



Cape Peninsula
University of Technology

**THE INFLUENCE OF APP-BASED RIDE SERVICES ON THE SURVIVAL
STRATEGIES OF FORMAL METERED TAXI OPERATORS IN THE CAPE
METROPOLITAN AREA**

by

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ABSTRACT

Public transportation plays an integral part in the country's development. The South African government placed a high priority on improving access to opportunities in the transportation industry, particularly in the traditional metered taxi industry; this industry plays an essential role, especially in the context of local and tourist passenger transportation. As most industries are influenced by the evolution of new technologies, the metered taxi industry is certainly not exempt from this phenomenon. The entry of mobile technology's application (app)-based ride services, such as Uber and Bolt, into passenger transport markets in the Cape metropolitan area has negatively influenced the business sustainability of traditional metered taxis, particularly its market share. This research investigated the influence of app-based ride services on survival strategies of formal metered taxi operators in the Cape metropolitan area to examine the survival mechanisms of traditional metered taxi operators toward the implementation of app-based ride services (Uber and Bolt).

The mixed methods approach was selected because it allowed the researcher to measure variables to illustrate essential strategies for traditional metered taxi operators for sustainable operation in contemporary transportation. The data was collected from 80 respondents and 20 participants by way of a questionnaire and an interview guide respectively. The quantitative data was analysed using Microsoft Excel while the qualitative data was clustered around the themes that emerged during analysis. Presented in the form of tables, figures and word verbatim quotations, the results of both methods were integrated to answer the research questions.

It was found that app-based services (Uber and Bolt) do negatively influence traditional metered taxis' business sustainability within the Cape metropolitan area through the implementation of high standard services and the use of comfort vehicles. Regarding traditional metered taxi strategies in the Cape metropolitan area, it was found that current app-based services' business strategies, such as app technology, private new vehicles, and cheaper rides, are negatively affecting traditional metered taxis' strategies' sustainability. It was recommended that, for traditional metered taxi operators to maintain business sustainability and market share against app-based ride services, vigorous implementation of a similar app technology to match app-based service flexibility must be implemented. The research concludes that passenger transportation is essential mostly for bigger cities, such as Cape Town, particularly for local and tourist transportation, in order to maintain social development. Nevertheless, some of these services, such as app-based

services (Uber and Bolt), are enjoying a robust advantage that is upsetting the survival of traditional metered taxis around the Cape metropolitan area.

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DEDICATION

This dissertation is dedicated to my family and friends for their unconditional love and support

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GLOSSARY

App-based ride services	A technology system that connects drivers to passengers through means of global positioning systems (“GPS”) (Competition Commission of South Africa, 2018).
Traditional metered taxis	“A public transport service that is operating by means of a motor vehicle, which is intended, or lawfully adapted, in compliance with the Road Traffic Act (No. 29 of 1989), and is available for hire by hailing while roaming by telephone” (OECD, 2018:2).
Meter Taxi operators	Any person that drives a Meter Taxi and owns several taxicabs that operate and promote transport services throughout the whole city (Transport for Cape Town, 2018).
Meter Taxi Owners	Any person that owns a several or number of taxicabs that operate and promote transport services throughout the whole city (Transport for Cape Town, 2018).

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1. Introduction

This chapter describes the importance of the study regarding the influence of app-based ride services on survival strategies of formal metered taxi operators in the Cape metropolitan area. The chapter describes the research statement of the problem and its background, research objectives, questions and the significance of the research. Furthermore, the chapter provides the delineation of the study and concludes with a structure of the dissertation.

1.2. Overview

Public transportation plays an integral part in the development of any country. It is for this reason that the government places a high priority on improving access to opportunities, particularly in the metered taxi industry. The metered taxi industry is a crucial aspect especially in the context of local and tourist passenger transportation (NEDLAC, 2014). Metered taxis are regarded as a public transport service operating through the use of vehicles, which comply with the Road Traffic Act No. 63 (National Land Transport Act, 2009). To minimise confusion between the synonym, in South Africa, metered taxis are identified or called “taxi cabs” while “taxis” are mostly identified as the minibus transportation (Geitung, 2017). The mobility of metered taxis in different parts of the country is not vibrant as those for minibuses as it is not commonly used by the local population (Public Transport, 2005).

Since its inception in 2013 on South African soil, app-based ride services, such as Uber and Bolt (previously known as Taxify), has generated significant competition towards traditional metered taxis (Dube, 2015). Through its advanced technology, the service is focusing on providing cheap and efficient services to the consumer, which is intensifying competition toward metered taxis. Even though the app-based ride services are portrayed as the digital and related technologies business that suit the changing environment, the situation has engendered severe resistance and conflict as a result of app-based ride services embarking on mixed perspectives. One perspective regarding the competition between app-based ride services (Uber and Bolt) and traditional metered taxis’ (taxi cabs) services pivots on unfair business practices and the qualification in regulatory compliance procedures (Manuturi, 2015).

Eventually, the course of the above perspective has negatively affected the survival rates for traditional metered taxi operators. There has been mixed reaction among traditional metered taxi operators on addressing the issue. Some are trying to become innovative, turning out to be more competitive, while others have chosen to use strike and protest actions (Popper, 2015).

1.3. Background

As most industries are influenced by the evolution of new technologies, the metered taxi industry is certainly not exempt from this phenomenon. According to an OECD (2018) report, in the road transport industry, one of the remarkable influences has been the emergence of app-based ride services. Furthermore, the report points that app-based ride solutions advanced portable internet technology as well as superior on-demand solutions have brought global influence on the metered taxi industry.

A study by Dube (2015) asserted that the influence of app-based ride solutions on the metered taxi industry is commonly fixed at price comparisons. Other related influence is the fact that app-based ride services do not comply with traditional regulation rules (Sun, Yu, Zeng, Wang & Tian, 2015). With no policy attached, app-based ride services have used a pricing and comfort strategy to significantly grow their business compared to traditional metered taxi operators. According to Dube (2015), Uber has stratified its pricing strategy with new innovation and a cheaper line, putting metered taxi services up to more than 265% more expensive than Uber X (the cheapest Uber category).

Sun et al. (2015) elaborate that Uber undertook an assertive approach so as to attract as many customers as possible; the strategy is used to attract newer vehicles to sign with app-based ride services operators for an incentive. A report by NEDLAC (2014) points out that these effects of Uber services in South Africa have impacted significantly on the local passenger transport industry and negatively affected traditional metered taxi operators. As the emergence of smart phone technologies are becoming increasingly visible in South Africa, access to app-based ride services like Uber is becoming easier for local consumers (Dube, 2015). App-based ride services offer faster response time and more efficient services than conventional metered taxis; thus, the industry is experiencing unprecedented levels of innovation. As a result, it has disrupted the existing transport systems.

In this regard, new perspectives have emerged indicating that the industry should be deregulated as a means of correcting market failures (Buckley, 2015). This study aimed to explore the effect

of app-based ride services on sustainability strategies of formal metered taxi operators and envisage solutions to help traditional metered taxi operators.

1.4. Statement of the research problem

Entry of the mobile technology's app-based ride solutions, such as Uber and Bolt, into passenger transport markets in the Cape metropolitan area has negatively influenced business sustainability of traditional metered taxis through a disruptive competition within the transport industry. By using private cars, app-based ride services offer cheaper rides compared to the traditional metered taxi services, which serves as threat to the survival of the latter as they lose a substantial share of the market. Su, Yu, Zeng, Wang and Tian (2016) concede that the strikes by metered taxi operators/drivers in recent times was a protest against app-based ride services. Failure of the state authorities to sufficiently adapt their regulatory framework to these changing market conditions as well as limited recognition over the years have added immense challenges to the metered taxi industry (Aarhaug & Skollerud, 2014).

1.5. Research aim

This study aimed to examine the surviving mechanisms of traditional metered taxi operators' strategies toward the implementation of app-based ride services (Uber and Bolt). The study also envisaged a comprehensive approach to help traditional metered taxi operators' strategies in order to maintain their position in the market.

1.6. Research questions and objectives

The research questions covering this study were as follows:

- How do app-based ride services influence business sustainability of regular metered taxis?
- What are the effects of current app-based ride services business strategies on traditional metered taxi strategy sustainability?
- How do current challenges faced by metered taxi operators and drivers influence their market share?
- What are the options available to traditional metered taxi operators to sustain their market share?

The objectives were aligned to:

- Evaluate the impact of app-based ride solutions on business sustainability of traditional metered taxis.
- Identify effects of current app-based ride services business strategies on traditional metered taxi strategy sustainability.
- Ascertain the influence of the challenges faced by metered taxi operators and drivers on their market share.
- Identify options available for traditional metered taxi operators to maintain their market share.

1.7. Rationale of the study

The circumstantial gap as per the research topic as concerned is based on the transport business environment. The focus is to examine the impact of app-based ride services on sustainability strategies of formal metered taxi operators in the Cape metropolitan area. Thus, it is indispensable to carry such a study in order to provide a clear sustainable strategy to traditional metered taxi operators to appropriately maintain their position in the transport industry. Research in the past has focused on different areas, such as taxi regulation, transportation procedures and prospects of employment creation in the metered taxi industry. After reviewing a number of sources available, such as journal articles, books, internet sources, policy documents and government publications locally, there were no signs of a study addressing the sustainability strategies of formal metered taxi operators in the Cape metropolitan area. Consequently, this study was carried out to examine mechanisms of traditional metered taxi operators through a sustainable strategy in contemporary transportation. It envisaged meaningful contribution in helping traditional metered taxi operators within a competitive environment presented by app-based ride services.

1.8. Research design and methodology

According to Polit and Hungler (2001:1), a research design is the study's general examination for answering the research question or testing the research hypothesis. Generally, the main significance of the research design is state the layout of the research and present the methodology to be adopted. For the purpose of this study, data was collected through the mixed methods approach, which is a combination of both qualitative and quantitative approaches. The mixed methods approach encompasses data collection, either concurrently or successively, to best comprehend the research problems. It employs both numerical and textual information, that is, quantitative and qualitative research methods, at the same time as the research bases knowledge

on practical grounds (Creswell, 2008:18). The mixed approach was found appropriate for this study as it illustrates essential strategies for traditional metered taxi operators to sustainably operate in contemporary transportation. The qualitative approach helps to validate the result from the quantitative methodology. In others words, the results of one method can be used to inform or develop the other method (Green et al., 1989). The in-depth interview will therefore, confirm or revoke the results collected from the respondents through the survey.

1.9. Significance of the research

This study investigated the impact of app-based ride solutions (Uber and Bolt) on sustainability strategies of formal metered taxi operators in order to improve their strategy in maintaining the course of their market share. The study will benefit metered taxi operators in the Cape metropolitan area as the result from this study will point out considerable solutions that might be used in adjusting the industry strategy. The findings of this study could serve as a guide to policy makers and other stakeholders on how to assist metered taxi operators in the competition perspective.

1.10. Expected outcomes and contributions of the research

The study could provide solutions that will be used as guidelines to sustain metered taxis' operation strategy to compete for market share. The study will also provide a specific aid to metered taxis' operation by supplying them with an approach they might use to attract customers. This research is expected to contribute in terms theoretical understanding of the impact of app-based ride solutions on sustainability strategies of formal metered taxi operators. The study outcome will add knowledge in the area of public transportation management, also describing the strategy to relatively implement better competition mechanisms and ameliorate metered taxi operators' ability to reasonably compete in the market.

1.11. Delimitations

- This study was conducted in the Cape metropolitan area among traditional metered taxi operators and drivers only.
- The study focused only on the impact of app-based ride solutions on survival strategies of formal metered taxi operators in the Cape metropolitan area.
- The metered taxi operators defined for this study were only identified as metered taxi agencies or individuals with more than one (1) vehicle.

- English was the official language for this study.

1.12. Chapter outline

The chapters in this study are aligned as follows:

Chapter One

This chapter provided a brief introduction and the background to the research. It aligns the research problem, the research objectives and the research questions. Also, it illustrates the research aim, rationale, significance and outcomes.

Chapter Two

This chapter relates to past and recent literature on app-based solutions and conventional metered taxis to support the current study.

Chapter Three

This chapter discusses the research methodology including the research design, research context, sampling criteria, interview procedures, data collection and data analysis.

Chapter Four

This chapter relates to data analysis and presentation of the results from questionnaires supplied to participants.

Chapter Five

The findings are provided from the results of questionnaires supplied to participants and interviews. The chapter also provides a discussion which will lead to concluding the study, furnished

Chapter Six

The study's primary and sub-questions listed earlier in Chapter One are responded to. The chapter will conclude and provide recommendations to the research.

CHAPTER TWO LITERATURE REVIEW

2.1. Introduction

Chapter One discussed the aims and objectives, questions, problem statement and the outcomes. This chapter narrates on past and recent literature on transportation, app-based transportation, traditional metered taxi transportation, and also traditional metered taxi and app-based regulations with the essence to contextualise and explain the issue, which was planned to be addressed in this research.

2.2. Transportation

Transportation is referred to as the use of both public and private transport dedicated to move people and goods in a safe way. According to the report by SA Taxi (2017), public transportation is an integral means of transport that shapes South Africa's daily life. It is used to move a significant portion of the population to their destination, such as their place of their educations, jobs or simply conducting social activities. A study by Schalekamp and Behrens (2013) illustrates that South African public transportation is not different from the rest of the Sub-Saharan region where taxis are considered as the principal means of transport.

South Africa's urban transport also embraces private transportation that consists of different individual transport systems organised by different operators (Ingle, 2009). Transportation involves moving people and goods through different modes of transport, such as road, aviation, rail and maritime. According to Rodrigues da Silva and Balassiano (2011), the taxi industry plays an integral role worldwide as a transportation alternative. Furthermore, the authors stated that these so-called semi-public transport means are widely used in cities when the traveling distances between the point of departure and arrival become too wide to be travelled by means of non-motorised modes.

Lowitt (2006) asserted that the taxi industry presents diverse demand in developing and developed countries. In South Africa for example, as means of public transportation are limited, the integration of illegal taxis has become highly solicited by a large portion of the South African population (Geitung, 2017). Taxis are a means of transport that serves as a substitute to the use of private cars by passengers who do not possess their own vehicles or simply use it for

convenience (Rodrigues da Silva & Balassiano, 2011). From the current market environment, the taxi industry mostly operates under inadequate transport system, however, the taxi industry is considered as a practical source of income for their operators (Lowitt, 2006). According to Bickford (2013), the transport industry is an important area that might shape the future of South Africa's major cities; furthermore, the author pointed out that, with the increase in transportation demand, the taxi industry might shape and pivot the ability of the government to respond effectively.

2.3. App-based transportation

The innovation of technology continues to impress and boost many business sectors. Due to the evolution of ICTs (information and communication technologies), such as GPS (global positioning systems) and smart phones, has transformed the way of moving customers with new transportation network companies referred to as app-based services (Transportation Research Board, 2015). App-based services are transportation identified with companies such as Uber and Bolt.

Through the use of technology, app-based services have raised important debates regarding its evolution to urban transportation. Some debates surrounding app-based services are focused on its definition. According to Rayle, Shaheen, Chan, Dai and Cervero (2014), app-based services are characterised as new transportation means that are reliable and time-efficient in moving passengers from one point to another. Furthermore, the authors point out that, even though the service is similar to traditional taxis' transportation, its difference in technology use has positively attracted a number of customers and traditional taxi driver are more confuse regarding policies toward app-based services technology use as they consider it as unfair practice.

It has been illustrated that this mode of transportation has been described in many ways, for example, some people refer to it as app-based rides, on-demand rides, ride sourcing or ride matching and app-based taxis (Lisa, 2014). Regarding its definition, several authors have provided a multitude of definitions. According to the Competition Commission of South Africa (CCSA) (2018), app-based taxis are defined as a technology system that connect drivers to passengers through the means of global positioning systems (GPSs). The California Public Utilities Commission (CPUC) (2012) defined it as "any organization that provides planned transportation services for compensation using an online-enabled application or platform to connect passengers with drivers using their personal vehicles".

Nelson (2012) asserted that, with this type of transport, possible customers request the service according to their desired departure time, and the system simultaneously matches riders to drivers. According to Chen (2015), the use of app-based services has become imperative for urban transport; with an emergence of companies such as Uber and Bolt, the service is considered to be better, and time management has improved when compared to traditional metered taxis. Additionally, the author illustrates that Uber and Bolt have impacted on consumers' habit and changed the local, regional and national travel demand.

According to Barry (2015), the app-based services, such as Uber and Bolt, since their introduction, have become the most used mode of transportation that is more targeted by younger consumers who are generally better educated. The Schaller Consulting (2018) report, points out that officials in major cities are faced with challenges in responding to the unstoppable progression of these specific services. A study by Bhuiyan (2018) illustrates that the emergence of app-based solutions, such as Uber and Bolt, has caused chaos to other traditional transportation specifically the metered taxi services. Futhermore, Wade (2015) added that app-based services, such as Uber and Bolt, are well positioned with tactical strategies that are easy to use, have high service levels and are price transparent.

Since their implementation, app-based services have effectively democratised taxi ownership where entrepreneurs can join and become an operator or a driver (Barry, 2015). The fast pace at which this sector of the industry is growing has raised many questions regarding other transport markets around the world (Eisenmeier, 2018). A report by the CCSA (2018) states that, even if the services of these companies are considered as important for the urban transportation, they are not welcomed within the current regulatory agenda as there is no law governing app-based service operation. Unlike companies such as metered taxi cabs, the service does not start with the welcoming of a cab or by speaking over the phone to a correspondent; service is enabled through smartphones with the help of apps (Commuter Connections, 2015).

2.3.1. App-based transport services in South Africa

A report by the Organization for Economic Co-operation and Development (OECD) (2018) asserted that, in South Africa, the taxi industry is widely operated by a mix of different taxi operators, such as minibus taxis, metered taxis and app-based taxis. The app-based taxis industry in South Africa is largely represented by motorists with a platform to solicit passengers through GPS; the common platforms in the country are known as Uber and Bolt (National Land Transport Act 5, 2009).

