDGEMENTS

I wish to thank my family for the support and encouragement in completing my MBA degree.

I wish to thank TaxiChoice (the business wing of SANTACO where I have been employed for almost eight years), especially the executive chairman Mr Jothan “Mswazi” Msibi, as well as the former Managing Director Mr James Chapman, for their support and encouragement during my time of completing my MBA degree and this research. These gentlemen have also contributed towards a portion of my study fees.

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To my supervisor, Professor Anthony Stacey, thank you very much for your honest and constructive feedback and guidance throughout this journey. Thank you to all the support staff and lecturers at Wits Business School; especially Charisse Drobis and Professor Terri Carmichael who assisted me a great deal towards the end of this research study.

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CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The purpose of this research is to explore opportunities for the minibus taxi industry in South Africa to improve its service offering to its customers who are the users of taxis.

The results of this study can be used by the minibus taxi industry in South Africa to possibly enhance its service offering to its customers. The results of this study may also be useful to government and the National Department of Transport, as the custodian of public transport in South Africa, to initiate and/or assist and support the improvement of the service offering of minibus taxis.

1.2 Context of the study

The South African minibus taxi industry has been labeled as the showcase of black capitalism in the country (Fourie, 2003). The taxi industry has evolved from days when it was restricted to sedan vehicles until 1977 when regulations were amended and allowed for bigger passenger vehicles to be used (Ingle, 2009).

The taxi industry experienced exponential growth from 1977 which was fuelled by the changes in regulation of the vehicle’s seating capacity, the Apartheid laws of settlement which were designed in such a way that workers had to travel long distances to get to their place of work, as well as the withdrawal of bus companies from the townships (Barolsky, 1990). The deteriorating bus and rail services have also contributed to the growth of the taxi industry and its market share increase in public transport (Ahmed, 2004).

The growth of the minibus taxi industry came with some challenges, which range from conflict between the operators which was triggered by the government’s deregulations, to a poor road safety record which was due to bad driving, poor quality vehicles and poor funding (Fourie, 2003). The bad reputation of the taxi industry emanated from this dark past.
The South African minibus taxi industry is still recognised by many people as the most important part of the public transport system. One example of this is when former Minister of Transport, Dipuo Peters acknowledged, in her 2015/2016 budget speech, that the taxi industry is the most important part of the public transport system and also stated that the industry transports 68% of daily commuters (Peters, 2015).

The estimates of the public transport market share of minibus taxis vary slightly from different sources. According to the National Household Travel Survey of 2013, the use of taxis increased from 59% in 2003 to 69% in 2013 (StatsSA, 2013). Boudreaux (2006) estimated the South African taxi industry’s market share to be approximately 65% as early as in 2006.

Despite the small variance, the minibus taxi industry can still be regarded as a significant force in South Africa’s public transport system. Many people directly or indirectly come into contact with and/or are affected by the minibus taxi industry. The service offered by the taxi industry is critical to the economy of South Africa as 68% of work trips are made using taxis (StatsSA, 2013).

This research focuses on minibus and midibus taxis which offer a minibus taxi-type service as per the definition in the National Land Transport Act (NLTA), 2009 (Republic of South Africa, 2009).

The NLTA (2009, p. 12) defines the minibus taxi-type service as “an unscheduled public transport service operated on a specific route or routes, or where applicable, within a particular area, by means of a motor car, minibus or midibus”.

The NLTA also defines a minibus as a motor vehicle which is designed to carry more than 9 but no more than 16 people including the driver. A midibus is defined as a motor vehicle which carries more than 16 but no more than 35 people including the driver. These two types of vehicles are used in what is commonly referred to as the Minibus Taxi Industry. The “minibus” therefore does not necessarily define the type of vehicles that are used within the minibus taxi industry. Minibus Taxi Industry refers to all types of vehicles which operate and offer a minibus taxi-type service by definition.
The perception of the service offering of the minibus taxi industry is not great. This is evidenced from as early as 1994 (National Taxi Task Team, 1996). Government has reported that taxi users’ dissatisfaction levels are very high (Ingle, 2009). The National Household Travel Survey (StatsSA, 2013) also revealed that service related issues were the main reason for non-use of taxis.

This apparent lack of good service from minibus taxis is the inspiration for this research which seeks to explore possible ways in which the service offering of minibus taxis can be enhanced for the benefit of the millions of commuters (StatsSA, 2013). Based on the size of the taxi industry, it is clear that change and improvement in the service offering could have a significant impact on the country as a whole. The inspiration for this research is that the results may lead to recommendations which could potentially have a positive impact on the country’s transport system, as a whole.

1.3 Problem statement

1.3.1 Main problem

The main research problem is to identify opportunities for improving the service offering of the minibus taxi industry in South Africa.

1.3.2 Sub-problems

Sub-problem 1: The first sub-problem is to determine the current perception of the service offering of the minibus taxi industry.

Sub-problem 2: The second sub-problem is to determine the level of appeal to commuters if the minibus taxi industry could implement the potential enhancements to the service offering of the minibus taxis.

1.4 Significance of the study

The National Household Travel Survey of 2013 is the most recent and accessible work which reports on the level of satisfaction of commuters with minibus taxis.
Before this study, a similar study was conducted in 2003. The next study by Statistics SA will be conducted and published in 2018.

The study by Statistics SA did not investigate the possible level of appeal to the minibus taxi users if the minibus taxi industry was to implement potential enhancements to its service offering. This is the gap which this study intends to fill. The second sub-problem is the part of the research which intends to achieve the filling of the gap in the study.

The study is therefore intended to be of value to the minibus taxi industry as a whole, government, the minibus taxi users as well as other road users.

The minibus taxi industry may benefit by getting ideas of how to improve its service offering to its customers, who are the taxi users. Through this study, the minibus taxi industry may find ways to potentially “grow the pie” and increase ridership and revenue. It is envisaged that may occur due to possible improvement of the levels of satisfaction of the existing commuters thus retaining them, and may attract new commuters currently using other means of public transportation, such as buses, trains and walking, to rather use taxis.

The government may then benefit from an improved transport system in the country with potentially better levels of public transport user satisfaction.

The minibus taxi commuters may benefit from a potential improved level of service offering.

Minibus taxis share the road with other road users who drive their own vehicles. There is a possibility that if the minibus taxi industry adopts the proposed enhancements to its service offering, the road users could benefit from being able and willing to use taxis, and thereby reduce congestion and increase safety.

1.5 Delimitations of the study

This study will only look at minibus and midibus taxis which provide a minibus taxi-type service. Motor cars, metered taxis, tuk-tuks, shuttle services, charter services and scholar transport will not form part of this study.
In terms of commuters, the study will only focus on the existing users of minibus taxis.

The study will consider the taxi industry across South Africa.
1.6 Definition of terms

**NDOT** – National Department of Transport

**Metered taxi service**- “A public transport service operated by means of a motor vehicle which is available for hire by hailing while roaming, by telephone or otherwise, may stand for a hire at a rank and is equipped with a sealed meter, in good working order, for the purpose of determining the fare payable, that is calibrated for such fare or complies with any other requirements applicable to such meters” (Republic of South Africa, 2009, p. 12)

**Midibus**- “A motor vehicle designed or modified solely or principally for conveying more than 16 but not more than 35 persons, including the driver” (Republic of South Africa, 2009, p. 12)

**Minibus**- “A motor vehicle designed or modified solely or principally for conveying more than 9 but not more than 16 persons, including the driver” (Republic of South Africa, 2009, p. 12)

**Mini taxi-type service**- “An unscheduled public transport service operated on a specific route or routes, or where applicable, within a particular area, by means of a motor car, minibus or midibus” (Republic of South Africa, 2009, p. 12).

**NHTS**- National Household Travel Survey of 2013 (StatsSA, 2013).

**NTTT**- National Taxi Task Team. This task team was established in 1995 by the then Minister of Transport, the Honourable Mac Maharaj, as a means to address the crisis and problems around the minibus taxi industry. The task team established recommendations which were documented and published in 1996 (National Taxi Task Team, 1996).