According to Mokoena (2016), the “Uber industry” has shown positive character in South Africa for the past few years. The platform has been involved in creating solutions that are useful for commuters in the way of giving them a technology that makes it easy for using taxi services with affordable tariffs. Since its introduction in 2013, the Uber platform has harnessed the majority of the market compared to its competitors (Writer, 2016). By using its first mover advantage, Uber has rapidly grown; attracting more drivers in disadvantaged communities and has created about 2,000 jobs for drivers. Tens of thousands of jobs could be generated over the next few years (Eye for Travel, 2015).

A study by Dube (2015) pointed out that the Uber platform in South Africa is concentrated around the cities of Pretoria, Johannesburg, Cape Town and Port Elizabeth. According to the report by Uber (2018), in Cape Town for example, the transportation option is considered to be one of the most reliable means of transport. Users in these cities find it suitable as its application gives them the opportunity to easily interconnect with the drivers (Nemusimbori, 2017).

According to Vanderschuren and Baufeldt (2017), the rapid transformation and growth of recent modes of transport (app-based) has occasioned in a visible increase in congestion in the major cities in South Africa. “Increased mobility demand in South Africa is due to the population growth which is currently growing at 1.6% per annum, with the daily per capita amount of trips growing with the growth in middle class (Business Tech, 2015; World Bank Data, 2016; NHTS, 2003; NHTS, 2013). In 2016, the Uber platform launched its cash payment option in South Africa allowing non-credit card holders to easily share the experience of using the Uber service; the implementation of cash payments was mainly motivated due to increasing demand for Uber (Van Zyl, 2016).

Launched in the South African market in late 2015, Bolt (then Taxify) is also one of the more recognised app-based services in the country that is trying to access a wider market (Writer, 2016). As a close rival to Uber, Bolt has shown very little impact regarding its progress in illustrating new demand and facilitating users switching to their services. It is evident that Bolt has been struggling to impress or penetrate the market since it was launched in 2015, which has forced the platform to re-launch its brand in 2016 (Ziady, 2016). Furthermore, the author stressed that, in 2016 for example, Zebra Cabs, a prominent metered taxi company, implemented the electronic taxi hailing technology with the purpose to directly compete with Uber and Bolt.

2.3.2. App-based competitive model

A number of researchers have argued on whether the implementation of app-based solutions, such as Uber and Bolt, is all about technological innovation. From their study it was evident that app-based services were more about institutional disruption. The app-based competitive model mainly focuses on how to conduct business differently from traditional taxi operators, and adjust itself as a transitional service (Isaac, 2014; Laurell & Sandström, 2016).

Zott, Amit and Massa (2011:1019) stated that, “business model designates the foundation of how business creates, delivers, and captures value”. In addition, “it gives value in commercializing certain scientific innovation creating strategic flexibility, reducing costs, and being able to transcend the constraints faced by different societies such as affordability”. According to Bashir, Yousaf and Verma (2016), app-based services, such as Uber and Bolt, have negatively influenced the taxi industry business model through an important disruption that has brought change on an old practice regarding capital requirements, meter taxi and drivers. App-based services have rendered the rides more affordable and more efficient (Davidson, 2015). Recent debates in literature are now focusing on business model innovation. This model allows the organisation to find and adopt new ways in creating value, which are different from product and process advancement (Zott et al., 2016).

App-based services, such as Uber and Bolt, are businesses that focus on technology associated with the implication of smart phone applications capable of detecting the users’ cell phone to identify its location and instantly connect to the driver (Uber, 2015). Since its introduction in South Africa, the space of this passenger business’ competition and regulation has raised critical issues for the taxi industry (Dube, 2015). Their competitive approach has raised many concerns in the taxi industry, where traditional taxi operators often alleged that the model used by Uber and Bolt are considered as anti-competitive practice and does not abide by local transport rules (Manuturi, 2015).

A study by Pau (2016) asserted that the taxi industry has considered app-based services’ competition approach unfair as taxis comply with regulations while Uber and Bolt are not. App-based services continue to enjoy relative advantage that technology innovation is providing when compared to traditional taxis. App-based services enjoy both “direct and indirect advantages to taxi drivers, and this includes increased income by getting more customers, saving waiting time at the taxi stand, saving cost of fuel, creating better relationships with passengers, improved service quality and higher passenger satisfaction” (Onyango, 2016).

According to the National Land Transport Act (2009:2), the app-based disruptive competition model has somehow transformed the market in their favour, whereas other operators, such as traditional taxis, are finding it difficult to compete. From the start, Uber's business competitive model controls the market. This has caused the large deficit in the traditional metered-taxi industry. Furthermore, the report stated that, "instead of attempting to find the contact details of a metered taxi service or calling one without the certainty of its arrival or availability, Uber certainly grants users a transport system that is more predictable, certain and transparent".

2.3.3. App-based competitive strategies

A company must have a well-planned strategy to compete. A study by Thompson (2008) pointed out that companies have to introduce strategic initiatives that will help the organisation to compete successfully, with strategies such as pleasing the customers, constructing offensive and defensive actions in opposition to the tactics of its competitors, reviewing prevailing market circumstances and aligning its strength to the market conditions; these have to be of utmost priority.

Johnson (2014) pointed out that app-based services, such as Uber and Bolt, have proven to be efficient in the way they capture value. Additionally, the author elaborated that app-based service operators have a competitive advantage over their rivals, by making their model difficult to imitate, therefore, making them to maintain their business sustainability. By not hiring drivers or not owning a cab, this strategy makes them more competitive than the traditional metered taxi who require considerable investments upfront in purchasing vehicles, hiring drivers, cost of maintenance and driver's salary (Karnik, 2015).

According to Isaac (2014), app-based services' competitive strategy approach is considered a threat to traditional metered taxis; the action of these strategies is diminishing the presence of traditional metered taxis in the market and negatively impacting their income. With their flexible strategy approach, app-based services allow users to order the service in their house, office or other places with the possibility to track real-time information about waiting times (Dube, 2015). Rayle et al. (2014), iterate that app-based services apply efficient methods that give users the opportunity to monitor their order by displaying detailed information, such as the time the driver will arrive, the cost of the trip, and duration of the trip through a devoted driver-passenger application.

Pricing is also one of the strategies used by app-based service. According to Dunn (2015), the service applies a pricing service that is far below what is obtainable in the market in order to attract more customers. A study by Clewlow and Mishra (2017) stressed that app-based services also have a quality-based competitive advantage with regard to selecting new cars not more than two years old. Furthermore, the authors illustrated that it also focuses on hygiene and customer service standards, comprising a scoring system for motorists. In addition, this provides a more safe, reliable and efficient transportation experience.

App-based solutions, such as Uber and Bolt's products, are completely digitised. Customers install their apps onto their smartphones, and request a trip from the closest driver to their current location. To be more competitive, these services apps are now engaging in strategic affiliations with other businesses. In the United States for example, app-based services, such as Uber, have partnered with American Express to provide points for Uber rides to its card holders (Carney, 2015).

2.4. Metered taxis transportation

In the central part of most cities, metered taxis play a vital means of service by connecting users to their point of destination. It enables users to reach their destined accommodation; tourists, for example, to tourist attractions (National Economic Development and Labour Council, 2014). Even though the emergence of app-based solutions, such as Uber and Bolt, have faced major resistance around regulations and unfair business practices, the business model appears to have avoided traditional challenges that traditional metered taxis operators have been subjected to for many years (National Road Traffic Act, 2014). The OECD (2018:2) report describes metered taxis as a "public transport service that is operating by means of a motor vehicle which is intended, or lawfully adapted, in compliance with the Road Traffic Act (No. 29 of 1989), and is available for hire by hailing while roaming, by telephone, also might stand for hire at a rank; armed with a sealed meter, in good working order, for the purpose of determining the fare payable, that is calibrated to comply with any other requirements applicable to such meters."

For traditional metered taxis operators to operate, area-based permits are required (NLTA, 2009). Some of the primary regulations include operators having to seal taxi meters for the purpose of regulating tariffs, such as minimum and maximum fares per kilometre, which are not required in app-based services, such as Uber and Bolt. According to the National Land Transport Act, No.5 (2009), many complaints have been raised to alleviate the unfair business practices by app-based services, such as Uber and Bolt. Metered taxis have cited non-compliance with the South African

public transport rules and regulations as these services do not have permits and other licenses, and regularly charge lower prices comparing to traditional metered taxi operators.

A study by Rodrigues da Silva and Balassiano (2011) mentioned that metered taxis are differently used between developed and developing countries. According to the authors, in developed countries, for example, metered taxis are used as a substitute to private vehicles by passengers who use the service for convenience reasons. On the other hand, in developing countries, metered taxis are used to cover inadequate public transport systems based on buses or trains. Metered taxis are not usually regulated regarding the tariffs, service and their quality standards; the service fare is classically charged according to distance (TCT, 2013).

The CCSA (2018) stated that metered taxis are services where the routes, the ranks, embarking and disembarking points need to be obtained a certain license for before launching the cab service. It is also possible that, an operator of a metered taxi service is allowed to receive passengers out of its operations jurisdiction, provided that the person booked the trip beforehand and will return to that location. According to National Land Transport Act (2014), metered taxis' fares are flexible as it might be charged through predetermined fares or as agreed upon by the driver and passenger.

2.4.1. Metered taxis transportation in South Africa

Metered taxis are a means of transport that provides service on a regular basis. For most it is non-stop service available at any time or day. For operators who own a considerable number of cabs, their services tend to be on an ongoing basis with drivers putting in half-day shifts. Even those owning fewer cabs or an owner-driver, their service usually has a flexible working time (Delca, 2005). In South Africa, the service of metered taxis is not usually the choice of most travellers for many reasons such as the prices. However, the industry is well established and performs an essential role in the transportation of both residents and tourists. It is acknowledged that around the country in certain cities, the function of metered taxis' transport system is not clearly defined and the institutional structure of the industry on all levels is fragmented. According to the Transport Advisory Committee (2008), in Hong Kong for example, the services of metered taxis are usually solicited by tourists; the industry contributes to the country's international image and social economy.

In South Africa, the industry seems very complex as the market is paved with multiple operators with limited cooperation among operators (Ingle, 2009). Schalekamp and Behrens (2013) pointed

out that the complexity of the situation is raised as many of Sub-Saharan nations' para-transit services, such as minibus taxis, popularly known simply as "taxis", have been established as one of the core means of public transportation. According to the TCT (2014) report, a new strategy for passengers is implemented in certain cities, such as Cape Town, where the strategies acknowledge metered taxis to serve a different purpose compared to other means of passenger transportation that focus their service on tourism and private transport, and a supplement for public transit. That study found that metered taxis in Cape Town did not perform well, and had limited regulation, inferior quality, and expensive rates

In South Africa, the public transport industry is under regulation that is implemented by the National Department of Transport in terms of the National Land Transport Act, No. 5 of 2009, for supervision and monitoring of public transit services and create systems for effective operation of public transport in South Africa (National Land Transport, 2009). A TCT (2014) report recognised that, in circulation, the actual number of cabs operating as metered taxis is high. According to the report, about 50% of the vehicles do not have operating licenses. In the City of Cape Town, metered taxis do function on a system or ranks in which some are private where not all operators are allowed, compared to a roaming system used in New York.

The National Economic Development and Labour Council (2014) listed challenges faced by metered taxis in the country. According to the report, the challenges are as follows:

2.4.2. Traditional metered taxi competition

The line of competition in the transport industry between traditional metered taxis and the wave of app-based services has been considered as intense. The competition turmoil between the two services is often branded by anger among the traditional metered taxis as they revendicate the unequal regulatory environment. This alleged unsatisfactory competitive advantage from app-based services has caused many incidents such as violent protest for some time (CCSA, 2018).

According to the report by OECD (2018), as a response to app-based service competition, traditional metered taxi industries are falling toward the same direction of adopting technology. The industry is responding through the introduction of new methods and modernisation of their services by implementing its own e-hailing apps. Furthermore, the report pointed out that in South Africa, for example, the members of the South African Metered Taxi Association (SAMTA) are considering the development of a complete e-hailing service named "Yookoo Rider" that will help to provide users a flexible connection with traditional metered cab drivers within close proximity.

This system around the City of Cape Town is envisaged to utilise e-hailing apps to speed the transformation of the traditional taxi industry into a demand-responsive service.

In addition to Yookoo Rider, the strong competition laid by app-based services has pushed traditional metered taxis to introduce more capable apps that are able to effectively compete. For example, there is the introduction of the “Ryda app” system, which is a system with the ability to embrace multiple functions. Ryda app is designed to assist users to customise their willingness from the vehicle to the driver; also, it allows female users to request either a male or female driver. The aim of traditional metered taxis is to innovate similar apps to those of app-based services and embellish them even better. However, these more advanced systems are still on concession and some in the process of being sold (CCSA, 2018).

It is evident that traditional metered taxis are trying to close the competition gap by introducing certain apps to cease the evolution of app-based services’ aggressive competition method. However, the influence of the introduced apps has been minimum as the first movers (app-based services) have gained more loyalty in the market environment. As a result, the unfavourable regulations and cheaper fares by app-based services contributed to the spate of violence, leading to deaths which could have been avoided (OECD, 2018). It is reported that the CCSA is presently leading a market investigation on the land-based public passenger transport violence and those found guilty will be liable to punishment in late 2019. Despite the current pricing applied by the new services, conventional metered taxis’ fares continue to be more expensive than ride share ones. In an attempt to close the competitive gap, conventional metered taxis are now revolutionising their operation strategy to tackle competitive limitations forced by app-based services. However, these services still attract more users. Even some of the traditional metered taxi drivers opted to register with Uber or Bolt (CCSA, 2018; OECD, 2018).

2.5. Metered taxi and app-based service regulations

Over the past few years the metered taxi industry encountered heightened protests and strikes globally (Buckley, 2015). These popular uprising events have also been experienced in South Africa, with the primary reason for such resistance from the industry role players happening as a result of technology developments, such as the app-based services (National Land Transport Act, No.5, 2009). Subsequently, unresolved issues continue to plague the industry. The emergence of technology platforms in this industry has resulted in significant growth patterns that are referred to as the “peer-to-peer” factors, replacing traditional markets as a medium for exchange of goods and services (Arun, 2014).

In Toronto, Canada, taxi drivers threatened to strike during a major sporting event in the city in protest to Uber services; this view is also emphasised by other studies describing how digital platforms are replacing traditional markets as a medium for exchange of goods and services (Buckley, 2015). The emergence of digital platforms has created new challenges for policy makers and in particular, the transport regulatory authorities. The traditional metered taxi industry has been regulated by government intervention which has created a difficult situation in bringing about new regulations for the emerging operators using transport-based apps (Arun, 2014).

Munshi (2016) stated that, “the emergence of app-based services has essentially defied regulators, as the market disturber has actually developed far before legislative processes to respond to the change brought about by app-based services”. This is happening even though the Gauteng Department of Roads and Transportation is delivering operational licenses to app-based service drivers to operate as metered taxis. A different situation has been observed in the City of Cape Town as the city had confiscated approximately 300 app-based cars since the opening in 2016 for not having permits as metered taxis (Phakathi, 2016). According to Cramer and Krueger (2016), app-based services have been reviled by regulators and the metered taxi industry as they are not entitled to pay any taxes to the state. In addition, app-based drivers do not pay value-added tax as other drivers do. The South African cabinet therefore, is finalising a National Land Transport Act, expected to allow app-based services to operate as metered taxis. The act is intended to allow the use of a smartphone in taxi metering (Cramer & Krueger, 2016).

Even though the emergence of Uber has been met with resistance around regulations and unfair business practices, the business model appears to have circumvented traditional challenges that have subjected the traditional operators for many years. Some of the primary regulations include operators having to seal taxi meters for the purpose of regulating tariffs, such as minimum and maximum fares per kilometer that are not required in Uber vehicles. In this regard, the literature offers mixed perspectives. In some countries, the traditional operators have embarked on violent protests while in other countries more innovation has been shown (Mtila, 2016).

2.6. Summary

This chapter discussed past and recent literature on transportation, app-based transportation, traditional metered taxi transportation, and also traditional metered taxi and app-based regulations. The next chapter will discuss the research methodology.

CHAPTER THREE RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

Chapter Two of this research illustrated a review of past and recent literature concerning app-based services and traditional metered taxis that was relevant to the current study objectives. This chapter presents an overview of the research design and methodology. According to Bless and Smith (2000), the research methodology section describes the researcher's methodical plans that are set as procedure to study a social phenomenon and provide comprehensive understanding of the research aim, plan and procedure to acquire data. The aim of this study was to examine the surviving mechanisms of traditional metered taxi operators' strategies towards the implementation of app-based ride services (Uber and Bolt) and envisage comprehensive approaches to help traditional metered taxi operators' strategies in order to maintain their position in the market. This chapter demonstrates how methods were applied to answer the research questions. The research made use of mixed approach where questionnaires and semi-structured interviews were used as method of data collection.

3.2. Recap of the research objectives

As previously highlighted in Chapter One, the main objective of the study was to examine the surviving mechanisms of traditional metered taxi operators' strategies toward the implementation of app-based ride services (Uber and Bolt). The study also envisaged a comprehensive approach to help traditional metered taxi operators' strategies in order to maintain their position in the market. This translated to the following sub-objectives:

- Evaluate the influence of app-based ride services on business sustainability of traditional metered taxis.
- Identify effects of current app-based ride services' business strategies on traditional metered taxis' strategy sustainability.
- Ascertain the influence of challenges facing metered taxi operators and drivers on market share.
- Identify options available for traditional metered taxi operators to maintain their market share.

3.3. Philosophical assumption

Scaling up the study on transportation includes both conventional metered taxi business and app-based ride services (Uber and Bolt). The research orientation was not focused on defining or giving new descriptions of terms such as transportation, conventional metered taxi business and app-based ride services. However, the research focused on addressing the influence of app-based ride services on sustainability strategies of formal metered taxi operators in the Cape metropolitan area. The interpretivist research paradigm concerns the understanding of the world as it is from a subjective point of view and seeks knowledge of the individual viewpoint and their historical encounters (Ponelis, 2015). Interpretivism research is “a more specific term used to understand the research study context, such as human action aspect” (Rowlands, 2005:84). In simpler terms, the interpretive paradigm looks at discerning reality through the eyes of a participant, their history, and experiences. (Thanh & Thanh, 2015).

3.4. Research methods

According to Mouton (2000), a research method refers to the process of gathering, organising, analysing and summarising the evidence of data. The research approach encompasses three (3) methods, that is, qualitative, quantitative and mixed methods (Shen, 2009:66). For the purpose of this research, because mixed approach is generally made of qualitative and quantitative methods, these methods are explained.

3.4.1. Qualitative

The qualitative method approach are techniques that are available to social study (Holloway & Wheeler, 2002). Furthermore, the authors point out that qualitative methods address how the public recognise and make judgements regarding their experience and the world in which they live. Babbie (2010) emphasised that qualitative information are these highlighted data collected through surveys. A study by Holloway and Wheeler (2002) elaborates that the determination of the qualitative method is to stress the experiences from the participants' perspective.

3.4.2. Advantages and disadvantages of the qualitative approach

A number of researchers have identified several advantages and disadvantages of the qualitative approach. According to Mert (2014), the qualitative approach helps the researcher in upgrading the strategy capabilities of the executives. Babbie and Mouton (2001) believed that, qualitative approach helps the researcher to have a detailed understanding of the overall research problem,

aim and objective related to investigation. Welman, Kruger and Mitchell (2006) stated that, “the qualitative approach offers an advantage on describing the investigation purposes through variables that might not be possible to quantify in figures”. Furthermore, the authors stressed that, “the method offers a high level of suppleness by permitting the investigator to manipulate the data collected at any given time in order to increase the validity of the findings. On the other hand, the qualitative approach also presents some disadvantages. From its original approach, it is characterised as an interactive process which requires the researcher to proffer their analytic and communicative skills to relay outcomes with clarity (Babbie, 2004). Most studies have pointed out its disadvantage around the outcome of the investigation. In most cases, the outcome from the analysis of the research questions are more reliant on the understanding of the researcher. According to Babbie & Mouton (2001), the understanding of the researcher makes it defensive rather than objective, and might have a certain influence on the research answers.

3.4.3. Quantitative

A quantitative approach understands reality as ‘a sum of measurable points, and its major purpose is to calculate and measure social events’ (Cilliers, Davis & Bezuidenhout, 2014:438). Babbie (2010) asserted that it centres on collecting data and makes it simpler across companies of individuals. A quantitative approach is used in a study by the researcher who considers the content analysis as scientific.

3.4.4. Advantages and disadvantages of the quantitative approach

A quantitative approach was used in this study because quantifying is a precondition for the researcher who sees content analysis as a scientific method. According to Cilliers et al. (2014:438) the quantitative approach recognises reality as “a sum of measurable points and its major purpose is to calculate and measure social events”. Powers and Powers (2015) illustrate that the quantitative approach reproduces a much larger audience that makes the research outcomes more reliable. Connolly (2007) asserted that this method is viable, and in fact, is less time consuming and require simple analytical software, such as Microsoft Excel or SPSS. Contrary to its advantage, the quantitative approach’s disadvantage is presented in the way that the approach is somehow unable to provide real explanation of the social problem being investigated (Bouwer, Béguin, Sanders & van den Bergh, 2015). Quantitative approach lack meaningful reality related to social investigation because it lacks sense of interpretation (Blaikie, 2007).

3.4.5. Mixed methods

A study by Ivankova and Greer (2015:65) stressed that a mixed research approach is an approach that is used to tackle research questions and problems from different angles by using two relevant approaches to investigate perceptions. Furthermore, the authors state that mixed methods is a “combination of qualitative and quantitative approaches within a study to generate more credible and persuasive conclusions about the research problem”.

3.5. Population and sample size

Population refers to a collection of people, objects or units being studied (Coldwell & Herbst, 2004). Put differently, it is a unified set of distinct population components that are pertinent to a research study (Zikmund, 2003). The aimed population in this research was tied to those around the Cape metropolitan area. According to Statistics South Africa, based on the 2011 census, the Cape metropolitan area had 3.7 million people. For the purpose of the study, the population involved metered taxi operators and metered taxi drivers. Several engagements with the four biggest and busiest meter taxi operating industry within the Cape Metropolitan has been held with the researcher before and during the research proposal, with the intention to understand the quantities of formal metre taxis for sampling purpose. Throughout these engagement it was discovered that the industry had four major operating taxi industry, industry A with 40 metre taxis, B with 15 metre taxis, C with 20 metre taxis, and D with 27 meter taxis and all that mounted to 102 taxis. One out of the four biggest taxi operating industry had shown interest in the research, and take a responsibility to provide the consent letter for this study.

A sample is defined as a subset of a population (Collins & Hussey, 2009) and it must be designated as a proxy of the population. Therefore based on the existing number of formal meter taxis at the time a 100 sample size was chosen.

Based on the research objective, the researcher wanted to holistically gather perceptions from the actual drivers that experiences the actual distraction of the app-based ride services to their day to day meter taxi operations. The taxi drivers are assumed to be the ones that have the firsthand experience in the dropping of their daily targets set by their employees. Therefore from out of 102 formal meter taxis, 80 of them were full time meter taxis driven everyday by the taxi drivers, and 20 of these taxis from the 102 were driven by the taxi owners, and it was said that the taxi owners were not always on duty, so hence they were excluded in the completion of the quantitative questionnaire as they would have not present the true reflection of the results.

The researcher made a decision to interview the twenty taxi owners with the intentions to test their perceptions with regards to the effects of the app-based ride service, and to get an understanding of their feelings around the severity of this technology disruption of the app-based ride service to their old traditional taxi meter industry approach.

The participants were randomly selected based on their specific character of being taxi drivers or operators. Participants were as follows:

- Twenty (20) interviews conducted with metered taxi operators.
- Eighty (80) questionnaires distributed to metered taxi drivers.

3.6. Sampling techniques

Sreejesh, Mohapatra and Anusree (2014) state that a sample can be selected in two ways from a population, that is, through probability sampling or non-probability sampling. This study made use of non-probability sampling. Non-probability sampling refers to the case where the probability of each elements of the population in a sample is unknown (Bless, Smith & Kage, 2006). Non-probability includes accidental sampling, convenience sampling, purposive or judgmental sampling, snowball sampling and quota sampling. For the purpose of this study, purposive sampling was used to select the participants and to gather empirical data to realise the research objectives. A purposive sampling technique dictates how to choose participants regarding their orientation (Teddlie & Yu, 2007). Purposive sampling is imperative to the research as its intended to contribute to a better understanding of a theoretical context (Palinkas et al., 2015). The research is designed to accommodate one hundred (100) participants. The selected sampling method (purposive) guided the researcher in selecting metered taxi operators and drivers by her own intention, feeling and judgment.

3.7. Data collection and tools

As mentioned above, this study was designed to use a mixed methods approach (qualitative and quantitative). This is a single method that gives the researcher the opportunity to gather data in a qualitative and quantitative way to answer a single research problem. According to Ivankova and Greer (2015), mixed methods is more reliable, flexible and provides convincing conclusions about the research problem. Data collection methods are the process and activities of gathering empirical data from a variety sources of information that can establish theory to be used in a research study context (Creswell, 2009; LoBiondo-Wood, Haber, Cameron & Singh, 2013).

For the purpose of this study, the semi-structured method was used throughout the set of questions. The questionnaire was designed with two phases separating qualitative and quantitative questions. The interview was designed under the qualitative method. It was done to inspect transportation operators' opinion because it led to a verbal face-to-face exchange of communication between the researcher and participants to obtain empirical data for the research context. A questionnaire was used for the quantitative approach to inspect characteristics of the research (Shaffer, 2013:7).

3.7.1. Questionnaire

According to Monette, Sullivan and De Jong (2011:164), a questionnaire is referred to as a tool that might combine both quantitative and qualitative items. It is the instrument for gathering data in survey research that covers both open-end and closed-ended questions made available to the population. Furthermore, the author stresses that questionnaires are often used "from a wide geographical area, to respond directly on the questionnaire itself without the interaction of the investigator." For the purpose of this research, quantitative and qualitative questionnaires were designed (See Appendix A).

3.7.2. Open and closed-ended questions

Open-ended questions are those that allow respondents to answer them using their own words (Burns & Grove, 2003). Reja, Manfreda, Hlebec and Vehovar (2003:159) added that using open-ended questions yields a much different set of responses and could sometimes lead to more missing data. The benefit of open-ended questions is that they lay discovering participants' non-standard responses. Closed-ended questions are defined by the business dictionary as questions that can be answered by a simple "Yes" or "No". The study by Reja et al. (2003) points out that closed-ended questions are a quantitative means of data collection that limit the level of participation of the investigator and a great number of respondents.

3.7.3. Semi-structured interviews

Semi-structured interviews are a significantly structured method used to tackle particular facets of a research study and allow the participants to offer new meanings to look at certain angles of the research study (Galletta, 2013). Furthermore, the author points out that a semi-structured interview is a verbal exchange of communication which occurs face-to-face between the researcher and participants to obtain empirical data for the research context. A semi-structured

interview is particularly useful for collecting data on people's ideas, opinions or experiences. For the purpose of this study, semi-structured interviews were used because they are designed and considered as a proper technique that extracts maximum adequate information based on the prior idea of questions that the study has.

3.7.4. Interview and questionnaire processes

In order to gather reliable information, the researcher conducted a pilot study in order to test the viability of the research question. Yin (2003) explained that when conducting a qualitative research, it is important for a researcher to carry on a pilot of the study, as it will help in noticing faults in the dimension procedures; it also helps to identify uncertain formulated items when conducted on a few respondents from the sample. The research engaged with a five (5) planned interviews with qualified metered taxi operators in generating suggestions on the trajectory of the questionnaire toward the research problem. The two (2) metered taxi operators and three (3) metered taxi drivers were randomly selected and the pilot commenced upon conclusion of the initial draft of the qualitative interview and quantitative questionnaires. Both qualitative and quantitative questionnaires were administered, and minor changes were applied on the questionnaire to accurately meet the research objectives. A deficiency was noticed on the alignment of the questions, which was fixed by switching questions to have a good flow.

After the completion of the final questionnaire, first contact to the eligible metered taxi operators was established. Upon first contact, the researcher and the eligible metered taxi operators concluded on the place of meeting, which was mostly the place of parking and the rank of the operator's activity. The process of meeting for the interview session was mostly done by telephone using either the WhatsApp application, SMS or a direct phone call. The interview started with the researcher introducing herself, stating some contextual information on the study, and the advantages of participation. The researcher, for each interview, presented an ethical consideration form as evidence that the research was purposed for academia. The time of the interview was between 15 to 20 minutes.

3.8. Data analysis

Primary data was captured; the main characteristic of primary data collection is that the information collected by a researcher is unique to the individual participants (Babbie, 2010). The primary data was collected by means of a questionnaire and interview procedure. Data analysis is the result of making available or structuring primary data to have meaning (Polit & Hungler, 2001). To analyse

primary data for this study, Microsoft Excel was used as the main tool for analysing data. Data was captured in Excel sheets after the questionnaire was handed back to the researcher. Once data was captured in an Excel sheet, the process of analysis was to attribute to the corresponding cell a code (A1) representing a respondent and in cell Q1 representing first question on the questionnaire. The answers were quantified and the number in each cell on a row was then accumulated to have a total using sum formula. The total was then converted to an appropriate chart to display respective percentages of the raw data. On the other hand, qualitative data was analysed through an interpretative approach, taking into consideration the participant's feedback in conjunction with the set research objectives.

All through this process, the recorded information was classified according to their preliminary views and every idea was taken note of then reviewed and re-read on several occasions. The researcher made use of collected ideas from both quantitative and qualitative to formulate recommendations to this study.

3.9. Data validity and reliability

Data gathered for this research was evaluated to gain confidence in the reality it presents; it is very important for the researcher to present a true reflection of data gathered for the study. Based on the nature of demand in this particular study, quantitative validity was deployed. Babbie and Mouton (2010) illustrated that quantitative validity is a tool that is used by the researchers to check accuracy of findings through deployment of certain relevant procedures.

The term reliability refers to the level or degree of consistency between two or more separate measurements (Gravetter & Forzano, 2012). The results will be obtained from different metered taxi operators and drivers in the same area (Cape metropolis). Therefore, it will be difficult to obtain the same results from different individuals. For the researcher to maintain and to increase reliability, she used accepted investigative approaches involving validity and reliability testing as previously noted in this chapter from Sections 3.7 to 3.8; also identifying biases in research sampling and ensured adequate relevance of data collection and analysis tools.

For this study, a presentation of the research finding for both qualitative and quantitative results was expected to be carried out to validate the results with the research environment, but due to the outbreak of the South African first case of the COVID-19 on the 5th March 2020, that plan was put on hold. Until the submission date of thesis. Therefore, the validation approach was only carried out quantitative and through expert judgment.

3.10. Ethical consideration

Participants in this study were briefed on the motivation of the research and it was conducted in a tactful and transparent manner. Their understanding was confirmed before starting the interviews or ending questionnaires and their participation was entirely voluntary. They were also assured that their details and the content of sensitive research content would remain strictly confidential. The results of the study should be available to the participants as a means of ensuring knowledge transfer. Formal confidentiality agreements were to be signed if requested by the interviewee. The draft report would also be sent to them should they have chosen to do so.

3.11. Summary

This chapter discussed the overall approach of the research design and methodology. The chapter illustrated the mixed methods approach as well as the assumption of the study. The area and size of the participants was mentioned. The technique to collect raw information was presented and the analysis process was discussed. Data collection occurred through interviews and questionnaires through open- and closed-ended questions. Reliability and validity were aligned to support the results and ethics concerns were addressed. The following chapter presents the research analysis and results.

CHAPTER FOUR DATA ANALYSIS

4.1. Introduction

The previous chapter aligned the plan and procedure to acquire data in order to address the research objectives. It demonstrated how methods were applied to answer the research problem. The chapter discussed philosophical assumptions, the research approach (mixed approach), population and sample size, sampling technique, data collection, data analysis, data validity and reliability, and ethical consideration. This chapter illustrates data analysis and presents the results from questionnaires handed to participants. The chapter also discusses key interview responses of the respondents. The results of this research are presented chronologically. The first results are those from questionnaires handed to participants (quantitative questions) followed by the results of interviews (qualitative questions).

4.2. Data on the respondents

Table 4.1 below shows the frequency of participation for this study.

Table 4.1: Participation rate

Interviews with metered taxi operators		Questionnaires to metered taxi drivers	
Planned interviews	20	Distributed questionnaires	80
Conducted interviews	20	Responded	74
Declined interviews	0	Declined questionnaires	6
Participation rate	100%	Participation rate	93%

The current dissertation focuses on the influence of app-based ride services on survival strategies of formal metered taxi operators in the Cape metropolitan area. As mentioned previously, the aim of the study was to examine the surviving mechanisms of traditional metered taxi operators' strategies toward the implementation of app-based ride services (Uber and Bolt). The study also envisaged a comprehensive approach to help traditional metered taxi operators' strategies in order to maintain their position in the market. The analysis of this dissertation is presented in two sections. The first section depicts the quantitative analysis that displays participants' background and related questions to traditional metered taxis' survival. The second section displays the qualitative analysis based on interviews in responding to metered taxis' survival questions. From

the quantitative analysis, data was captured as indicated above. The letter (n) was attributed to represent the number of respondents.

4.3. Section One: Participants' background

As mentioned above, the following section displays participants' background and related questions to work experience.

4.3.1. Respondents' gender

The analysis accumulated information from interviews and the distributed questionnaires to designate respondents' gender. Of the n=94 (100%), the majority of n=91 (97%) were male. The minority of n=3 (3%) were female. Figure 4.1 below illustrates the overall results.

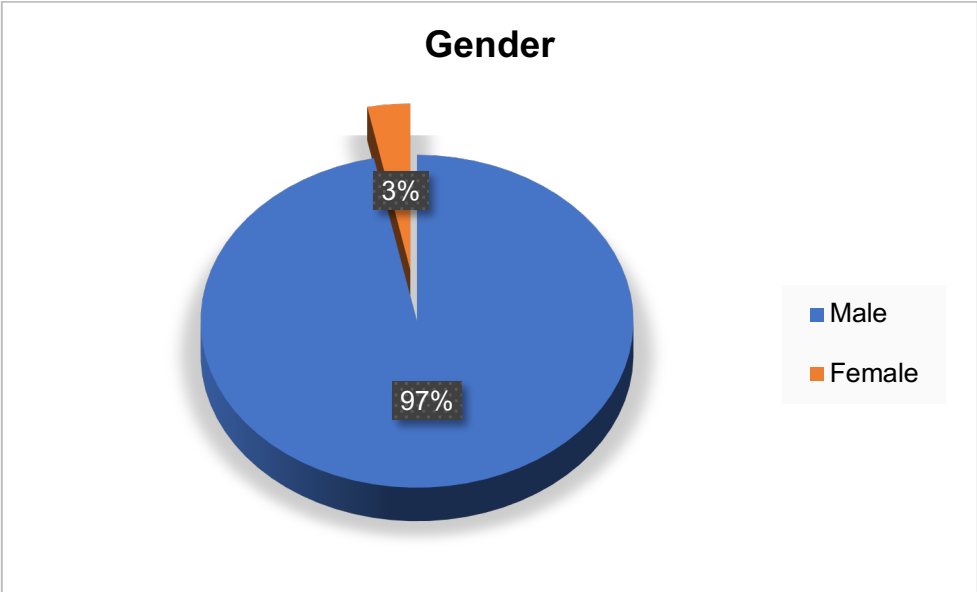


Figure 4.1: Respondents' gender

4.3.2. Respondents' job status

A question was asked to participants to display their job status. Of the respondents, the research result shows that n=74 (79%) were metered taxi drivers, n=11 (12%) were metered taxi operators and n=9 (9%) were metered taxi owners. No results were registered for other job status (See Figure 4.2 below).