**Operating license (OL)**- “A licence required and granted and issued in accordance with the National Land Transport Act” (Republic of South Africa, 2009, p. 12).

**Operator**- “A person carrying on a business of operating a public transport service in the form of a taxi” (Republic of South Africa, 2009, p. 12).
**Tuk-tuk**—“Three-wheeled motor vehicle designed or modified solely or principally for conveying not more than three seated persons, including the driver” (Republic of South Africa, 2009, p. 16).

### 1.7 Assumptions

There are a number of assumptions surrounding this research listed below:

- Based on the criticism that the minibus taxi industry has had from commuters, other road users and South Africa as a whole, there is room for improvement in terms of the current level of satisfaction with the service offering of minibus taxis. This criticism is often expressed via various media platforms such as social media, radio stations and newspapers.
- The minibus taxi users will have an understanding of the possible enhancements to the service offering of minibus taxis.
- The respondents who have not had sight and/or experience of the possible enhancements to the service offering will be able to provide normal perspectives on the survey.
- The minibus taxi industry would like to improve the commuters’ travel and service experience in taxis.
- The possible service enhancement initiatives can be implemented successfully in the minibus taxis.
CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This literature review starts with an overview of the minibus taxi industry in South Africa for the purpose of providing background and context.

In terms of the first sub-problem, this research reviews literature which considers the level of service offering of the taxi industry based on the various aspects of the current service offering of minibus taxis.

In terms of the second sub-problem, this section will review literature on models and elements of service which can be used to improve the service offering of public transport in the South African minibus taxi industry context.

2.2 Background Discussion

2.2.1 South African Taxi Industry: Public Transport Market Share

Minibus taxis are by far the most widely used mode of public transport (Walters, 2013). The percentage of public transport users who use taxis varies and ranges between 65% (Walters, 2013) and 69% (StatsSA, 2013). According to the National Household Travel Survey (2013), taxis increased their market share from 59% in 2003 to 69% in 2013. Taxis are followed by buses which have a market share of 20% and trains have a market share of 10%.

2.2.2 Challenges

Despite their popularity, there have been literature and reports which suggest that the service offering of minibus taxis has a number of problems, making taxis less desirable. Walters (2013) concluded that the service offering of minibus taxis is of a poor standard, low quality and that the vehicles are unsafe.
The National Household Travel Survey of 2013 identified problems such as taxis being too expensive, driver’s behaviour being reckless, lack of taxis at specific times and taxis being too far (StatsSA, 2013).

In 1994, the former Minister of Transport, Honourable Minister Mac Maharaj, set up a National Taxi Task Team (NTTT) to address what was regarded as a crisis and problems associated with the minibus taxi industry. The issues identified by the NTTT ranged, amongst others, from unavailability of permits to operate taxis legally, to traffic officers, lack of subsidy, financial problems, violence, training, safety of vehicles, safety of the environment and the manner in which the drivers treat passengers and drive on the roads. Most of these issues have an impact directly or indirectly on the service offering of minibus taxis. This indicates that the problems in the taxi industry date from as long ago as 1994 (National Taxi Task Team, 1996).

2.2.3 The Role of Government

The South African National Department of Transport (NDoT) has a purpose “To ensure the provision and regulation of safe, secure, reliable, cost-effective and sustainable public transport services in South Africa through legislation, policies and strategies”(National Department of Transport, 2017, p. 95). The NDOT, as the custodian of public transport in South Africa, is expected to want to align the minibus taxi industry with its purpose. Is it therefore important to consider the aspects which are part of the NDOT’s purpose in terms of the service offering of the minibus taxis.

Over the years since 1994, the government seems to have taken some action to look deeper into the issues surrounding the minibus taxi industry. The initiatives which are referred to in this study are the National Taxi Task Team (NTTT) which was set up in 1994 and the National Household Travel Survey (NHTS) which is done periodically with the last one being in 2013.

This research will delve into some of the specifics of the problems with the current service offering of minibus taxis and also the level of appeal to taxi users should the recommendation to improve the service offering be implemented.
2.3 Current Perception of the Service Offering of the Minibus Taxi Industry

The first sub-problem is to determine the current perception of the service offering of the minibus taxi industry. This part of the literature review delves into literature which considers the current perceived level of service offering of the minibus taxis. Various aspects of the minibus taxi service offering will be reviewed as well as the commuter’s current perceptions thereof.

2.3.1 Aspects of Service Offering

The first step is to establish the aspects of the minibus service offering based on the various sources of literature and reports.

Based on the South African National Department of Transport’s (NDOT) purpose (2017), the service offering of minibus taxis can be broken down into five aspects; safety, security, reliability, cost-effectiveness and sustainability.

The NHTS (2013) listed the top 5 most important taxi related problems which are experienced by households. These problems are encapsulated in the table below together with the percentage of how often the problems arose.

Table 1: Top 5 Taxi Related Problems as Identified by the NHTS

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<th>Problem Identified</th>
<th>Percentage Overall</th>
<th>Percentage in Relation to Taxis Only</th>
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<tr>
<td>Taxis too expensive</td>
<td>10,2%</td>
<td>33%</td>
</tr>
<tr>
<td>Reckless driving by taxi drivers</td>
<td>7,4%</td>
<td>24%</td>
</tr>
<tr>
<td>No taxis at specific times</td>
<td>6,1%</td>
<td>20%</td>
</tr>
<tr>
<td>Taxis too far</td>
<td>4,3%</td>
<td>14%</td>
</tr>
<tr>
<td>No taxis available</td>
<td>2,6%</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: (StatsSA, 2013)
The total percentage of problems identified as being related to taxis was 31% of the transport related problems experienced by households. The balance of the problems were classified under general and totalled 43%, the buses which 20% and the trains 6%.

The service offering issues which are raised in the NDOT’s purpose and the NHTS are analysed in this literature review by comparing how they are similar and related, as well as by taking the problems raised in the NTTT final recommendations document (1996) into consideration. The top 5 problems raised in the NHTS will be used as the anchor points as they focus specifically on service offering issues.

The figures which are reported from the NHTS should be read in the context of the fact that taxis are responsible for 69% of the public transport in comparison to buses and trains which have a market share of 20,2% and 9,9% respectively.

2.3.2 *Taxis Too Expensive*

The cost of the taxi fares, it was discovered, is the biggest problem in the NHTS at 10,2%. If considered in isolation to taxi related issues only, it would account for 33% of the taxi related problems. If compared with trains and buses, the problem of high fares accounted for 8% for buses and 5% for trains. The level of dissatisfaction with the taxi fares indicates that government’s purpose of having cost-effective public transport has not yet been achieved with taxis.

In the NTTT document, the issue of a lack of subsidy for taxis was raised. A lack of subsidy for taxis will make them less competitive compared to trains and buses which are subsidised by government. The taxi operators have found themselves under cost pressures since the 90s as the NTTT raised over around high insurance costs and cost of vehicles. These issues make it more difficult for taxis to improve on their fare structures without the assistance of government subsidy.

2.3.3 *Reckless Driving by Taxi Drivers*

Reckless driving by taxi drivers affects the perceived level of service offering of taxis. In the NHTS (2013), the problem of reckless driving accounted for 7,4% of
the total problems raised by households. This is equal to 24% if considered in isolation of the taxi service offering. In comparison to buses, driver behaviour only accounted for 8%. This problem did not show up for trains.

The issue of excessive speed and reckless driving was also raised in the NTTT document and was linked to the problem of drivers being underpaid and the demands by owners of the vehicles for high daily sums of money from drivers.

In terms of government’s purpose, this relates to the issue of safety. The level of dissatisfaction with the behaviour of taxi drivers in relation to buses demonstrates that government may not have achieved this purpose of providing safe public transport in terms of minibus taxis.

2.3.4 No Taxis at Specific Times

The problem of taxis not being available at specific times accounted for 6,1% of the whole study of public transport problems on the NHTS and 20% in terms of taxi specific problems. This problem accounted for 22% of bus specific problems and 12% in terms of train specific problems.

There is a level of dissatisfaction with all modes of public transport in terms of availability at specific times.

2.3.5 Taxis Too Far

The NHTS (2013) showed that the problem of taxis being too far accounted for 4,3% of overall transport related problems and 14,1% of taxi specific problems. In comparison to buses and trains, in terms of mode specific problems, buses were 10,8% and trains 25%.

This service offering problem talks to the accessibility of transport. Accessibility is inherent in government’s purpose. The results from the NHTS show that government may be lacking in this part of the service offering with regards to minibus taxis.
Lack of enough ranking facilities for taxis could result in taxis being too far for some passengers. The issue of not having enough ranking facilities was raised as a concern in the NTTT (1996) document.

2.3.6 No Taxis Available

The NHTS (2013) showed that the problem of taxis not being available was 2.6% of the overall transport related problems and 8.5% of taxi specific problems. In comparison to buses and train specific problems, this problem weighed 51.7% for buses and 36.7% for trains.

The significant difference in the level of dissatisfaction of availability of taxis in comparison to buses and trains indicates that taxis are much more accessible in comparison to trains and buses and this could also possibly explain the significantly higher market share of public transport for taxis.

Although taxi availability seems to be improving compared to other modes of transport, it should still be tested whether there is room for improvement for this particular aspect of service.

2.3.7 Other Service Related Problems

There are a number of other service related issues which were raised by the NTTT. One of the issues was the poor condition of vehicles, some of which are not roadworthy, which drivers are expected to drive. The other issue was the lack of professionalism by the drivers towards the passengers (National Taxi Task Team, 1996).

These two service issues are significant and have been raised by other researchers of the minibus taxi industry such as Fourie (2003) and Professor Jackie Walters (2013).

2.3.8 Summary

There are seven aspects of service which have been identified in this literature review.
This research will look at the seven aspects of service which are cost of the taxi fare, driver behaviour on the roads, availability of taxis, availability of taxis at certain times, accessibility of taxis, condition and comfort of vehicles and the safety of taxis.

2.3.9 Research Question

The research question is to determine the level of satisfaction of taxi commuters with the level of service offering of minibus taxis in terms of the identified aspects of service.

2.4 Potential Enhancements to the Service Offering of the Minibus Taxis and the Level of Appeal to the Commuters

The second sub-problem is to determine the level of appeal to commuters if the minibus taxi industry could implement the potential enhancements to the service offering of the minibus taxis. This literature review will delve into a body of knowledge which considers how the various aspects of the service offering of minibus taxis can be enhanced. This literature review will delve into service improvement models in public transport and critically review whether they are practical for the South African minibus taxi industry. This literature will also review various innovations in the transport industry as well as their practicality in the South African context.

Table 2: Factors Influencing Household's Choice of Mode of Travel
Table 2 shows that the top 6 factors which influence households' choice of travel are travel time, travel cost, flexibility, safety from accidents, comfort and reliability. These 6 factors combined weigh a total of 87.4% of the influence on household mode of travel.

These 6 factors need to be taken into consideration for any mode of transport which intends to improve its perceived service offering.

### 2.4.1 Defining Service and Service Quality

Defining service has proven to be a highly complex exercise over the past five decades (Vargo & Lusch, 2004). Definitions of service range from simply “services are what tangible goods are not” (Vargo & Lusch, 2004, p. 325), to definitions such as “the application of specialized competences (skills and knowledge), through deeds, processes, and performances for the benefit of another entity or the entity itself (self-service)” (Vargo & Lusch, 2004, p. 326). Regardless which definition, the work done by minibus taxis seems to always fall under the definition of a service.

There is a direct co-relation between companies' perceived quality of service and their market share and return on investment (Ghobadian, Speller, & Jones, 1994).

Source: (StatsSA, 2013)
This is the reason why organisations in the service sector should pay careful attention about the perceived level of service they offer their customers. This is no different for the minibus taxi industry, also in the service sector.

According to Ghobadian et al. (1994), the quality of service can be defined in a number of different ways. The relevant approach to defining quality of service in terms of the service offering of minibus taxis is the customer led approach. The customer led approach defines quality of service by how much the service meets the users’ requirements. An organisation has to determine the needs of the users, then design their service to meet those needs. In the case of minibus taxis, the customer led approach would entail the taxi operators determining the needs of the passengers, then design the taxi service offering to meet those needs.

This research intends to determine how much the various aspects of service offering could improve the perceived service offering level of minibus taxis. This research could possibly add to the body of knowledge of what taxi passengers, thus allowing taxi operators to enhance their service offering by making changes to meet those expectations.

2.4.2 Public Transport Service Quality Improvement Variables

In Canada, the department of transport conducted a study on how to improve the bus service, which study identified five categories of action to improve it: network planning and services; branding and marketing; right-of-way transit priority; bus stop or station; and the vehicle (Transport Canada, 2012). From a service improvement perspective in the South African taxi industry context, the planning services and branding and marketing categories do not apply. The bus stop and station would refer to a taxi stop or a taxi rank.

In terms of how these categories can improve the service offering of minibus taxis, right-of-way transit priority would mean that minibus taxis have a dedicated lane which would result in the taxis to avoiding congestion and in turn improve the travel time, punctuality and reliability of the commuters to their destinations (Transport Canada, 2012). This points out the importance of travel time and reliability to the taxi passengers as a service offering aspect. The dedicated taxi lane is a strategy of how to achieve this.
According to the Canadian Improving Bus Service report (2012), a secure, comfortable and identifiable bus stop or station assists with accessibility and attractiveness of the transport mode. The bus stop or station, in the case of this research, a taxi stop or station, should be equipped with Wi-Fi and detailed traveler information to assist the commuters to get to their final destinations. According to Keith Barry (2011) and Dickinson et al (2014), live data on mobile phone applications (apps) is the best way to provide travel information to commuters. Barry (2011) suggested that smart phone apps may be key to luring people out of their cars and onto mass transit. One of the studies he referred to found that people who switched using their cars for public transport felt in control if mobile phone apps provided them real-time information. It would appear that mobile phone apps contribute to the accessibility and reliability categories of the service and therefore it has to be considered an enhancement of service offering of minibus taxis.

The last category which was listed by the department of transport in Canada (2012) as an initiative to improve service offering quality was the vehicle type and quality. The report suggests that a vehicle needs to be made comfortable and identifiable for the commuters. A vehicle can assist to enhance the service offering if it is made to be more with air conditioning as has Wi-Fi for entertainment and work purposes. Wi-Fi can therefore improve the perceived travel time if it is used to do work (Transport Canada, 2012).

Todd Litman (2008) summarised that improving transit services includes more comfortable vehicles, attractive and comfortable stations, being able to walk to the station and better information for the users of this transport mode.

Laura Eboli and Gabriella Mazzulla (2007) observed 16 service quality variables and classified them into 4 categories which included reliability, comfort, safety and availability. Reliability included user information which was also highlighted by Litman (2008) and by Transport Canada (2012).

Fourie (2003) emphasised the importance of improving the service offering of minibus taxis in South Africa and also highlighted some of the benefits. The research, however, lacked specifics of the variables of service that need to be improved. Fourie mentioned road safety as a service variable and also concluded...
that the minibus taxi industry needs to be formalised in order to improve the service offering.

2.4.3 **Role of the South African Government in Improving Transit Service Levels**

The NDOT is the custodian of public transport in South Africa. Since 1994 the NDOT has made some effort to try and improve the public transport systems in South Africa.

The NTTT was, amongst other things, set up to improve the service offering of by minibus taxis. The NTTT recommendations document (National Taxi Task Team, 1996) identified issues such as road safety, high fares for commuters and drivers’ lack of customer value as issues that the taxi industry had to improve.