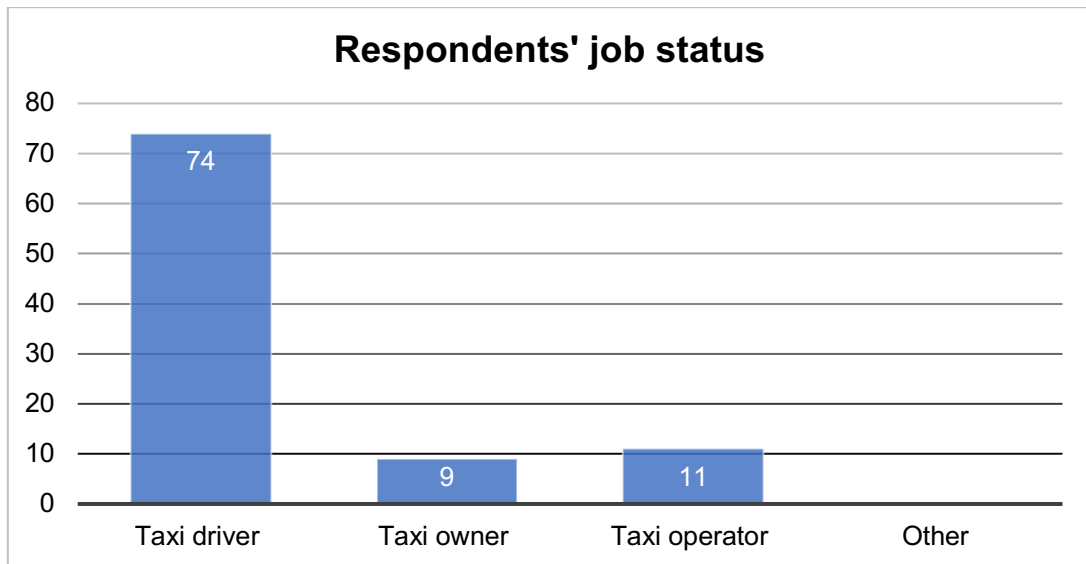


Figure 4.2: Respondents' job status

4.3.3. Work duration of the respondents

Respondents were asked to select the period they have been working as a metered taxi driver, or been a metered taxi owner or operator. The research results show that the majority of n=59 (63%) have been working in the traditional metered taxi industry for more than fifteen (15) years. n=27 (29%) have been working for about ten (10) to fifteen (15) years and the minority of n=8 (8%) have been working for about five (5) to ten (10) years.

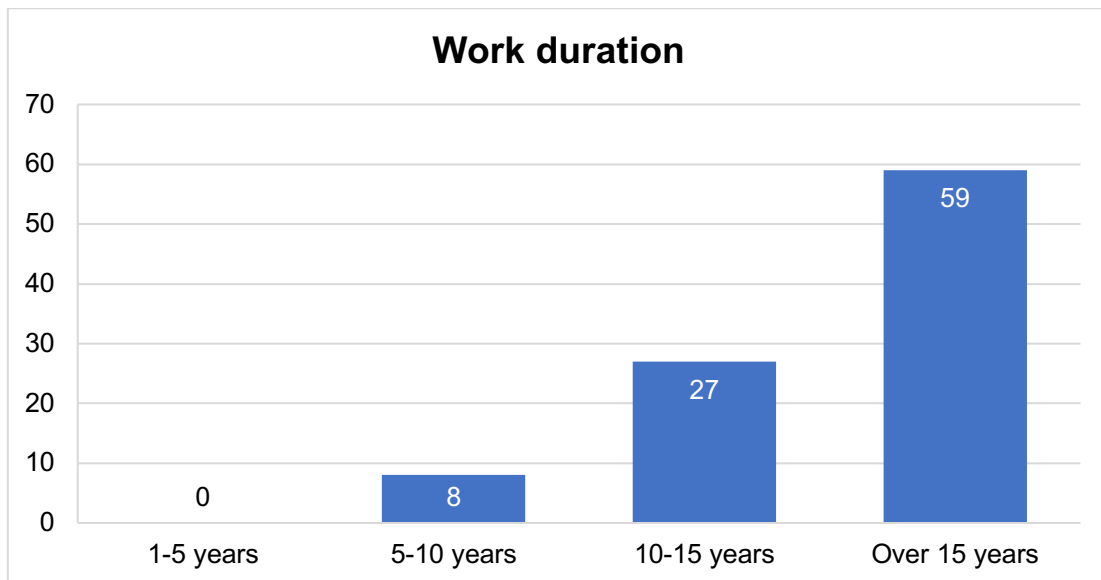


Figure 4.3: Respondents' work duration

4.3.4. Focus of the transportation

Respondents were asked to select transportation they were focusing on. The research result shows that, of the respondents, the overall n=94 (100%) was focusing on “Traditional metered taxi” transportation. No results were registered for “Traditional taxi” transportation and for “Other” transportation. Figure 4.4 below depicts the results.

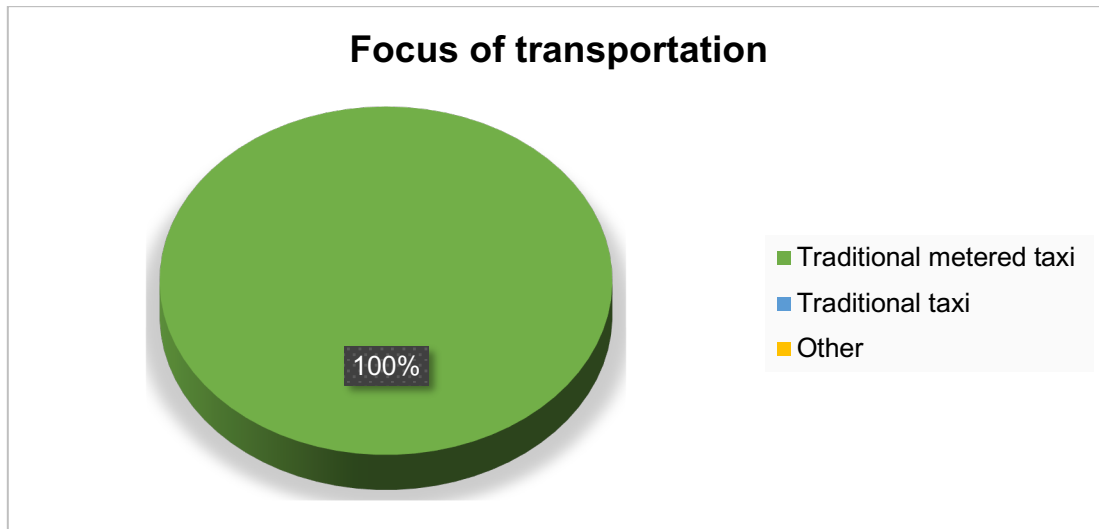


Figure 4.4: Respondents' focus of transportation

4.3.5. Transport industry sector

A question was asked to find out which transport industry sector respondents were operating in. Of the respondents, the overall pool of n=94 (100%) identified their transport industry sector as “Private industry”. No results were registered for “Public industry” nor “Other industry”. The figure below displays the results.

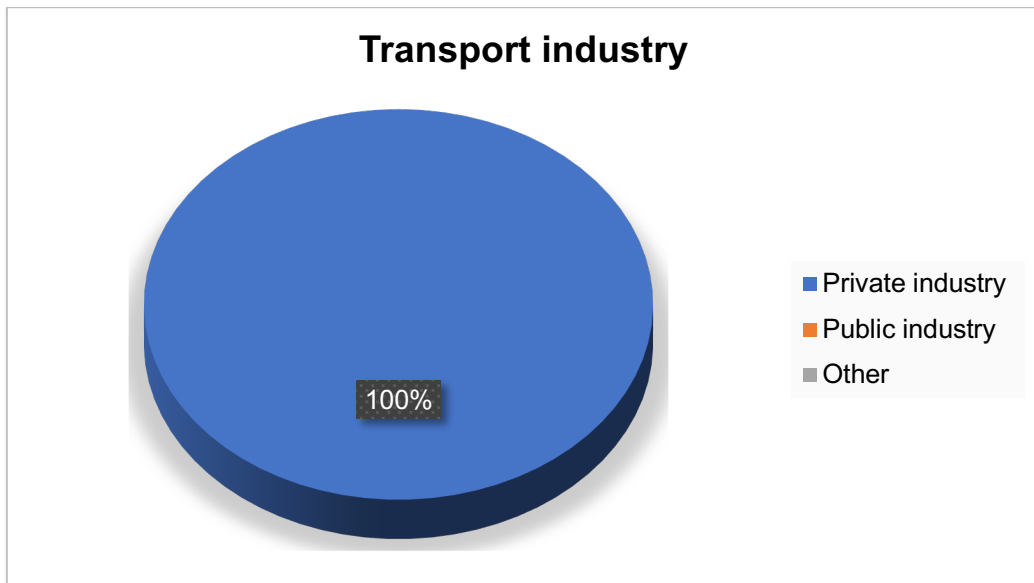


Figure 4.5: Respondents' industry sector

4.3.6. Geographical area of transportation

A question was given to respondents to select the geographical area they focused on in providing transportation services. The research results show that the majority of n=35 (37%) had their geographical focus around "Metropolitan area"; n=30 (31%) geographically focused around "CBD" (central business district); n=19 (20%) was around "Cape Town Suburbs" and the n=11 (12%) focused around all areas (See the figure below).

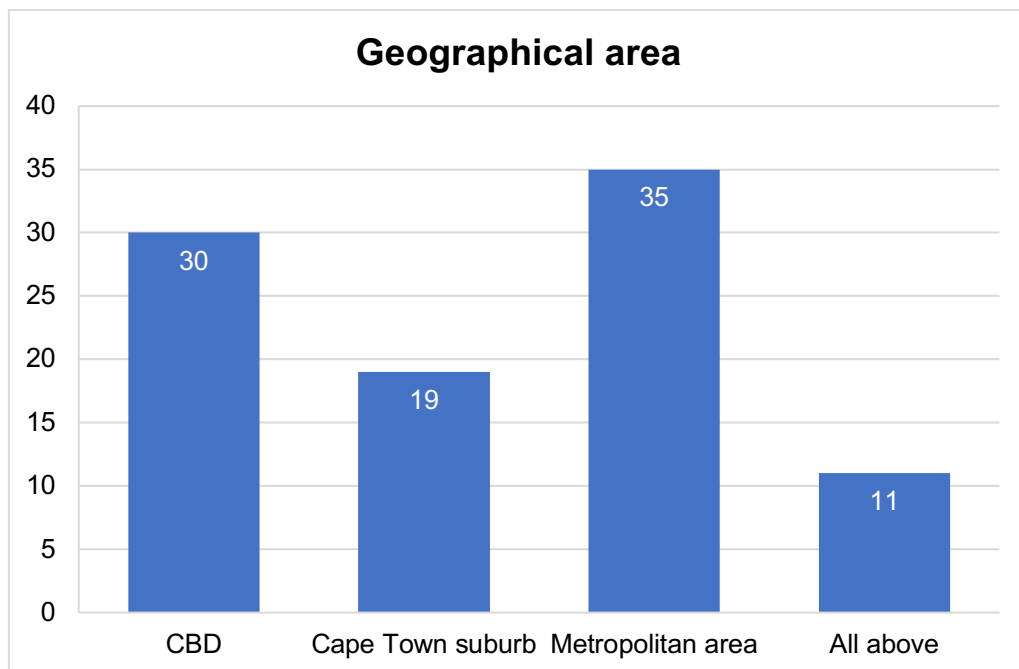


Figure 4.6: Geographical area of activities

4.4. Section Two: Traditional metered taxis’ survival

After depicted participants’ background and related questions to their experiences, this section display analysis related to traditional metered taxis’ survival.

4.4.1. Respondents’ knowledge of app-based ride services (Uber, Bolt)

Respondents were asked if they have knowledge of what app-based ride services (Uber, Bolt) are. The research result shows that, of the respondents, the overall n=94 (100%) knew what app-based ride services (Uber, Bolt) are. No results were registered on whether the respondents were aware of app-based ride services. Figure 4.7 below depicts the results.

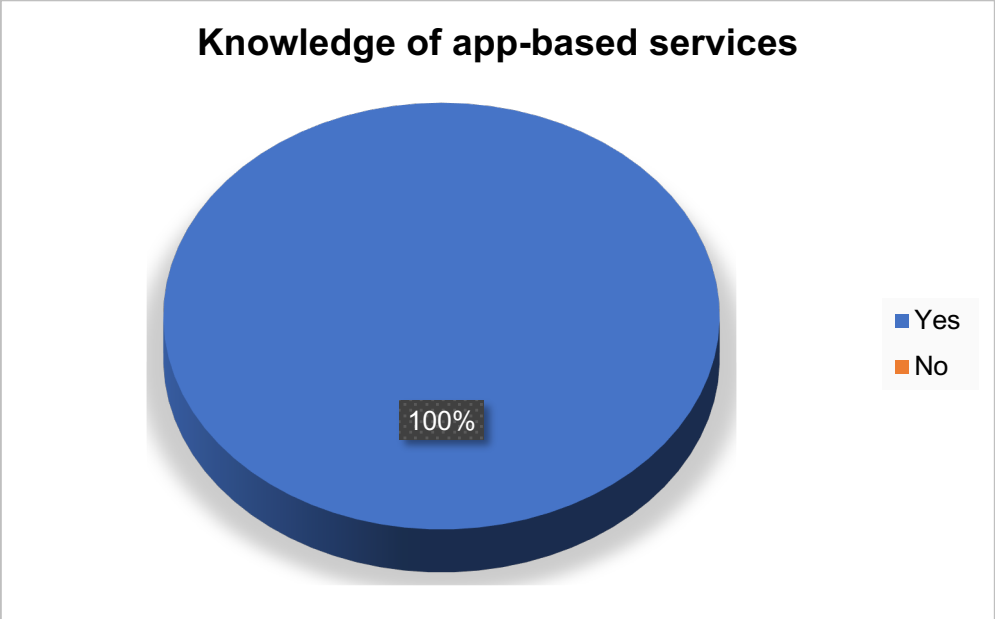


Figure 4.7: Respondents knowledge of App based ride services (Uber and Bolt)

4.4.2. App-based ride services (Uber, Bolt) implementation disrupt competition

A statement was given to respondents to determine whether app-based ride services’ (Uber, Bolt) implementation does disrupt competition within the passenger transport industry. Of the n=94 (100%) respondents, the research results show that the majority of n=53 (56%) strongly agreed that app-based ride services’ (Uber, Bolt) implementation does disrupt competition within the passenger transport industry. The statement was also supported by n=41 (44%) who agreed that app-based ride services’ (Uber, Bolt) implementation does disrupt competition within the passenger transport industry. No results were registered against the statement nor from those who abstained from answering.

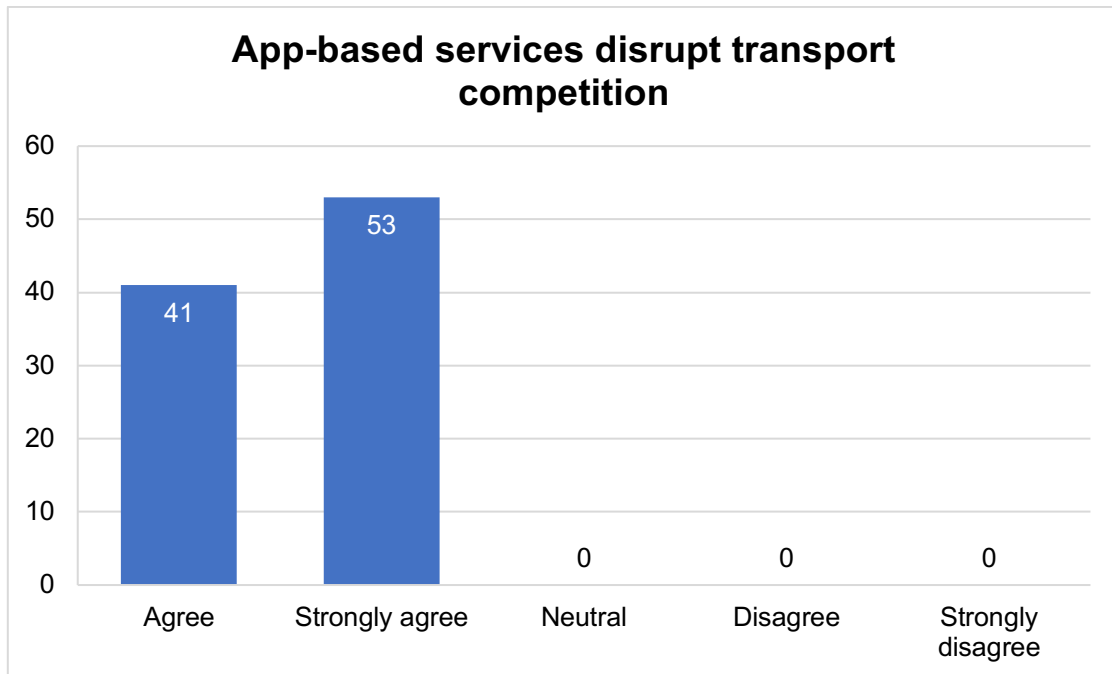


Figure 4.8: App-based ride services disrupt transport competition

4.4.3. App-based ride services acquire more customers with their integrated cell phone apps

Respondents were asked to determine whether app-based ride services are disrupting competition by acquiring more customers with their integrated cell phone apps. The result show that, of the n=94 (100%) respondents, the majority of n=71 (76%) strongly agreed that app-based ride services are disrupting competition by acquiring more customers with their integrated cell phone apps. n=23 (44%) also agreed with the statement above. No results were registered against the statement nor from those who refrained from the statement (See figure below).