The Moving South Africa project was an initiative of the NDOT which was concluded in 1998. The purpose of the project was, amongst other things, to develop a long-term public transport strategy for South Africa (Fourie, 2003). The proposed strategy had a 3 phase approach (Pillay, 2007). The 3 phases of the strategy were going to unfold between 2007 and 2020 and included action which was going to achieve the upgrade of the fleet of vehicles, extend the operating hours, integrate feeder transport and also introduce integrated and electronic fare management systems. This strategy indicates what government regards as being important for the improvement of this service and together with the action plans are the government’s contribution towards improving the South African minibus taxi service offering.

2.4.4 **The South African Minibus Taxi Industry Context**

Most research and concepts of improving the service of public transport is based on studies which consider all modes of transport including buses, trains and taxis. Some of the lessons can however be borrowed and applied in the study of the service offering of the minibus taxi industry. There are, however, some differences in the terminology which need to be taken into consideration.
As an example, the central point at which taxis line up for easy access to commuters traveling to different destinations and where taxis load and drop off most commuters is called a taxi rank (Mosupye & von Holy, 2000). Where most studies have referred to bus stations and bus stops, from the purpose of this research, those would be regarded as taxi ranks or taxi stops.

This research focuses on minibus taxis in South Africa and therefore the literature in this research needs to be understood in that context.

2.4.5 Summary

There are common denominators and trends which arise from the various literature relating to improvement of the service offering of minibus taxis. These service improvement factors will form the basis of this part of the research, which research seeks to understand the level of attractiveness by commuters if the said service improvement factors were adopted by the minibus taxi industry.

The service improvement factors can be broken down into means and ends - the end is what commuters really want and expect and the means is how the end can be achieved. The table below gives a summary of the means and ends based on this literature review.

### Table 3: Means and End of Aspects of Service

<table>
<thead>
<tr>
<th>End</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>User information, dedicated taxi lanes</td>
</tr>
<tr>
<td>Comfort</td>
<td>Vehicle quality, with Wi-Fi</td>
</tr>
<tr>
<td>Accessibility</td>
<td>User information through printed schedules and mobile phone application, walkable distance to the taxi stop or the taxi rank.</td>
</tr>
<tr>
<td>Safety from accidents</td>
<td>Vehicle quality, improved driver behaviour and training</td>
</tr>
<tr>
<td>Travel cost</td>
<td>Subsidy</td>
</tr>
</tbody>
</table>

2.4.6 Research Question

The research question is to determine what the level of appeal to taxi users would be if the potential service enhancements are implemented by the minibus taxi industry.
2.5 Conclusion of Literature Review

The two research questions ask different questions about the service offering of the minibus taxi industry- the first research question seeks to understand the level of satisfaction of commuters with the current service offering of minibus taxis; and the second focuses on the level of appeal of the service enhancements which have been proposed in the literature review.

This research focuses on minibus taxis in South Africa and therefore this literature reviewed focused on South African literature. In order to add depth and support to the South African literature, international literature was also reviewed.

In terms of the first research question, the NHTS provided rich data on the level of satisfaction of commuters with the various aspects of service offering of minibus taxis (StatsSA, 2013). A reasonableness test of the results from this research can be conducted and compared with the findings of the NHTS. The NTTT (1996) final recommendations document was helpful in exposing the service issues which have plagued the taxi industry since the 1990’s.

In terms of the second research question which delves into the minibus taxi industry service improvement models, considering attractiveness to the commuters, the NHTS was useful as it conducted a study regarding the factors which influence the choice of households’ mode of transport (StatsSA, 2013). This study highlights the level of importance of various factors of the public transport service offering. Research from Canada (Transport Canada, 2012), Litman (2008), Eboli and Mazzulla (2007) and Fourie (2003) was consolidated to understand which aspects of the minibus taxi service offering can be considered for its service enhancement. The intervention of the government and their strategies for how public transport service can be enhanced was regarded from the work done by Pillay (2007). This outstanding piece is now to look at the level of importance and attractiveness that the users of taxis place on the suggested service enhancement factors.
2.5.1 Research Question 1

The first research question is to determine the level of satisfaction of taxi users with the level of service offering of minibus taxis regarding the identified aspects of service.

2.5.2 Research Question 2

The second research question is to determine what the level of appeal to taxi users would be if the potential service enhancements are implemented by the minibus taxi industry.
CHAPTER 3. RESEARCH METHODOLOGY

In this section the focus is on the research methodology used to address the research questions. It will discuss the research methodology, and design, research survey population and sample. The research instrument used will be discussed, the procedure for data collection explained, and the analysis method of the data and limitations of the study will explain how validity and reliability of the research method will be tested.

3.1 Research methodology / paradigm

The first research question seeks to understand of the level of satisfaction of users of minibus taxis with the current service offering. The second research question seeks to understand the level of appeal to taxi users if the suggested service enhancements from the literature review are implemented by the minibus taxi industry.

The main types of research methodologies are quantitative and qualitative. Quantitative research methodology will be used in this research. The first reason for choosing to use quantitative research methodology is that both research questions are about determining levels of satisfaction and appeal with aspects of service. A level can be expressed in a quantitative format (Daniel, 2004).

The second reason for choosing the quantitative research methodology is that, given that the number of taxi passengers is in the millions (StatsSA, 2013), quantitative research would be the better approach as the research requires information in the form of variables from a large pool of units (Daniel, 2004). In this case, the units are the taxi commuters and the variables will be their level of satisfaction and appeal to the various aspects of service offering of minibus taxis.

The third reason for choosing quantitative research is that the aspects of service offering as well as potential service offerings enhancements have been identified. Daniel (2004) suggested that quantitative research is suitable for studies where the variables have already been determined.
The fourth reason for the quantitative research is that the study can be designed to produce quantitative results on each of the aspects of service offering or variables (Daniel, 2004). Quantitative research will therefore be used in this research.

The alternative, which is qualitative research, is not impossible to use, but the quantitative methodology would be more practical to use based on the time it takes to conduct relevant research (Choy, 2014).

3.2 Research Design

A questionnaire was used to conduct a survey to collect data for this quantitative research. A questionnaire is a suitable method of data collection due to the large number of potential respondents. According to Pamela Munn and Eric Drever (1990), a questionnaire is able to standardise the questions and responses and therefore makes the analysis easier and quicker to conduct.

One advantage of using a questionnaire is that it is cost effective and can take less time to conduct compared to other methods of data collection (Pribyl, 1994). This advantage applies to this research due to the limited time and resources available to conclude this research. Another advantage of using a questionnaire is that the respondents can respond in their own time and will be anonymous. This increases the chances of a higher return rate (Munn & Drever, 1990).

One disadvantage of using a questionnaire is that the information collected tends to describe the relationship between the commuters and the various aspects of service but it does not explain the relationship. The questionnaire did not give much information to allow the research to explain the reasons behind the expressed opinions. The second disadvantage is that the responses from the commuters on the questionnaire may be superficial (Munn & Drever, 1990).
3.3 Population and Sample

3.3.1 Population

The number of minibus taxi users in South Africa is in the millions (StatsSA, 2015). The population of minibus taxi users consists of people with a wide variety of ages, gender, social classes and race.

3.3.2 Sample and sampling method

Due to the fact that the amount of minibus taxi users in South Africa is in the millions (StatsSA, 2015), a survey of all the minibus taxi users is not practical and therefore a sample was taken and used for this research.

The type of sampling method that was used in this research is a non-probability convenience sample (Kothari, 2004) based on the people on the database of 6000 taxi users as well as the active users on Facebook and Twitter who were exposed to the survey. The sample of 6000 taxi users on the database comes from the passenger lists of long distance taxis in Pretoria. Despite this being a non-probability sample, there is an assumption that the sample will have a good representation of the whole population of taxi users (Kothari, 2004). The assumption is that the passengers who used taxis for a long distance trip are also likely to be users of taxis for regular trips.

A total of 168 respondents completed the survey but the data analysis is based on 154 responses received as 14 responses were removed as the respondents said they never used taxis, thus falling outside of the targeted respondents for this survey.