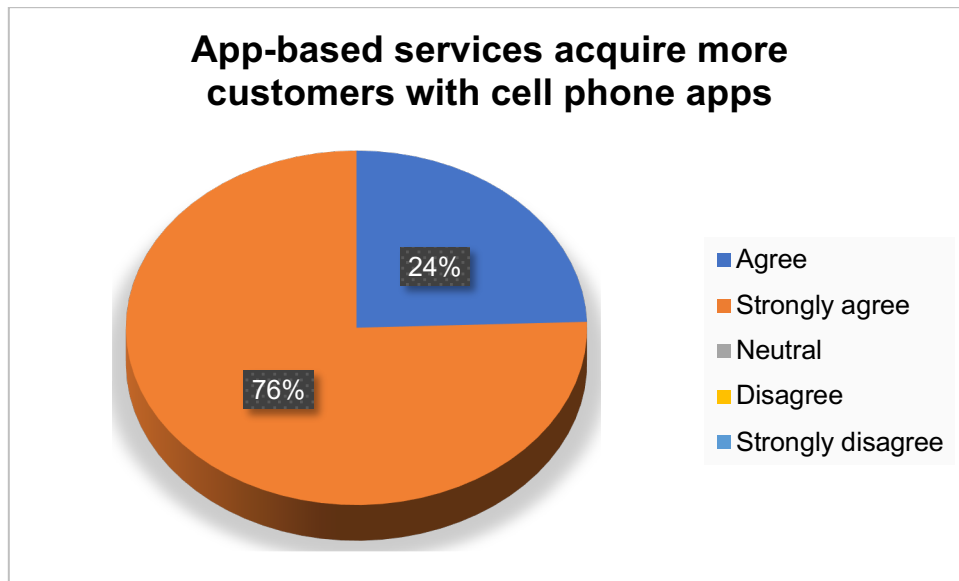


Figure 4.9: App-based ride services disrupt competition through cell phone apps

4.4.4. Passengers preference for app-based ride services (Uber and Bolt)

A statement was given to determine if most passengers now prefer Uber and Bolt services. The research results revealed that n= 48 (51%) agreed that, competitively, most passengers now do prefer Uber and Bolt services. The statement was also supported by n=36 (38%) who strongly agreed that most passengers do now prefer Uber and Bolt services. n=10 (11%) abstained from answering. No results were registered for “strongly against” or against the statement.

Table 4.2: Passengers now prefer app-based ride services

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	48	51	51
	Strongly agree	36	38	89
	Neutral	10	11	100
	Disagree	0	0	100
	Strongly disagree	0	0	100
	Total	94	100	

4.4.5. App-based ride services (Uber and Bolt) are strong competition disruptors because of app technology and new vehicles

Respondents were asked to determine whether Uber and Bolt are disrupting competition because of the use of app technology and new vehicles. n= 68 (72%) strongly agreed that Uber and Bolt are disrupting competition because of the use of app technology and new vehicles. n=26 (28%) agreed with that statement. No results were registered for strongly against or against the statement, nor for abstaining.

Table 4.3: App-based services strongly disrupt because of the use of app technology and new vehicles

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	26	28	28
	Strongly agree	68	72	100
	Neutral	0	0	100
	Disagree	0	0	100
	Strongly disagree	0	0	100
	Total	94	100	

4.4.6. App-based ride service (Uber and Bolt) vehicles are readily available and flexible

A statement was given to determine if Uber and Bolt disrupt competition because their vehicles are readily available and flexible. The majority of n=69 (73%) agreed that Uber and Bolt disrupt competition because their vehicles are readily available and flexible. n=25 (27%) strongly supported the statement. No results were registered for strongly against or against the statement and neutral.

Table 4.4: Uber and Bolt disrupt competition with availability and flexibility of their vehicles

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	69	73	73
	Strongly agree	25	27	100
	Neutral	0	0	100
	Disagree	0	0	100

	Strongly disagree	0	0	100
	Total	94	100	

4.4.7. App-based ride services’ (Uber and Bolt) disruptive competition is good for business survival

A statement was given to determine whether app-based services’ disruptive competition today is good for business sustainability of traditional metered taxis. The research results show that, the majority of n=61 (65%) disagreed with the statement that app-based services’ disruptive competition today is good for business sustainability of traditional metered taxis. n=27 (29%) also strongly disagreed with the statement. n=6 (6%) abstained from answering on whether it is good. No results were registered for those agreeing or strongly agreeing with the statement.

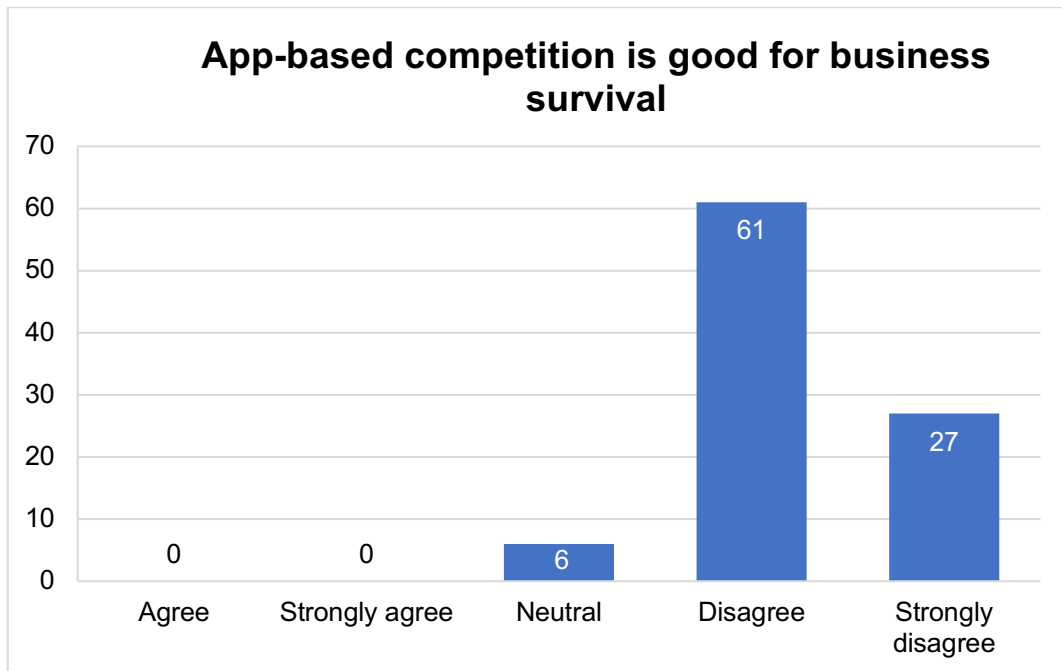


Figure 4.10: App-based ride services’ (Uber and Bolt) disruptive competition is good for traditional metered taxi business survival

4.4.8. App-based ride services’ (Uber and Bolt) disruptive competition has a negative impact on business survival

A statement was also given to determine if app-based ride services’ (Uber and Bolt) disruptive competition today has a negative impact on business survival of traditional metered taxis. Of the respondents, the research results show that the majority of n=63 (67%) agreed with the statement

that app-based services' disruptive competition today has a negative impact on business survival of traditional metered taxis. n=28 (30%) also strongly agreed with the statement. n=3 (3%) abstained from answering. No results were registered for those who disagreed nor strongly disagreed with the statement.

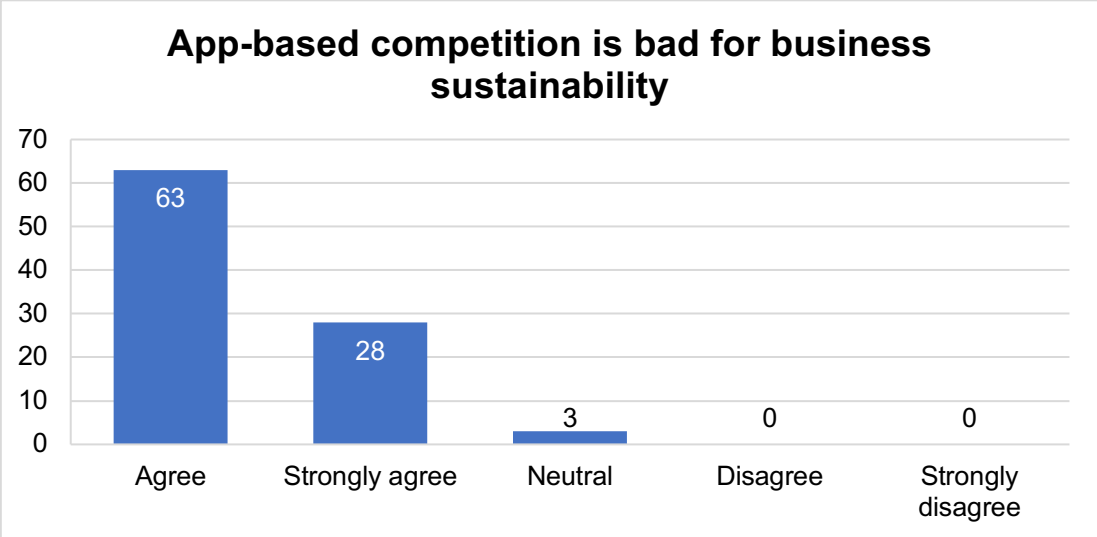


Figure 4.11: App-based ride services' (Uber and Bolt) disruptive competition is bad for traditional metered taxi business survival

4.4.9. Traditional metered taxi's current strategies are sustainable

A question was given to know if traditional metered taxis' current strategies are sustainable or competitive compared to those applied by app-based ride services (Uber and Bolt). The majority of n=61 (65%) disagreed with the statement that says traditional metered taxis' current strategies are sustainable or competitive compared to those applied by app-based ride services (Uber and Bolt). n=33 (35%) also strongly disagreed with the statement. No results were registered for those who agreed or strongly agreed with the statement. Also, no answers were abstained.

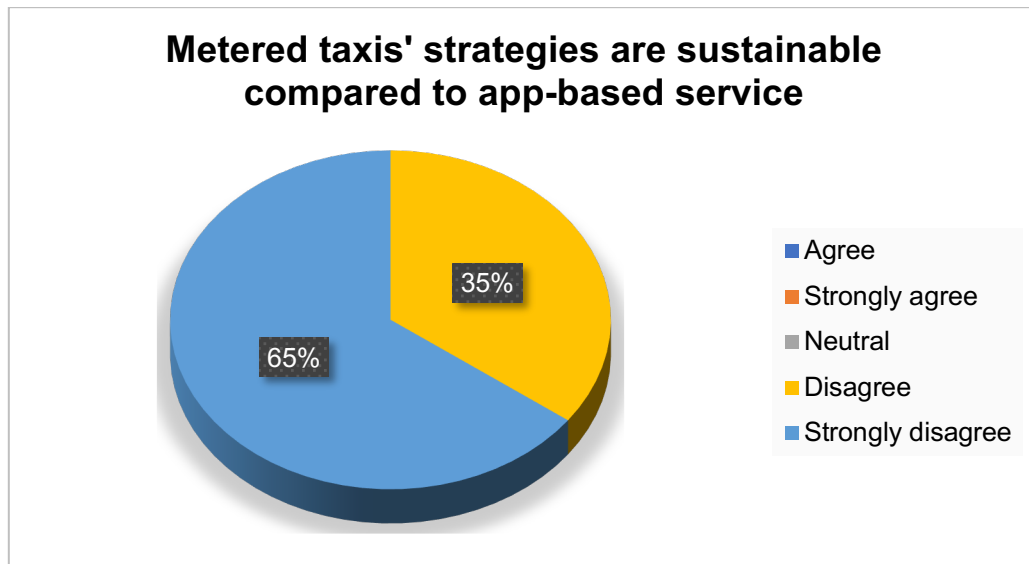


Figure 4.12: Traditional metered taxis' current strategies are sustainable or competitive compared to those applied by app-based ride services (Uber and Bolt).

4.4.10. App-based ride services (Uber and Bolt) and traditional metered taxis' business sustainability

Respondents were asked to designate if app-based ride services (Uber, Bolt) negatively influenced traditional metered taxis' business sustainability. Of the n=94 (100%) respondents, the research results show that the majority of n=69 (73%) agreed that app-based ride services (Uber, Bolt) negatively influence traditional metered taxis' business sustainability and n=14 (15%) strongly agreed with the same statement. The results also show that n=11 (12%) abstained from answering on whether it does or not. No results were registered for disagree or strongly disagree with the statement.

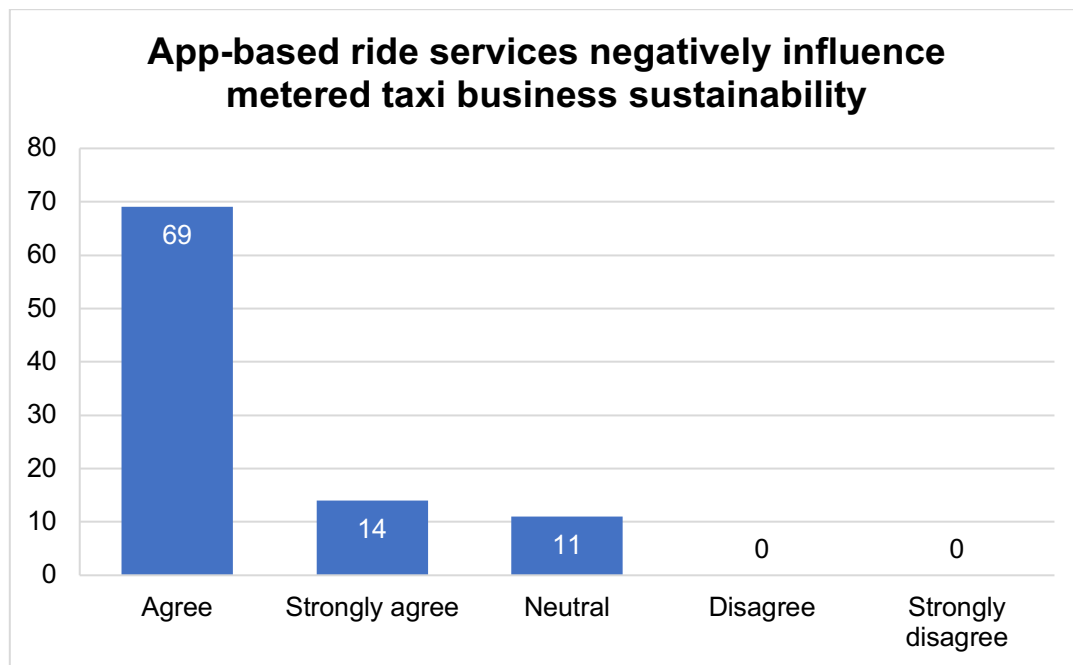


Figure 4.13: App-based ride services (Uber, Bolt) negatively influence traditional metered taxis' business sustainability

4.4.11. Current app-based services business strategies negatively affect traditional metered taxi strategy

The statement was given to determine if the current app-based ride services' business strategies, such as luxury private cars and cheaper rides, is negatively affecting traditional metered taxi strategy. Of the n=94 (100%), the research results show that the majority of n=78 (83%) agreed that the current app-based ride services' business strategies, such as luxury private cars and cheaper rides, is negatively affecting traditional metered taxi strategies. The statement was also supported by n=16 (17%) who were strongly agreeing with the statement. No results were registered against the statement nor those who abstained from answering.

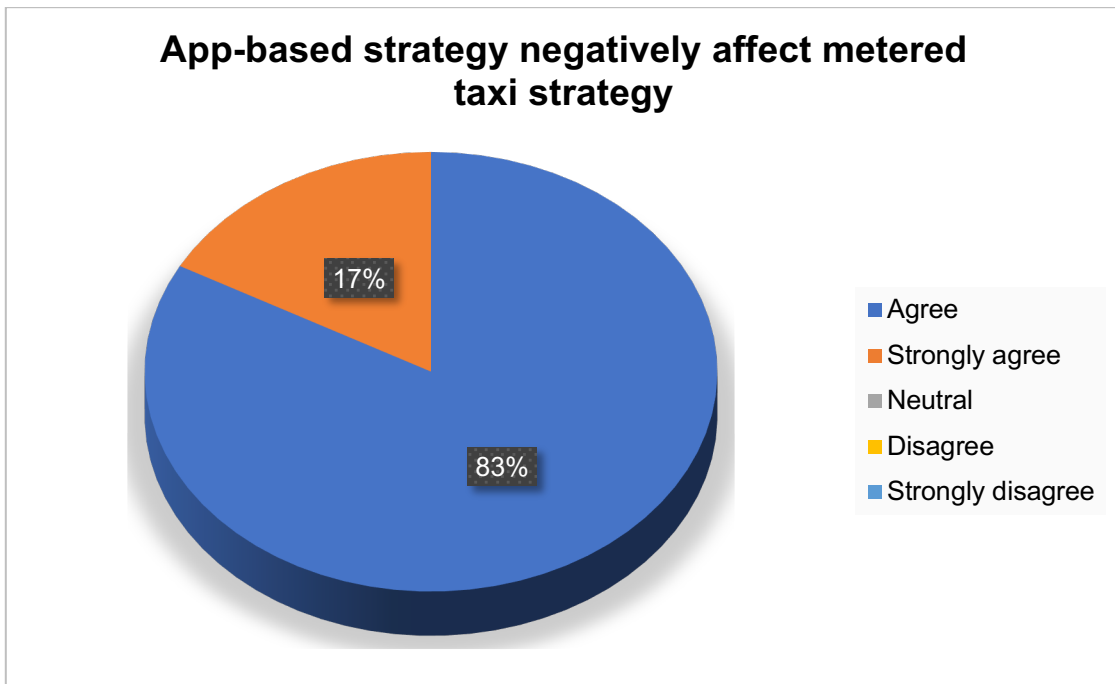


Figure 4.14: Current app-based ride services business strategies negatively affect traditional metered taxi strategies

4.4.12. Uber and Bolt negatively influence traditional metered taxis' business sustainability through the implementation of high standard services

Respondents were given a statement to determine if app-based ride services (Uber, Bolt) negatively influence traditional metered taxis' business sustainability through the implementation of high standard services. The results show that n=49 (52%) of the respondents agreed that Uber and Bolt do negatively influence traditional metered taxis' business sustainability through the implementation of high standard services. n= 45 (48%) strongly agreed with the statement. The research registered no result for neutral, disagreed nor strongly disagreed with the statement.