The gender spread is illustrated on table 4.
Table 4: Gender profile of respondents

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents</td>
<td>71</td>
<td>83</td>
<td>154</td>
</tr>
</tbody>
</table>

The research received a fairly wide spread representation based on the frequency of using a minibus taxi. Figure 1 presents the profile of the respondents according to their frequency of using taxis.

Figure 1: Profile of respondents by frequency of using a minibus taxi
Figure 2 illustrates the age groups of the respondents. Two of the respondents did not complete this question and therefore the total number of respondents is 152.

![Figure 2: Profile of respondents by age](image)

The geographic spread of the respondents is presented in figure 3.

![Figure 3: Profile by geographic spread](image)
3.4 The research instrument

The research instrument used in this study is a closed-ended questionnaire because the variables that need to be studied have already been identified. The research instrument can be found in Appendix A.

The questionnaire was a structured questionnaire as the questions and possible responses were standard (Kothari, 2004).

The first 4 questions of the questionnaire were aimed at getting the demographics of the respondents and have been presented above. These questions assist to ensure that the sample has a fairly broad representation of the population in terms of gender, age and residential area.

Questions 5 to 11 relate to the levels of satisfaction with the current aspects of service offering of minibus taxis. These questions are based on the aspects of service which have been identified in the literature review.

Questions 12 to 17 relate to the initiatives which could potentially enhance the service offering of minibus taxis. The questionnaire intended to establish the level of attractiveness of these initiatives to the respondents.

The last question, question 18, was for the respondents who wanted to enter the lucky draw competition for a prize. The intention of the prize was to encourage participation in the survey.

3.5 Procedure for data collection

The research instrument was digitized and put on an electronic survey platform called Qualtrics.

The link to the questionnaire was distributed to a list of over 6 000 passengers by short messaging service (SMS). By clicking the link, the respondents were directed to the questionnaire online. The link to the questionnaire was also distributed on social media via various groups on Facebook, individual’s pages on Facebook and Twitter.
3.6 Data analysis and interpretation

The responses to the questionnaire were collected using Qualtrics.

The data was analysed in three stages (Statistical Services Centre, 2001). The first stage was exploratory data analysis which took place when the results came to 15. The survey had only been distributed to a limited number of people. The data that came in did not contain any glaring issues therefore the survey was distributed to a larger number of potential respondents.

As soon as the responses had reached 164, the second stage was to present the findings, analyse and interpret the results in relation to the two research questions of satisfaction and attractiveness of the various aspects of the service offering of minibus taxis.

The last stage was the archiving of the survey, meaning a record will be kept of the process of collecting the data, processing it, analysing it as well as the final record of the clean data which is used in this research report.

3.7 Limitations of the study

This study is a quantitative study. The limitation of this methodology in relation to this research was that the nature of the survey conducted for this research report did not allow the respondents to give much input on their views and feelings about the minibus taxi industry. This means that the responses from the survey may be limited as the respondents only have a few limited options to choose from when they respond.

In terms of sampling, a convenience sample was used for the survey and is therefore a non-probabilistic sample regarding its size in relation to the population of users of minibus taxis. The weakness of this sampling method is that the survey results may be statistically bias (Tansey, 2007). This means that limited liability can be placed on the results due to the possible statistical bias and therefore caution has to be exercised if the results are to be used to develop the taxi industry. Should there be a need to use the results of this study, more funding will have to be invested into conducting a study based on a more probabilistic sample.
Another limitation of this study is that some of the respondents may have completed the questionnaire for the sake of completing it without applying themselves and giving honest feedback.

Lastly, the results on this study are only limited to the minibus taxi industry in South Africa.

3.8 Validity and reliability

3.8.1 External validity

According to Calder, Phillips and Tybout (1982) external validity is about whether the results from the research can be used to make general conclusions. The researcher believes that the results from this research can indeed be used to make general conclusions due to the fact that the study is a quantitative study (Merriam, 1995) and because the sample of respondents is chosen randomly and represents the population fairly.

3.8.2 Internal validity

There are a number of different definitions of what internal validity means in quantitative research (Winter, 2000). In short, it’s about the accuracy of measurement of the research tool.

Unfortunately by its nature, one of the disadvantages of a non-probabilistic sample survey is that there could be a bias in the results that come out (Tansey, 2007). The accuracy of this research, or validity, is therefore not very high. Nonetheless, the results contain valuable insights.

This research will mitigate this lack of validity by adding a disclaimer for anybody who intends to use the findings of this research for any purposes. The disclaimer will point out that the research was based on a non-probabilistic sample survey which means that further research is required if the user wants to take the findings further.
3.8.3 *Reliability*

According to Winter (2000), reliability has a number of definitions. They summarise reliability as a question of the study’s ability to yield the same results if it is repeated.

The potential bias from non-probabilistic sample survey means that the results produced by different studies may not be exactly the same.

The reliability of the research is maximised by virtue of the sampling method which balances out the demographics of the taxi commuters across the country. For this reason, the questionnaire included questions related to demographics. According to the results of the demographics which have been presented, the survey seems to have a fairly wide spread of respondents.
CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

In this section, the findings of the research will be presented and described. This chapter will only give a basic description of the results and will not interpret nor discuss the results. The interpretation and discussion of the results is in the next chapter.

The results will be presented and described according to the two research questions.

4.2 Results pertaining to the first research question

This section presents and describes the results from the research conducted on the first research question. The first research question was to find out the level of satisfaction of taxi users with the current level of service offering.

Seven aspects of service offering were identified and the survey questionnaire asked questions related to each aspect of service offering. The results from the responses that came from the respondents are presented in the figures below with a short description of each.
Figure 4: Level of satisfaction with cost of using a taxi

At 52%, the results on this aspect show that there were slightly more taxi users who are satisfied with the cost of using a minibus taxi compared to those who were dissatisfied.

Figure 5: Level of satisfaction with the way drivers drive
The results on the level of satisfaction with the way that drivers drive indicate that taxi users are generally not satisfied with the way that drivers drive.

![Bar chart showing level of satisfaction with availability of taxis at a convenient time.](image)

**Figure 6: Level of satisfaction with the availability of taxis at a convenient time**

The results in figure 6 illustrate that there were slightly more respondents who are satisfied with this aspect. Almost 52% of the respondents were either “somewhat” or “extremely” satisfied with the availability of taxis at a convenient time.
The results presented in figure 7 indicate that there is general satisfaction amongst taxi users with the ease to access minibus taxis. A total of 61% of respondents were either “somewhat” or “extremely” satisfied with the ease of accessing minibus taxis.
Figure 8: Level of satisfaction with the availability of minibus taxis in your area

The results presented in figure 8 indicate that there is general satisfaction with the availability of minibus taxis in the areas where the taxi users come from. A total of 65% of the respondents were either “somewhat” or “extremely” satisfied with the availability of taxis in their area.
In terms of the comfort of minibus taxis, figure 9 illustrates that there seems to be a fairly even spread of views about this aspect of service offering. There was a total of just over 43% of respondents who were either “somewhat” or “extremely” satisfied compared to almost 40% who were either “somewhat” or “extremely” dissatisfied.

**Figure 9: Level of satisfaction with the comfort of minibus taxis**

In terms of the comfort of minibus taxis, figure 9 illustrates that there seems to be a fairly even spread of views about this aspect of service offering. There was a total of just over 43% of respondents who were either “somewhat” or “extremely” satisfied compared to almost 40% who were either “somewhat” or “extremely” dissatisfied.
4.3 Results pertaining to the second research question

This section presents and describes the results from the research conducted on the second research question. The second research question was to find out the level of attractiveness of potential service offering enhancement aspects to the taxi users.

The survey questionnaire asked questions on six possible service offering enhancements and the results are presented in the figures below.
Figure 11: Access to information

The results in figure 11 illustrate that access to more information about taxi ranks, routes and fares would be generally desirable for the taxi users.