Table 4.5: Uber and Bolt negatively influence traditional metered taxis' business sustainability through the use of high standard services

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	49	52	52
	Strongly agree	45	48	100
	Neutral	0	0	100
	Disagree	0	0	100

	Strongly disagree	0	0	100
	Total	94	100	

4.4.13. Uber and Bolt negatively influence traditional metered taxis' business sustainability with the use of comfort vehicles

A statement was given to determine if app-based services (Uber, Bolt) negatively influence traditional metered taxis' business sustainability with the use of comfort vehicles. The majority, n=86 (91%), of the respondents, strongly agreed that Uber and Bolt do negatively influence traditional metered taxis' business sustainability with the use of comfort vehicles. n=8 (9%) agreed with the statement. No result for neutral, disagreed nor strongly disagreed were registered.

Table 4.6: Uber and Bolt negatively influence traditional metered taxis' business sustainability with the use of comfort vehicles

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	8	9	9
	Strongly agree	86	91	100
	Neutral	0	0	100
	Disagree	0	0	100
	Strongly disagree	0	0	100
	Total	94	100	

4.4.14. Uber and Bolt negatively influence traditional metered taxi's business sustainability in terms of flexibility and availability

Respondents were given a statement to determine if app-based services (Uber, Bolt) negatively influence traditional metered taxi's business sustainability in terms of flexibility and availability. The results show that n=46 (49%) of the respondents, agreed that app-based services (Uber, Bolt) do negatively influence traditional metered taxis' business sustainability in terms of flexibility and availability. n= 40 (43%) also strongly agreed with the statement; n=8 (8%) abstained their answers. No result was registered for disagree or strongly disagree with the statement.

Table 4.7: Uber and Bolt negatively influence traditional metered taxis' business sustainability in terms of flexibility and availability

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	46	49	49
	Strongly agree	40	43	92
	Neutral	8	8	100
	Disagree	0	0	100
	Strongly disagree	0	0	100
	Total	94	100	

4.4.15. Uber and Bolt negatively influence traditional metered taxis' business sustainability through the safety and security of customers

Respondents were asked to determine if app-based ride services (Uber, Bolt) negatively influence traditional metered taxis' business sustainability through the safety and security of customers. The research results show that n=41 (44%) of the respondents agreed that Uber and Bolt do negatively influence traditional metered taxis' business sustainability through the safety and security of customers. n=22 (23%) strongly agreed with the statement. n=18 (19%) were neutral and n=13 (12%) disagreed that Uber and Bolt negatively influence traditional metered taxis' business sustainability through the safety and security of customers. No results were registered for strongly disagreed with the statement.

Table 4.8: Uber and Bolt negatively influence traditional metered taxis' business sustainability through the safety and security of customers

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	41	44	44
	Strongly agree	22	23	67
	Neutral	18	19	86
	Disagree	13	14	100
	Strongly disagree	0	0	100
	Total	94	100	

4.4.16. Uber and Bolt negatively influence traditional metered taxis' business sustainability through cheap service fares and fees

Respondents were given a statement to determine if app-based services (Uber, Bolt) negatively influence traditional metered taxis' business sustainability through cheap service fares and fees. The majority of n=78 (83%) of the respondents strongly agreed that app-based services (Uber, Bolt) do negatively influence traditional metered taxis' business sustainability through the use of cheap service fares and fees; n=16 (17%) also agreed with the statement. No result was registered for neutral, disagreed or strongly disagreed with the statement.

Table 4.9: Uber and Bolt negatively influence traditional metered taxis' business sustainability through cheap service fares and fees

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	16	17	17
	Strongly agree	78	83	100
	Neutral	0	0	100
	Disagree	0	0	100
	Strongly disagree	0	0	100
	Total	94	100	

4.4.17. Current app-based services business strategies, such as app technology, private new vehicles and cheaper rides, are negatively affecting traditional metered taxis' strategies sustainability

A question was given to determine if current app-based ride services' business strategies, such as app technology, private new vehicles and cheaper ride is negatively affecting traditional metered taxis' strategies sustainability. The majority of n=69 (73%) respondents strongly agreed that current app-based services business strategies, such as app technology, private new vehicles and cheaper rides, are negatively affecting traditional metered taxis' strategies sustainability. n=25 (27%) also agreed with the statement. No results were registered for neutral, disagreed or strongly disagreed with the statement.

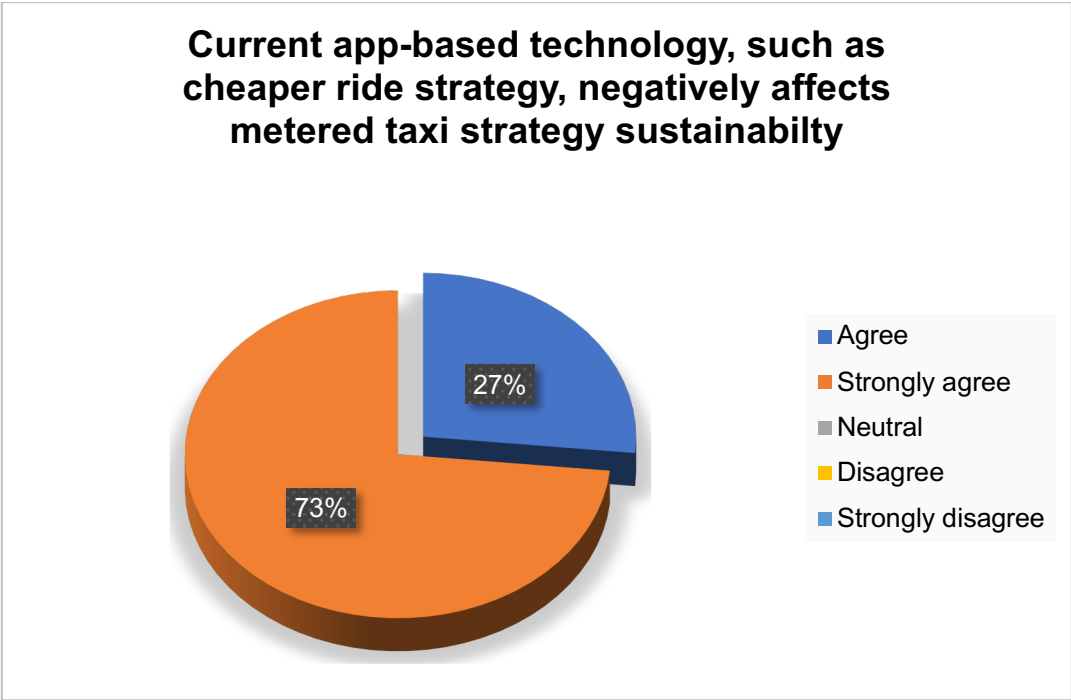


Figure 4.15: Current app-based services’ business strategies, such as app technology, private new vehicles and cheaper rides, are negatively affecting traditional metered taxis’ strategies’ sustainability

4.4.18. Metered taxi strategies are unable to attract new more customers for a long period

Respondents were given a statement to determine if metered taxi strategies are unable to attract new customers for a long period. The majority of n=53 (57%) of the respondents strongly agreed that metered taxi strategies are unable to attract new customers for a long period; n=35 (37%) also agreed as they supported the statement. n=6 (6%) were not sure. No result was registered for disagreed or strongly disagreed with the statement.

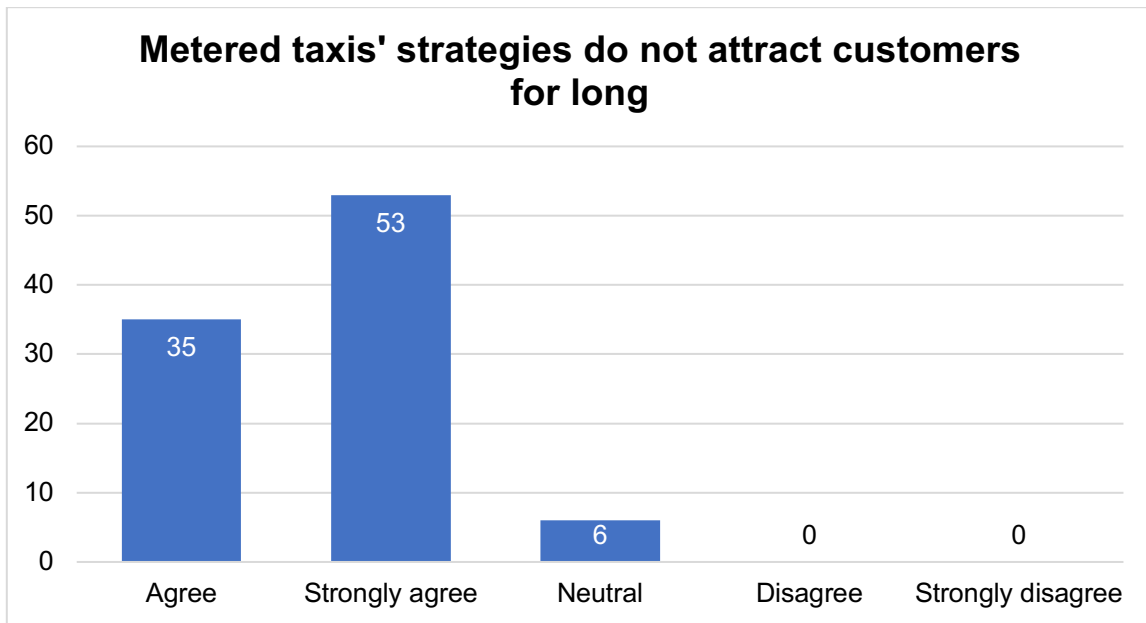


Figure 4.16: Metered taxi strategies are unable to attract new more customers for a long period

4.4.19. Metered taxis' strategies are unable to maintain passenger satisfaction for a long period

A statement was given to respondents to determine if metered taxis' strategies are unable to maintain passenger satisfaction for a long period. The majority of n=59 (63%) agreed that metered taxis' strategies are unable to maintain passenger satisfaction for a long period. n=15 (16%) strongly agreed with the statement and n=20 (21%) abstained from answering. No results were registered for disagreed nor strongly disagreed with the statement.

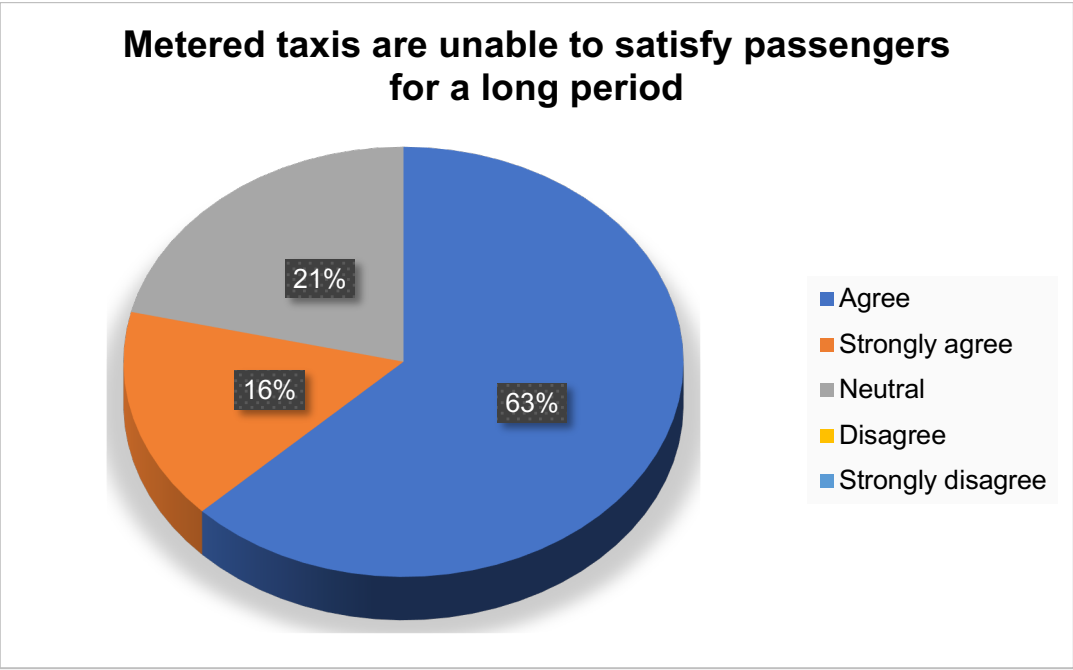


Figure 4.17: Metered taxis' strategies are unable to maintain passenger satisfaction for a long period

4.4.20. Metered taxis' strategies are unable to maintain long run prices

Respondents were given a statement to determine whether metered taxi strategies are unable to maintain long run prices. n=50 (53%) of the respondents agreed that metered taxis' strategies are unable to maintain long run prices; n=29 (31%) strongly agreed with the statement. n=8 (9%) disagreed with the statement and n=7 (7%) abstained from answering whether it does or not. No results were registered for disagreed or strongly disagreed with the statement.

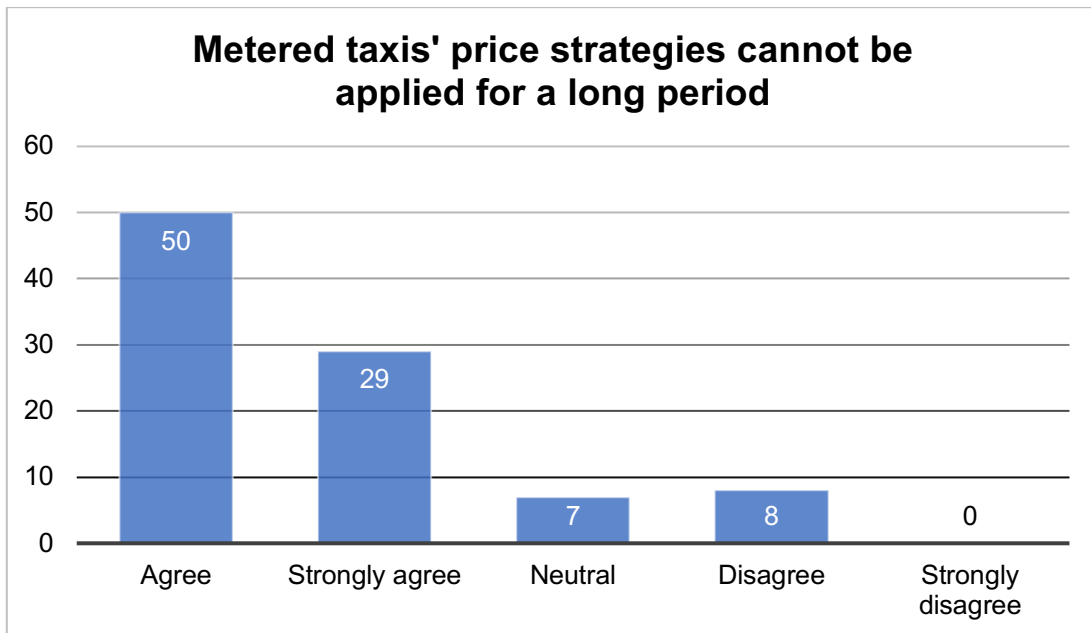


Figure 4.18: Metered taxi strategies are unable to maintain long run prices

4.4.21. Metered taxi strategies are unable to maintain the standard of new vehicles

A statement was given to determine if metered taxi strategies are unable to maintain the standard of new vehicles. The majority of n=62 (66%) respondents agreed that metered taxi strategies are unable to maintain the standard of new vehicles; n=32 (27%) also strongly agreed with the statement. No results were registered for neutral, disagreed nor strongly disagreed with the statement.

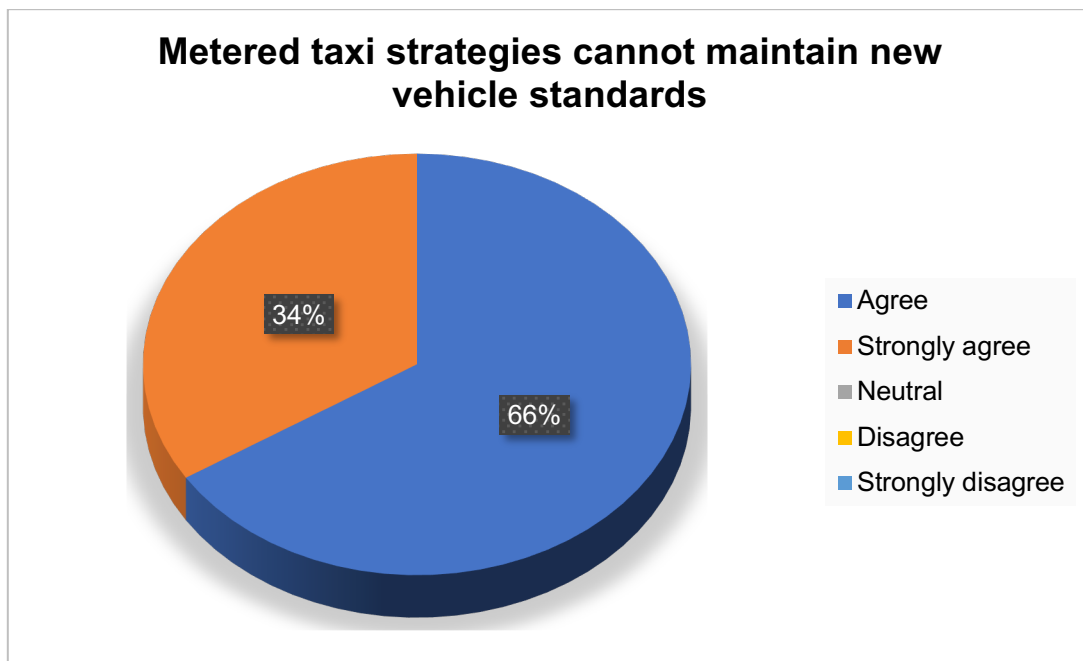


Figure 4.19: Metered taxi strategies are unable to maintain the standard of new vehicles

4.4.22. Current app-based ride services' business strategies are negatively influencing traditional metered taxi market share

Respondents were asked to designate whether the effects of current app-based services' business strategies are negatively impacting traditional metered taxi market share. The research results show that, of the total (n=94; 100%) respondents, the majority of n=66 (70%) agreed that the effects of current app-based services business strategies are negatively impacting traditional metered taxis' market share and n=24 (26%) strongly agreed with the same statement. The results also show that the minimum of n=4 (4%) abstained from answering on whether it does or not. No results were registered for disagreed or strongly disagreed with the statement.

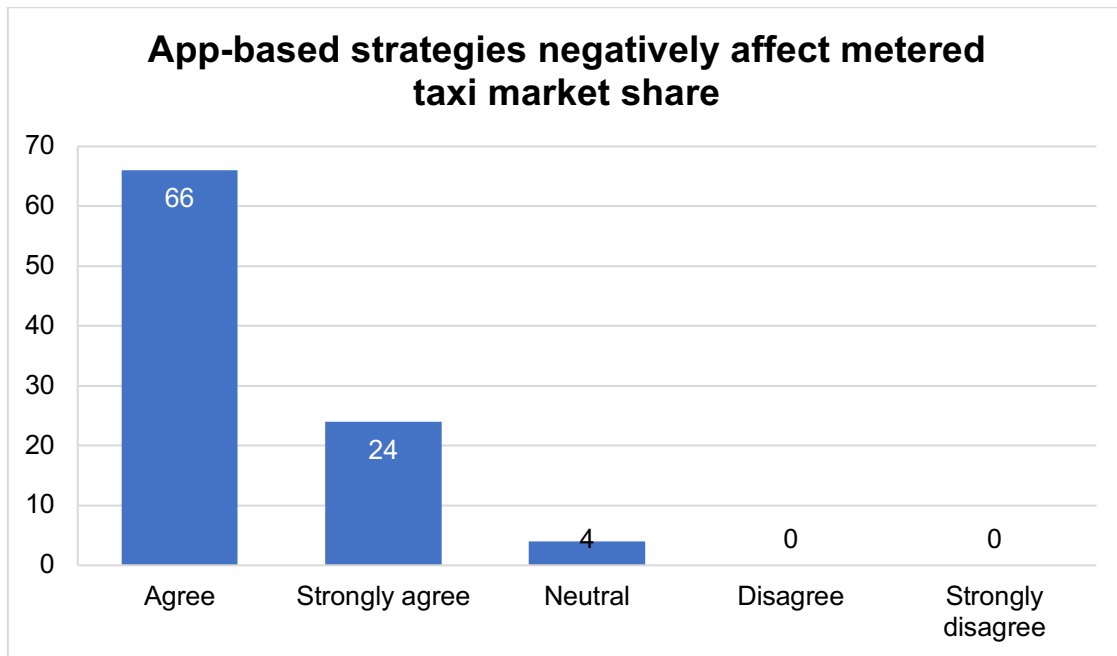


Figure 4.20: Current app-based ride services’ business strategies are negatively influencing traditional metered taxi market share

4.4.23. The number of traditional metered taxis’ trips per day has decreased with the use of Uber and Bolt services

Respondents were given a statement to determine if the number of traditional metered taxis’ trips per day has decreased with the use of Uber and Bolt services. The majority of n=73 (78%) of the respondents strongly agreed that the number of traditional metered taxis’ trips per day has decreased with the use of Uber and Bolt services. n=21 (22%) also agreed with the statement. The research registered no result for neutral, disagreed nor strongly disagreed with the statement.

Table 4.10: The number of traditional metered taxis’ trips per day has decreased with use of Uber and Bolt services

		Frequency	Percentage	Accumulative Percentage
Valid	Agree	21	22	22
	Strongly agree	73	78	100
	Neutral	0	0	100
	Disagree	0	0	100
	Strongly disagree	0	0	100
	Total	94	100	

4.4.24. Loss of customers and profitable position in the market

A statement was given to designate if metered taxis are losing customers and profitable position in the market. The majority of n=57 (61%) respondents agreed that metered taxis are losing customers and profitable position in the market; n=37 (39%) also agreed with the statement. No results were registered for neutral, disagreed nor strongly disagreed with the statement.

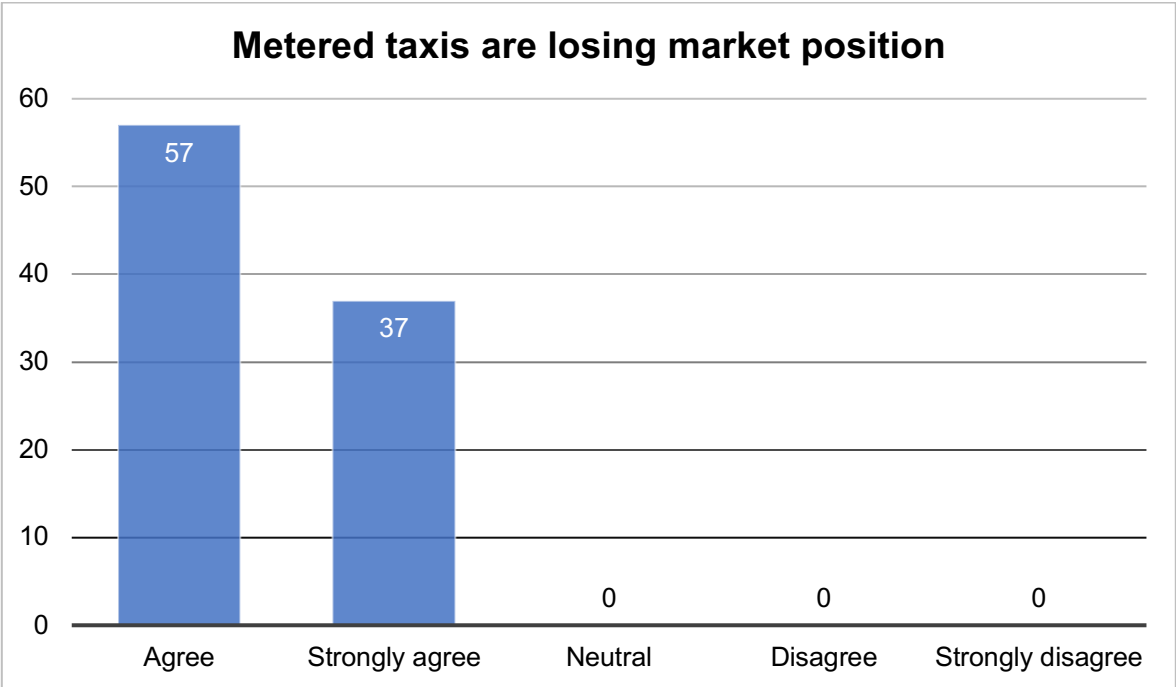


Figure 4.21: Metered taxis are losing customers and profitable position in the market

4.4.25. Traditional metered taxis’ market share is decreasing with Uber and Bolt services’ apps adoption

Respondents were asked whether metered taxis’ market share is decreasing with Uber and Bolt services’ apps adoption; n=85 (90%) of the respondents agreed that metered taxis’ market share is decreasing with Uber and Bolt services apps adoption. n=9 (10%) strongly agreed with the statement. No results were registered for neutral, disagreed or strongly disagreed with the statement.

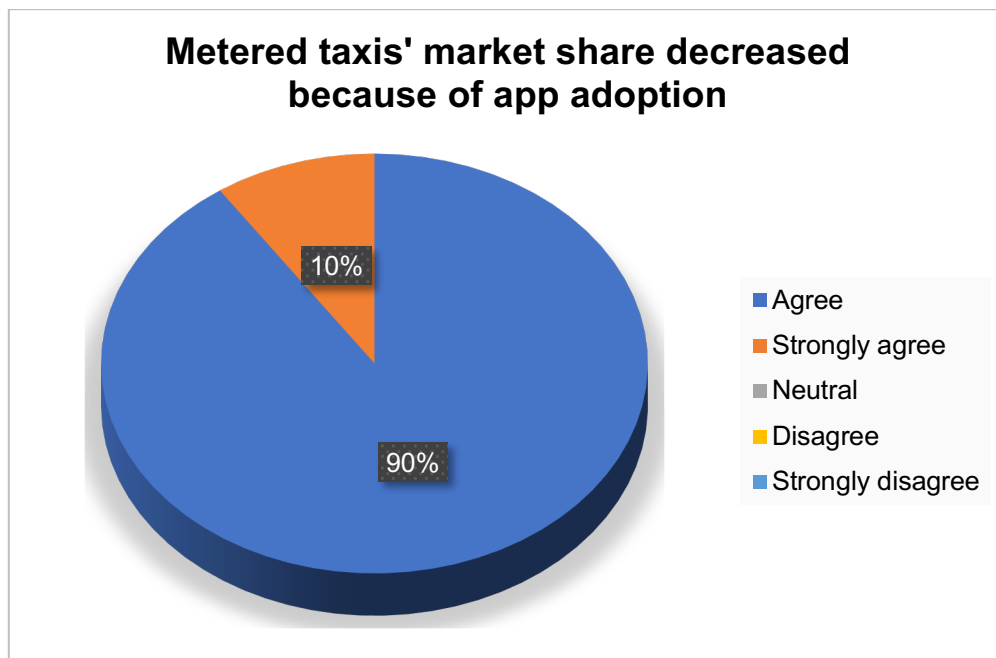


Figure 4.22: Traditional metered taxis' market share is decreasing with Uber and Bolt services' apps adoption

4.4.26. Traditional metered taxi market share can be overturned

The statement was given to designate whether traditional metered taxis' market share can be overturned despite aggressive strategy penetration by app-based services. The majority of n=40 (42%) abstained from answering whether traditional metered taxis' market share can be overturned despite aggressive strategy penetration by app-based services. n=29 (31%) agreed that traditional metered taxis' market share can be overturned despite aggressive strategy penetration by app-based services, and n=9 (10%) strongly agreed with the same statement. The results also show that n=16 (17%) disagreed with the statement. No results were registered for strongly disagreed with the statement.

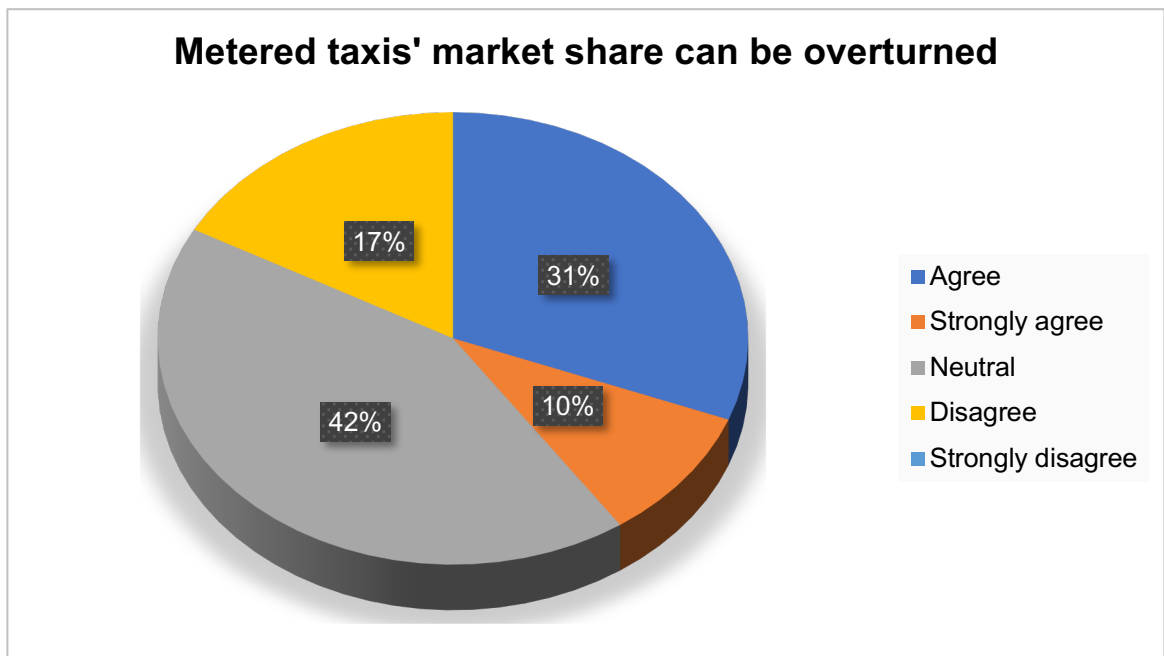


Figure 4.23: Traditional metered taxi market share can be overturned

4.4.27. Options available to traditional metered taxis to maintain a positive market share

Respondents were given a list to identify options available that can maintain a positive market share for traditional metered taxis. The results show that all respondents (100%) identified “Introduce app technology”, “Implement much affordable price”, and “Adopt luxury vehicles” as options available to maintain a positive market share. n=88 (93%) identified “improve service quality”, n=84 (89%) pointed to “enhance better relationship with customers”, n=70 (74%) identified “Improve customers security”, n=68 (72%) pointed to “flexible pick-up”, n=55 (59%) identified “Implement an easy and accurate payment methods”, and only n=11 (12%) pointed to “Improve booking option”.

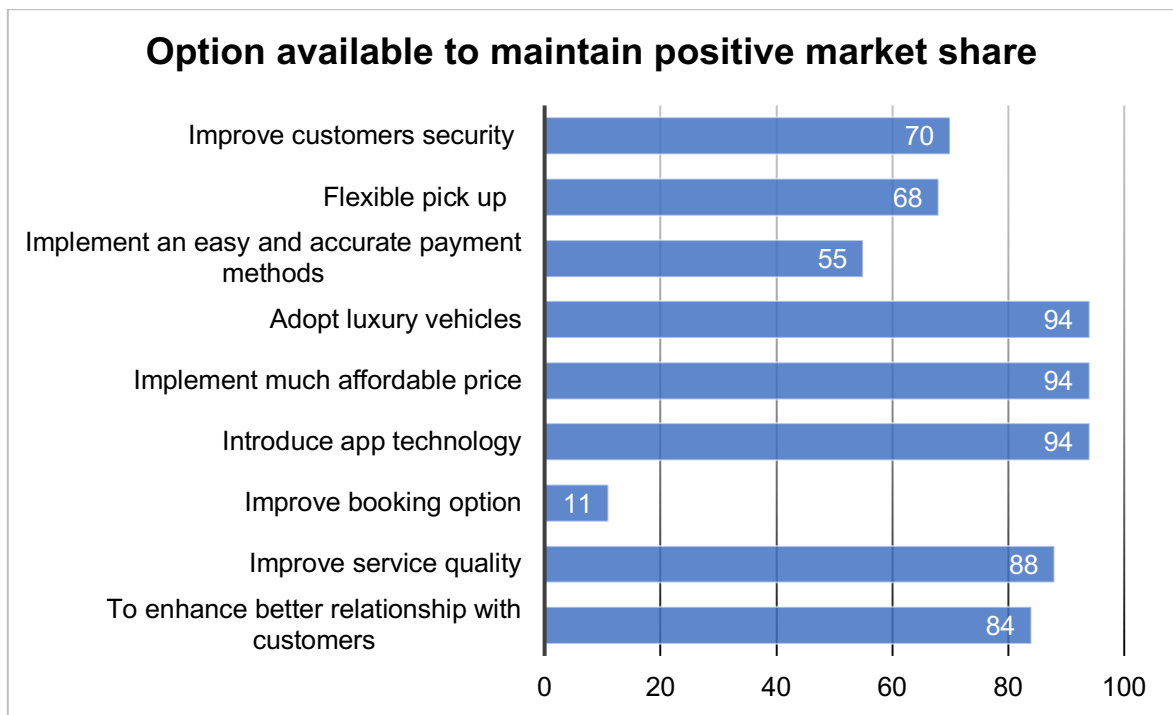


Figure 4.24: Options available to traditional metered taxis to maintain a positive market share

4.5. Section Two: Results from interviews (Metered taxis' survival)

This section illustrates the result from the interviews. The interview questions were aligned alongside with questionnaire in order to examine the surviving mechanisms of traditional metered taxi operators' strategies toward the implementation of app-based ride services. The interviews were scheduled with twenty (20) metered taxi operators. All scheduled interviews were conducted. Metered taxi operators involved in this study were also people who own more than three (3) traditional metered taxis. The results are as follows.

4.5.1. Please tell me about the influence that app-based ride services, such as Uber and Bolt, has on business sustainability of traditional metered taxis

The result from the majority of the interviewees indicated that app-based services, such as Uber and Bolt, negatively influence metered taxis' business sustainability. Other few interviewees indicated that the influence of app-based services, such as Uber and Bolt, is very bad for traditional metered taxis' business sustainability.

One interviewee **P11** said: *“You know, the evolution of Uber and Bolt have been not only a challenge for us as taxi business people, but also to the business itself. This is not what we are going to guess because it clear that Uber and Bolt is influencing so negatively our business*

sustainability. We still lucky to have business today, but yesterday, I personally had seven cars running out there, but today I have only three, imagine. Our business is slowly disappearing because of the business of Uber and Bolt. Their negative influence is pushing some of us to close business.”

P2 said: *“You see, years ago you could see a taxi meter everywhere, because the business was good at that time. However, today, you have a feeling that there is no more metered taxi around. These Uber and Bolt business are badly affecting our business. We are not sustainable as a business because even those who used to operate as taxi meter now are doing business with Uber and Bolt.”*

4.5.2. Please tell me about the effects of current app-based services’ business strategies on traditional metered taxi strategies’ sustainability

Most interviewees responded that the current effects of app-based services’ business strategies on traditional metered taxi strategies’ sustainability is negatively affecting their strategy approach. The majority of the respondents believed the overall strategies used by metered taxis do not last, and cannot be compared with those of Uber and Bolt.