Figure 12: Clean and comfortable taxis

The results in figure 12 illustrate that having clean and comfortable taxis would be generally desirable to the taxi users.
Figure 13: Free Wi-Fi

The results presented in figure 13 show that the introduction of free Wi-Fi would generally be desirable to the taxi users.

Figure 14: Bringing taxi ranks closer to place of work of residence
The results in figure 14 show that it would be generally desirable to taxi users if the taxi ranks could be brought closer to their place of work or residence.

Figure 15: Professional driving behaviour

Figure 15 shows that it would be generally desirable to the taxi users for drivers to behave professionally on the roads.
Figure 16: Reduction of fare

The results in figure 16 show that the reduction of fares would be generally desirable to the taxi users.

4.4 Summary of the results

In terms of the first research question which looked at the level of satisfaction with current service offering of minibus taxis, in four out of the seven questions asked to taxi users about the level of satisfaction, the responses showed that generally taxi users were satisfied with the level of service offering. With regards to the other three aspects of service offering, the results showed they were generally dissatisfied with two of the aspects of service and on one there was a fairly even spread of level of satisfaction.

The table below shows a summary of the results from the survey on levels of satisfaction.

Table 5: Summary of results of levels of satisfaction with aspects of service

<table>
<thead>
<tr>
<th>ASPECT OF SERVICE</th>
<th>GENERAL DISSATISFACTION</th>
<th>EVENLY SPREAD</th>
<th>GENERAL SATISFACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Driver behaviour</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability at a</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>convenient time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of access</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Availability in area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comfort</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

With regards to the potential service enhancements, the results showed that all the proposed potential service enhancements would be generally desirable to the taxi users.
CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

In this chapter, the results from the survey will be discussed and explained with reference to the literature review on levels of service offering and potential service enhancements.

This chapter will discuss the survey results for the two research questions with reference to the literature review.

5.2 Discussion pertaining to the first research question

The first research question was aimed to look into the levels of satisfaction of taxi users with the current service offering of taxis. Based on the literature review, seven aspects of service were identified. In this section, this report will look at the results of each of the seven aspects of service and analyse them in relation to the literature.

5.2.1 Level of satisfaction with cost of using a taxi

The results from this research showed that taxi users were generally satisfied with the cost of using a minibus taxi. The total percentage of respondents who were either satisfied or extremely satisfied with the cost of using a taxi was almost 52%.

These results are contrary to the results in the NHTS survey (StatsSA, 2013) where the issue of taxis being too expensive came up as the biggest problem for the public transport users. The NHTS report of 2013 reported that the dissatisfaction level was 51.1%.

This difference could be due to the fact that this study only targeted people who are current taxi users, whereas the NHTS study consisted of people who do not use taxis and therefore their responses were not based on existing experience rather on assumptions. The second possible reason for the difference in the results of this aspect of service is that the NHTS study had more respondents and
the type of questions was different to the questions which were asked in this survey.

Extreme caution needs to be exercised before one can conclude the satisfaction levels of the cost of using taxis due because this research shows different results compared to the NHTS report (2013). Perhaps this is one of the aspects of service which needs further research.

A conclusion that can be made is that there is certainly room for improvement on this aspect of service based on the fact that there were over 32% of respondents who were either somewhat dissatisfied or extremely dissatisfied.

5.2.2 Level of satisfaction with the way that taxi drivers drive

This was one of the two aspects of the minibus taxi service offering where the results showed that there was general dissatisfaction by the respondents of the survey of this research.

In the NHTS report (2013), this aspect of service was not featured. This aspect of service was triggered by the recommendations in the NTTT (1996) document. The aspects of service which were tested in the NHTS which are similar in nature were the behaviour of the drivers towards the passengers as well as the safety from accidents. Both of these aspects of service had relatively high levels of dissatisfaction which is in line with the findings of this research.

The researcher concludes that the way that taxi drivers drive is an issue that taxi users are not satisfied about and which may need to be addressed by the relevant and interested parties.

5.2.3 Level of satisfaction with availability of taxis at a convenient time

The results from this research showed that taxi users were generally satisfied with the availability of taxis at a convenient time to them. A total of over 51% of the respondents were satisfied with this aspect.

The NHTS (2013) reported on the dissatisfaction levels of the time it takes to wait for a taxi. The researcher feels that this is similar to what was being researched in
this aspect. The dissatisfaction level according to the NHTS was 38%. In terms of the survey conducted in this research, the results showed that the respondents who were either “somewhat” or “extremely” dissatisfied was almost 40%. The researcher therefore concludes that the results are similar and therefore one can say that generally taxi users are satisfied with the availability of taxis at a convenient time to them.

5.2.4 **Level of satisfaction with ease of accessing minibus taxis**

The results from the survey that was conducted in this research indicated that taxi users were generally satisfied with the ease of accessing minibus taxis. The combination of respondents who were satisfied and extremely satisfied was almost 60.8%. The combination of respondents who were either dissatisfied or extremely dissatisfied amounted to 28%.

According to the NHTS report, the level of dissatisfaction was reportedly 28%. This means that the results are almost identical in terms of dissatisfaction and therefore in terms of satisfaction, the researcher can conclude that the taxi users are indeed generally satisfied with the ease of accessing minibus taxis.

These results would support the view that taxis offer a very flexible service which other modes of transport unable to offer (Horni, Nagel, & Axhausen, 2016).

5.2.5 **Level of satisfaction with the availability of taxis in area of residence**

The results from this part of the survey showed general satisfaction by respondents with the availability of taxis in their area of residence. Those who responded with either satisfied or extremely satisfied totalled just over 64%.

This aspect of service is compared to the frequency of minibus taxis during peak and off-peak times which was reported on the NHTS report. The NHTS survey reported that the dissatisfaction levels were 30% and 34% respectively. In comparison to the dissatisfaction level from this research based on the sum of responses on dissatisfied and extremely dissatisfied, the total of dissatisfaction was 29%.
The results are therefore similar thus the researcher concludes that the taxi users are generally satisfied with the availability of taxis in their area.

5.2.6 Level of satisfaction with the comfort of minibus taxis

The results from this part of the survey showed an even spread of levels of satisfaction and dissatisfaction. The total sum of satisfied and extremely satisfied taxi users was 43% and the total sum of dissatisfied and extremely dissatisfied taxi users was 40%. The neutral respondents had a total of 17%.

A similar aspect of service which was reported on the NHTS was the level of crowding in the taxis. The dissatisfaction level of this aspect of service according to the NHTS was 37%.

It is difficult to conclude whether this aspect of service leans towards the taxi users being satisfied or dissatisfied based on the survey results and the relevant literature and therefore this could be another aspect which begs further research before a conclusion can be made.

5.2.7 Level of satisfaction with the safety of minibus taxis

The survey results showed that the taxi users were generally dissatisfied with the safety of minibus taxis. The total sum of responses for dissatisfied and extremely dissatisfied was 52%.

The results from the NHTS survey showed that the dissatisfaction level with regards to safety was 46%. The break-down of the NHTS results shows that in provinces such as Gauteng and Western Cape, the dissatisfaction levels were 52% which is in line with the results from the survey of this research. Considering these two provinces consisted of a sum total of 57% of the respondents for this research survey, one can conclude that the results are aligned and therefore we can conclude that generally the taxi users are dissatisfied with the safety of minibus taxis.
5.2.8 Summary of the results and conclusion

The graph in figure 17 shows a comparison of the results from this research and the NHTS report. The sum total of dissatisfied and extremely dissatisfied responses is compared to the relevant service aspects from the NHTS report.

![Comparison of dissatisfaction results between this research and the NHTS report](image)

**Figure 17: Comparison of dissatisfaction results between this research and the NHTS report**

With the exception of the service aspects of cost of using a taxi and the driver behaviour, the other five aspects of service show that the responses from public transport users are similar if the results from this survey are compared with the results from the NHTS report. The results for these five aspects of service vary by between 0% and 6% whereas for the other two aspects of service the results vary by 11% and 18% respectively.

These results indicate that there is a level of reliability that can be placed on the results from this survey as the results show to be in line with a bigger study conducted by the Statistics SA and presented in the NHTS report.
The results indicate that the taxi users are generally satisfied overall with the service offering of minibus taxis based on the service aspects that were tested in this research.

5.3 Discussion pertaining to the second research question

The second research question was to find out the level of attractiveness of potential service enhancement aspects to the taxi users.

This research identified six potential enhancers of service offering in minibus taxis. The research questionnaire survey looked into how desirable each of the six potential service enhancers would be to the taxi users. The results showed that there was a positive attractiveness for all six potential enhancers of the service offered by minibus taxis. The difference for each of the six potential enhancers of service offering was the level of how desirable each one was to the taxi users. The survey asked the respondents how desirable each potential service enhancer was to them with a scale which ranged from very undesirable, undesirable, neutral, desirable and very desirable.

Table 6 shows the results from the survey of this research based on the sum total of the desirable and very desirable responses.

Table 6: Summary of desirable and very desirable responses to potential enhancers of service

<table>
<thead>
<tr>
<th>POTENTIAL ENHANCERS OF SERVICE OFFERING</th>
<th>PERCENTAGE SUM TOTAL OF DESIRABLE AND VERY DESIRABLE RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to information about fares and taxi ranks and stops</td>
<td>71%</td>
</tr>
<tr>
<td>Clean and comfortable vehicles</td>
<td>83%</td>
</tr>
<tr>
<td>Free Wi-Fi</td>
<td>74%</td>
</tr>
<tr>
<td>Bringing the taxi stop and rank to where the taxi users live or work</td>
<td>77%</td>
</tr>
<tr>
<td>Having professional driver behaviour by taxi drivers</td>
<td>84%</td>
</tr>
<tr>
<td>Reduction of fares</td>
<td>66%</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>76%</td>
</tr>
</tbody>
</table>
These results suggest that taxi users would be pleased to see each of these items introduced to the service offering of minibus taxis.

The results also indicate that some of the items are more important to the taxi users than others. The reduction in taxi fares seems to be the least important to the taxi users as it has the lowest level of attractiveness with a total of 66%. This result supports the finding that taxi users are generally satisfied with the cost of using minibus taxis.

Having clean and comfortable taxis as well as having professional driver behaviour by taxi drivers seems to be the most important items for taxi users as they have a total of 83% and 84% respectively in terms of the level of attractiveness.

The third most important enhancer to the service offering of minibus taxis seems to be bringing the taxi stops and ranks closer to where the taxi users live and work. This item had the third highest total desirable and very desirable results of 77% which is also above the average of 76%.

Access to information about fares, taxi route and taxi ranks as well as the free Wi-Fi in taxis seem to also be important but the two items scored a little less than the average of 76%. This does not mean that these two potential service enhancers are not important; however the results help us understand the priorities of the taxi users.

5.4 Conclusion

The main research problem is to identify opportunities for improving the service offering of the minibus taxi industry in South Africa. This research broke this problem into two sub-problems.

The first research problem was to determine the current perceived level of service of minibus taxis. In this regard, the findings of this research indicate that the taxi users are generally satisfied with the level of service for most of the aspects of service of the minibus taxis. The research found that taxi users are also generally
dissatisfied with some of the aspects the taxi industry’s service offering. The fact that there were more aspects of service that taxi users were generally satisfied with compared to those they were generally dissatisfied with means that the researcher can conclude that taxi users are generally satisfied with the service offering of minibus taxis.

The second research problem was to determine how attractive the proposed potential service enhancers would be for the taxi users. The results showed that all the suggested potential service enhancers were generally desirable and very attractive to the taxi users. The research results also showed that some of the service enhancers appeared to be more important to the taxi users than others. This conclusion is derived based on the sum total scores for “desirable” and “very desirable” results. As an example, table 7 shows that the total of “desirable” and “very desirable” results for professional driving behaviour was 84%, ranking it first amongst the other 5 aspects of service, compared to 66% for the reduction of fares which ranked sixth. This indicates that professional driving behaviour is more generally more important to taxi user compared to the reduction of fares.

**Table 7: Total of "desirable" and "very desirable" responses**

<table>
<thead>
<tr>
<th>Aspect of service</th>
<th>Total of “desirable” and “very desirable”</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to information on ranks and fares</td>
<td>71%</td>
<td>5</td>
</tr>
<tr>
<td>Clean and comfortable taxis</td>
<td>83%</td>
<td>2</td>
</tr>
<tr>
<td>Free Wi-Fi</td>
<td>74%</td>
<td>4</td>
</tr>
<tr>
<td>Bringing the taxi rank closer to place of work or residence</td>
<td>77%</td>
<td>3</td>
</tr>
<tr>
<td>Professional driving behaviour</td>
<td>84%</td>
<td>1</td>
</tr>
<tr>
<td>Reduction of taxi fare</td>
<td>66%</td>
<td>6</td>
</tr>
</tbody>
</table>

The research shows that although taxi users are generally satisfied with the level of service of minibus taxis, there is room for improvement and therefore there is indeed an opportunity to enhance the service offering of minibus taxis. The findings in the second research problem give some pointers as to where the opportunities lie to improve the service offering of minibus taxis.
CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

This chapter gives the final conclusions and recommendations for this research. The recommendations are based on the findings of this research and will be useful to the stakeholders of the minibus taxi industry who were identified as potential beneficiaries of this research; namely, the taxi industry leadership, government, minibus taxi users and other road users.

Finally, this chapter will make some suggestions for further research to add to the body of knowledge about the minibus taxi industry’s service offering and how to improve it.

6.2 Conclusions of the study

In conclusion, this research shows taxi users are generally satisfied with the level of service offered by the minibus taxis in South Africa. Of relevance to this research are the lessons gleaned from historic global findings on service and customer satisfaction. The American Customer Satisfaction Index (ACSI) introduced a new type of customer-based system for measurement and enhancement of performance of industries (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). The ACSI revealed that the level of satisfaction is the highest for goods, followed by services. The lowest level of satisfaction was that of public and government agencies. The service provided by minibus taxis in South Africa is often the responsibility of the government in many countries and therefore it can be argued to fall under the service industry and/or under the government and public agency category by association. Further research is required to be able to measure the level of satisfaction with the service offering of minibus taxis with scales similar to those used in the ACSA. Nevertheless the taxi industry can take comfort in knowing that the service they offered is not one which is often glorified for high levels of customer satisfaction across the world and across industries.
The research also shows that there are many opportunities to improve the service offering of minibus taxis. This conclusion is based on the aspects of service offering or potential service enhancers which were studied in this research. There are more aspects of service which were not part of the scope of this research, but which need to be studied further. The study would be to determine the taxi user’s current perceived level of service as well as how they can be improved. Nevertheless, this research gives some input on some of the aspects of service that need to be focused on in order to improve the perceived level of service offering by the minibus taxi industry.

Some of the aspects that seem to need urgent attention are the following:

- **Safety**: Over 50% of the respondents in this research were either dissatisfied or extremely dissatisfied with the safety aspect of service.
- **Driver behaviour**: Over 50% of the respondents were either dissatisfied or extremely dissatisfied with this aspect of service. To support this, a relatively high percentage of the respondents found the improved driver behaviour to be highly desirable.
- **Cleanliness and comfort**: The third opportunity is to improve the cleanliness and comfort of minibus taxis.

The researcher can conclude that there are indeed opportunities to improve the service offering of the minibus taxi industry. In order for these opportunities to be taken advantage of, the stakeholders of the minibus taxi industry, especially the taxi industry leaders and government, need to work together to support each other with the research, development and implementation of the solutions to improve the service offering of the minibus taxi industry.

### 6.3 Recommendations

This research can be useful to the minibus taxi industry leaders, government, minibus taxi users and other road users.
Generally, industries which rely heavily on customer satisfaction for repeat customers are usually found to have a high level of customer satisfaction, however the opposite is generally the case for industries which have a captive market (Fornell, 1992). The minibus taxi industry in South Africa is regarded as having a captive market. The danger of this is that as soon as the “captive market” gets more options of other modes of transport with a better perceived quality of service, the taxi industry could suffer a reduction in the number of taxi users and consequently a reduction of business and revenues.

The leaders of the minibus taxi industry may also want to consider the teaching by Ghobadian et al. (1994) about the importance of perceived service offering in relation to return on investment. If the minibus taxi industry was to grow its business, then it should take the issue of a high quality of service very seriously as it has the potential to grow their business.

The taxi leaders also need to work closely with government to get investment in safety campaigns and driver training in order to try and improve the behaviour of drivers. What appears to be a quick win for the taxi leaders is the promotion of clean vehicles as that was found in this research to be important to the taxi users.

The government is the custodian of public transport in South Africa. Since the minibus taxi industry is responsible for over 69% of the public transport trips in the country, it needs to take the taxi industry together with its service offering very seriously. This research shows that there are opportunities for improvement of the service offering of the minibus taxis and government can play a role in this regard. The obvious benefit for the government in improving the service offering of the minibus taxi industry is that it could have a better functioning public transport system. Government needs to invest in safety campaigns as well as in driver training to try and improve the behaviour of drivers.

This research did not explore whether the taxi users have raised their concerns and requirements with the taxi industry or with government, however the recommendation to taxi users would be that they could assist in improving the service offering of minibus taxis if they make their needs known to the taxi industry leaders as well as to government. The taxi users do have power as they are the customers who purchase the minibus taxi transport service.
The other road users are potential business for the minibus taxi industry. The scope of this research was limited to existing taxi users. However, it would be useful to conduct a study to ascertain how many road users who use other modes of transport would be prepared to switch to using minibus taxis if the service offering is improved. Similarly to the existing taxi users, other road users could make their voices heard to the taxi industry and to government about their concerns and requirements from the service offered by the minibus taxis.

Improving the service offering of the minibus taxi industry will not be achieved over night and it will involve effort from all parties concerned. The researcher recommends that all stakeholders work in partnership to develop a model to improve the service offering of minibus taxis and to make the industry sustainable.

6.4 Suggestions for further research

For an industry of the magnitude of the minibus taxi industry, a more long-term and bigger study is required (Wu & Ding, 2015). A broader and bigger study would allow government and the minibus taxi industry to gather more details about the requirements of the taxi users and to determine how to improve the service offering to the satisfaction of the taxi users. This would allow for the development of a model that can be used to improve the service offering of minibus taxis in South Africa.

According to Ghobadian et al. (1994), there is a direct correlation between the perceived quality of service and a company’s return on investment. If the minibus taxi industry and government improve the perceived quality of the taxi industry’s service offering, it could result in an increase in ridership, revenue, profits and a reduction of traffic on the roads. The taxi industry and government should therefore take the subject of research very seriously as it could provide the answers as to “how” the service offering of minibus taxis can be improved.

The first suggestion for further research is for an impact study to be conducted if the minibus taxi ridership increased. The study should look at how much the taxi industry’s business would improve if the ridership increased and also look at the impact on traffic congestion and air pollution.
The results of this research suggests that the introduction of various aspects of service could improve service offering and possibly increase the ridership of minibus taxis based on the proposed aspects of service. However, the potential increase in ridership is unclear. This is therefore another opportunity for further research to be conducted on how much the ridership could increase based on the respective aspects of service.

Based on the ACSI, products have an average satisfaction level of 80%, services 75% and public and government agencies 64%. Although this research found that taxi users were generally satisfied with most aspects of service offered by the minibus taxi industry, further research will need to be conducted in order to receive feedback on more aspects of service, and to score the level of satisfaction in order to benchmark against the norms of the service industry. Benchmarking would be a good start, but certainly not the end for the minibus taxi industry. As an example, Tsaur, Chang and Yen (2002) identified 15 service attributes for the airline industry and the NHTS survey (StatsSA, 2013) identified 15 attributes of service for both minibus taxis and buses.

The fourth suggested further research is the research and development of a service quality model specifically for minibus taxis.

According to Barry (2011), technology such as mobile phone applications have potential to lure people out of their cars and opt for taxis. This is therefore another opportunity for the taxi industry to increase ridership and therefore further research about the use of mobile phone applications for minibus taxis is suggested.
REFERENCES

Ahmed, Y. (2004). Transformation of Public Transport operations from informal to formal services: An Examination of initiatives by the Western Cape Provincial Department of Transport to transform the minibus-taxi industry. Cape Town: Depart of Transport.


Dear Sir/Madam,

My name is Thulani Qwabe. I am studying towards my MBA at the Wits Business School.

I am currently at the stage of writing my research report. My research topic is *The Level of Service Offering of South Africa’s Minibus Taxi Industry and Possible Ways to Improve*.

It is true that the service offering of minibus taxis in South Africa has room for improvement. I believe that transforming the minibus taxi industry will require collective input from all South Africans. In terms of the levels of service offered by minibus taxis, the more important input will come from the current taxi users. This research gives you the opportunity to participate in being part of the solution to improve the service offering of minibus taxis.

I would appreciate it if you took 5 minutes of your time to complete the questionnaire below which will assist me in my data collection for my research report and also possibly be another step towards building a better minibus taxi industry for South Africa.

The responses are anonymous and they are kept confidential.
For any questions, please feel free to write to me or call me. My e-mail address is 0616487a@students.wits.ac.za and my cell phone number is 0822570579.

Kind regards,

Thulani Qwabe

Research Questionnaire:

Background Questions

1. Please select your gender
   a. Female
   b. Male

2. Please select your age group
   a. 17 years or younger
   b. 18-29
   c. 30-39
   d. 40-49
   e. 50 and older

3. How often do you use minibus taxis?
   a. Everyday
   b. Almost everyday
   c. Sometimes
   d. Very rarely
   e. Never

4. Please select the province where you live.
   a. Gauteng
   b. Free State
   c. Limpopo
   d. Mpumalanga
   e. North West
   f. KwaZulu-Natal
   g. Eastern Cape
The following questions relate to the various aspects of the service offering on minibus taxis. The research intends to determine your level of satisfaction or dissatisfaction with the current service levels offered by minibus taxis.

For each of the following questions, rate your level of satisfaction on a scale of 1 to 5 with 1 being extremely dissatisfied and 5 being extremely satisfied.

1. What is your level of satisfaction with the cost of using a minibus taxi?
2. What is your level of satisfaction with the way the minibus taxi drivers drive?
3. What is your level of satisfaction with the availability of minibus taxis at a convenient time to you?
4. What is your level of satisfaction with the ease of accessing minibus taxis?
5. What is your level of satisfaction with the availability of minibus taxis in your area?
6. What is your level of satisfaction with the comfort of minibus taxis?
7. What is your level of satisfaction with the safety of the minibus taxis?

The following questions are related to possible service improvement initiatives that can be introduced in minibus taxis. The questions intend to determine how desirable each of the following possible service enhancements are to you. In other words, how much do you like this possible service enhancement? Please rate the level of desirability on a scale of 1 to 5 with 1 being very undesirable and 5 being very desirable.

8. How desirable would it be to have access to information about taxi schedules, about the fares (cost), about the taxi stops and ranks through posters, mobile phone applications and signs?
9. How desirable would it be to have clean and comfortable minibus taxi vehicles?
14. How desirable would it be to have free Wi-Fi in the minibus taxi?
15. How desirable would it be to bring the minibus taxi rank and stops closer to where you live or work?
16. How desirable would it be to have professional driving behaviour on the road by minibus taxi drivers?
17. How desirable would it be to reduce the taxi fare (cost)?

Thank you.

18. If you would like to enter the lucky draw for the prize money of R500, please complete your details below:
   a. Name
   b. Cell phone number

End! Thank you for taking the time to participate in this survey.