P6 said: *“The way things are standing, we don’t have any other strategies, because we tried everything, from adjusting price to services. The easiness, flexibility and luxury vehicle brought by Uber and Bolt is actually negatively affecting our business’ strategy sustainability by making it obsolete. You know customers are falling for Uber and Bolt abilities, and we have tried to reproduce it but no luck. How can you beat the luxury of a new car? Consequently, our old cars are declassified we cannot even use it as a strategy, our trip fare must be made by taking consideration of parking, drivers’ rate per trip and petrol, you see, even if we try to use cheaper trip it not going to much those for Uber and Bolt. It is very difficult to ignore negative effect of Uber and Bolt business strategies on metered taxi strategy sustainability because it killing us.”*

P17 went to say: *“I don’t even know where to start to tell you about the effects of Uber and Bolt business strategies on traditional metered taxi strategy sustainability, all I know is that Uber and Bolt strategy, such as price, technology and selected cars, are really pulling us out of business. I know they don’t use it to harm us, but it negatively affecting our strategy because all we do is not working anymore, mostly the price we can’t keep reducing the price and we can’t effort to by recent cars to do business.”*

4.5.3. What are the current challenges you are facing as metered taxi operators with app-based service presence?

The majority of the interviewees responded that technology innovation and consumer preference are the most current challenges they are facing as metered taxi operators with app-based service presence. From their opinion, most of the interviewees believed that these challenges are negatively affecting operators to keep business going on and they are losing business income. Other few interviewees stressed that the current challenges they are facing as metered taxi operators with app-based services presence are related to luxury transportation. Some interviewees went on to say:

P9 said: "You know the presence of Uber and Bolt is pushing the boundary of this business, most of us are unable to keep up with them. Challenges we facing are difficult to much, like I mentioned technology innovation; that is our biggest challenges because customers are now used with their technology which make it difficult for us, some of us have try to have also telephone technology but it not as welcome as the one for Uber and Bolt."

P16 went to say: "The most current challenges we are facing as metered taxi operators with app-based services presence is that Uber and Bolt as transforming the way customers sees us. When I said customers now prefer Uber and Bolt, that is true, because customers now know that they don't have to walk again to get a taxi; they just request and they are there to pick them up. This is a huge challenge for our business, because customer are key to the business, and we are unable to retain them because they now prefer the easiness brought by Uber and Bolt."

4.5.4. Please tell me how these challenges are influencing your market share

After a brief explanation of what market share is to the interviewees, the interview results show that the majority of the interviewees believed that the mentioned challenges are negatively influencing the portion of their market share.

P3 said: "I do believe that, the current challenges negatively influence our market share growth, we should raise concern about it. I don't know what figures or numbers are out there, but to be honest you do not need numbers or percentage indication to see that in this industry, most of the cars now belong to Uber and Bolt. Our business is losing the battle. Like I said, I don't know the numbers that are out there, but from your explanation of market share, to me it clear that it negatively influencing our share because we losing the market to Uber and Bolt."

4.5.5. Please take me through options available you think traditional metered taxi operators might use to maintain their market share against app-based services

The results from the majority of the interviewees stated that options available that traditional metered taxi operators might use to maintain their market share against app-based services is vigorous implementation of similar technology and adoption of luxury vehicles that will match Uber and Bolt. The minority of interviewees pointed out that a competitive fare price might also be a positive way to maintain market share against app-based service.

P14 went to say: *“You know, it will not be easy but I do believe personally that for us to maintain a good market share against Uber and Bolt, we must acquire a very strong similar technology that connect us directly to customers. These cell phone apps used by Uber and Bolt are the technology that is making our business to lose it market share. So, with a well-developed app that similarly give us also advantage to connect with customers. That will put us back on the map and increase our market share.”*

P5 said: *“I do believe that for now there are no new options available for us to maintain our market share against Uber and Bolt; however, if we can also make use of new and clean cars as they do, I believe we can work on something. I think the use of new cars might work for all of us because customers nowadays want luxury and Uber and Bolt are really giving it to them. If we want to maintain our market share against them we must also use new cars as they do.”*

4.6. Summary

This chapter analysed the data collected from participants. The following chapter will present findings of both quantitative and qualitative approach; also, the discussion of both quantitative and qualitative findings.

CHAPTER FIVE FINDINGS AND DISCUSSION

5.1. Introduction

The purpose of this study was to examine the surviving mechanisms of traditional metered taxi operators' strategies towards the implementation of app-based ride services (Uber and Bolt). The study adopted a comprehensive approach to help traditional metered taxi operators' strategies in order to maintain their position in the market. The current chapter provides findings from the interviews and questionnaires handed to participants. The chapter also provides a discussion that will lead to concluding the study.

5.1.1. Quantitative findings

From the research result, it was evident that the traditional metered taxi industry in the Cape metropolitan area is principally dominated by a presence of male operators or employees. It was also evident that the majority of these male operators or employees were categorised as taxi meter drivers rather than taxi meter operators or taxi owners because of the nature of the study. It found that most of the traditional metered taxis' drivers, owners or operators in the Cape metropolitan area have been working in the industry for more than fifteen (15) years. It was evident that the research revealed "Traditional metered taxi" as the sector of transport in which traditional metered taxis' drivers, owners or operators focused on because of the direction of the study. The research result pointed out that the transport industry sector in which these traditional metered taxis' drivers, owners and operators operating is categorised as "Private industry". From a geographical area, it was found that "Metropolitan", which includes the CBD, was the area where traditional metered taxis' drivers, owners or operators conducted most of their transport services. Because the research was motivated by the influence of app-based ride services on survival strategies of traditional metered taxi operators in the Cape metropolitan area, it was necessary to ask if traditional meter taxis' drivers, owners or operators had knowledge of what app-based ride services (Uber, Bolt) are. From the research result, it was found that traditional metered taxis' drivers, owners or operators do know what app-based services (Uber, Bolt) are.

From the research results, it was established that the existence of app-based ride solutions (Uber, Bolt) in passenger transport does strongly disrupt competition within the industry around the Cape metropolitan area. It was discovered that app-based ride solutions (Uber, Bolt) do disrupt competition by procuring more clients with the use of cell phone apps. The research also found

that Uber and Bolt are disrupting competition because of the use of app technology, and new, comfort vehicles. It was also noted that Uber and Bolt disrupt competition due to the fact that their vehicles are always available and flexible to customers for services. The research result revealed that, competitively, most passengers around the Cape metropolitan area nowadays do prefer Uber and Bolt services than those of traditional metered taxis. It was found that the ongoing disruptive competition triggered by app-based ride services (Uber, Bolt) nowadays is not good for traditional metered taxis' business survival. It was also noted that the app-based ride solutions' (Uber, Bolt) disruptive competition has a negative impact on traditional metered taxis' business survival.

The research found that Uber and Bolt do negatively influence traditional metered taxis' business sustainability through the implementation of high standard services. It was also found that Uber and Bolt do negatively influence traditional metered taxis' business sustainability with the use of comfort vehicles. The research also revealed that app-based ride services (Uber, Bolt) do negatively influence traditional metered taxis' business sustainability regarding the flexibility of their service and availability of their vehicles to customers. It was also found that Uber and Bolt do negatively influence traditional metered taxis' business sustainability through providing safe and secure services to its customers. The research also found that app-based ride services (Uber, Bolt) do negatively influence traditional metered taxis' business sustainability throughout the use of cheaper services.

Regarding traditional metered taxi strategies in the Cape metropolitan area, the research found that current app-based services' business strategies, such as app technology, private new vehicles, and cheaper rides are negatively affecting traditional metered taxis' strategies sustainability. The research revealed that the current effect of app-based services' business strategies makes traditional metered taxis' strategies unable to attract new customers for a long period. Also, it was discovered that the current effect of app-based ride solutions' business strategies makes traditional metered taxi strategies unable to maintain passengers' satisfaction for a long period. The research also revealed that the current effect of app-based ride services' business strategies makes traditional metered taxis' strategies unable to maintain a long run cheaper prices strategy. In addition, the research found that the current effect of app-based ride services' business strategies makes metered taxi strategies unable to maintain the standard of new vehicles. The research found that traditional metered taxis' existing strategies are not sustainable nor competitive compared to those of app-based ride services (Uber, Bolt).

From the research results it was evident that, the effects of current app-based services' (Uber, Bolt) business strategies are negatively influencing traditional metered taxis' market share. It was revealed that the number of traditional metered taxis' trips per day had decreased because of customers using Uber and Bolt services. It was found that metered taxis are losing customers and profitable position in the market due to app-based services' (Uber, Bolt) business strategies. It was revealed that metered taxis' market share is decreasing with Uber and Bolt's adoption of app technology services. The current research reveals uncertainty on traditional metered taxis' market share improvement as most of the results were abstained. Therefore, traditional metered taxis' drivers, owners or operators have no idea on whether traditional metered taxis' market share can be overturned despite aggressive penetration strategies used by app-based services.

Regarding options available to traditional metered taxis to retain a positive market share around the Cape metropolitan area, the research found that, "Introducing app technology", "Implementing much affordable price", "Adopting luxury vehicles", "improving service quality", "enhancing better relationship with customers", "Improving customers security", "adopting flexible pick-up" and "Implementing an easy and accurate payment methods" are some options available to maintain a positive market share for traditional metered taxis.

5.1.2. Qualitative findings

It was established that app-based ride solutions (Uber and Bolt) have a "negative influence" on traditional metered taxis' business sustainability as their business is gradually deteriorating. The research also found that the influence of app-based ride services (Uber and Bolt) is "very bad" for traditional metered taxis' overall sustainability as rendering the business invisible and powerless. The research result revealed that the current effects of app-based ride services' (Uber and Bolt) business strategies is negatively affecting traditional metered taxis' strategy approach. From the research results, it was revealed that traditional metered taxis' strategies do not last under the pressure of strategies used by app-based ride services (Uber and Bolt).

From the research results, it was found that "technology innovation", "luxury transportation" and "consumer preference" are the most current challenges metered taxi operators are facing since the arrival of app-based ride services (Uber and Bolt). It was evident that these challenges are negatively affecting traditional metered taxi operators' market share as it is seen as a direct cause to the loss of business income and sustainable presence. It was evident that technology innovation, luxury transportation and consumer preference of app-based ride services (Uber and Bolt) are negatively influencing the quota of metered taxi operators' market share. From the result,

it was found that vigorous implementation of similar technology, adoption of luxury vehicles that will match Uber and Bolt, discarding of traditional metered taxis, unique car paint, and a competitive fare price might be a positive way to maintain market share against app-based ride services (Uber and Bolt).

5.2. Discussion of findings

The research did show clear evidence of male domination in the traditional metered taxi industry. It can be argued that, in most countries, public and private transport services are mostly operated by males, even though there is a presence of females in the industry; the services in the Cape metropolitan area are still a male dominated occupation. There were more traditional metered taxi drivers than taxi operators or taxi owners. Besides the direction of the research, one can argue that the establishment of the traditional metered taxi business is a focus of one putting together a group of drivers to run the business, it is evident that, there are situation were operators or owners act as a drivers for his own car.

Taking passengers from one point to another has been a long-lasting business for several traditional metered taxi drivers, operators or owners. Having 15 years' working experience proves how old the business has been present in the City of Tape Town. From their focus regarding the "traditional metered taxi" sector, it is apparent that the business has been categorised as a private industry. One can argue that this business is purely considered as a private industry as operators exercise their activity out of government control. The City of Cape Town is very large with well-recognised points of activities. One can argue that the focus of most traditional metered taxi drivers operating in the "Metropolitan area", which includes the CBD, is motivated by the intensity of activities in that area; the area houses most administrative offices and recreation edifices that encourage more passengers to visit. It can be argued that the impact that app-based ride services (Uber, Bolt) has brought on the society cannot make them go unnoticed. It would be impossible for traditional metered taxi drivers, owners or operators to not know the existence of such businesses.

The research did find that the existence of app-based ride services (Uber, Bolt) does disrupt competition within the industry of transport around the Cape metropolitan area. One can argued that the way of doing business adopted by app-based ride services (Uber, Bolt) has taken this industry's competition by storm and to another level. As a first mover coupled with flexibility of its services, these aspects are upsetting competition as they attract more passengers than traditional metered taxis with the use of app technology. For many reasons behind the way Uber and Bolt

are disrupting competition as found in the research, it can be argued that aspects such as using app technology and new vehicles, would certainly change the course of competition as metered taxis will present certain disadvantages of being unable to use such strategies.

It is a fact that when one's activities are mostly available and flexible it will position itself with a good control of competition. When compared to other businesses that are not flexible or not readily available, such as traditional metered taxi businesses, it is clear that the level of disruptive competition as been considered at large advantage for app-based ride services, as they benefit more with the use of technology and flexibility which in result pushes most passengers to prefer much more services offered by app-based ride services (Uber, Bolt). One can argue that these disruptions are not good for traditional metered taxis' business survival. For an organisation to survive, they must have good control of competition with other major businesses classified as competitors. This is not the case for traditional metered taxis in the Cape metropolitan area as it was found that disruptive competition is actually impacting negatively on traditional metered taxis' business survival and its core business sustainability because of its poor position.

The research did find that app-based ride services (Uber, Bolt) do negatively influence traditional metered taxis' business sustainability within the Cape metropolitan area. It can be argued that it is undeniable with the fast evolution of app-based ride services (Uber, Bolt) to not negatively influence traditional metered taxis' business sustainability. This is because Uber and Bolt do take advantage of implementing high standard services. With such aspects, it evident that they will increase their presence in the market which will have a negative influence on metered taxis' business sustainability. Furthermore, it can be argued that by applying aspects such as the use of comfort vehicles, availability of vehicles, flexibility in service, providing safe and secure services to its customers and cheaper services, points to the direct reasons behind app-based ride services' (Uber, Bolt) superiority. This negatively influences traditional metered taxis' business sustainability. It is clear that these aspects give more opportunity to app-based ride services (Uber, Bolt) to grow and remain sustainable than traditional metered taxis.

The research did find that current app-based ride services business strategies such as app technology, luxury new private vehicles, and cheaper rides are negatively affecting traditional metered taxis' business strategies' sustainability. Regarding the use of luxury new private vehicle for example, one can argued that this strategy, which is regarded as a key strategy for Uber and Bolt, is the one that upsets most metered taxi operators. This is because metered taxi operators have to go against vehicles that give confidence and luxury to customers, while they have to use

mostly used and practical vehicles with modified paint colour to maintain rules and regulation of the operator's brand. These added elements negatively affect how customers view the vehicle. Low prices, on the other hand, upset metered taxi operators as their prices have to meet their expenses. They must set prices by keeping in mind that taxes and wages have to be paid, which is not the case for Uber and Bolt.

It can be argued that this unfortunate issue keeps traditional metered taxi operators from not having sustainable or competitive strategies that can compete with those for Uber and Bolt. As it was found, all traditional metered taxi strategies are unable to be managed for a longer period as they get obsolete quickly from the pressure of Uber and Bolt strategies. Traditional metered taxis' business strategies were found to be not competitive or sustainable compared to those for Uber and Bolt. One can argue that the fact that strategies used by Uber and Bolt are dominating the business environment, it is evident to align that these strategies suppress traditional metered taxi's strategies as they patronage the all strategies method.

From the research findings, it was revealed that the effects of current app-based ride services' (Uber, Bolt) business strategies are negatively influencing traditional metered taxi's market share. It is evident for current app-based ride services' (Uber, Bolt) business strategies to negatively influence traditional metered taxis' market share. It can be said that as customers pushed to admire services provided by Uber and Bolt more, this should negatively affect metered taxis' market share. Maintaining a positive market share requires good strategies for a good competitive position in order to have an acceptable market penetration. It can be viewed that this is not working for traditional metered taxis' strategy around the Cape metropolitan area as Uber and Bolt strategies are dragging down metered taxis' daily trips, resulting in them losing customers and not being able to keep up with Uber and Bolt's adoption of app technology services. The research did reveal that traditional metered taxi drivers, owners or operators have no idea whether traditional metered taxis' market share might be overturned despite the aggressiveness of Uber and Bolt's strategies. It can be argued that none of the transport business operators can predict what comes next for app-based ride services (Uber and Bolt). This makes it difficult for predicting the course of traditional metered taxis' market share improvement. Clearly, the uncertainty is because of the way app-based ride services (Uber, Bolt) are conducting their business and how traditional metered taxis are far from competing and declaring their space in the business.

It can be argued that business in today's environment must be technology integrated, and that the use of technology innovation, such as app technology, should be a positive and an important

option for traditional metered taxis to maintain a positive market share. “Implementing much affordable price”, “Adopting luxury vehicles”, “Improving service quality”, “Enhancing better relationship with customers”, “Improving customers security”, “Adopting flexible pick-up” and “Implementing an easy and accurate payment methods” are positive options capable of helping traditional metered taxis to maintain a positive market share as these strategies might challenge Uber and Bolt and reposition traditional metered taxis on the market. The cited strategies are well thought and well known. However, vigorous implementation must be a key point as for example, certain metered taxi companies had tried to integrate technology in their business that shows limited success.

5.3. Comparison to past research

The researcher leaned on comparing the current research findings to those from the past existing research so as to accurately represent the research results. For the purpose of this research, a comparison was made with past research conducted with the direction of investigating app-based ride services and traditional metered taxis in local and international cities. Precedent research, such as the one conducted by Dube (2015) on “Uber: a game-changer in passenger transport in South Africa?” revealed similarity of finding to the current research. The author found that the challenge for traditional metered taxis in competing against app-based ride services (Uber and Bolt) is that they tend to disrupt competition by advantageously making use of advanced technology, and provide cheap and efficient services to consumers, which strengthens their competitive environment. The current research also find that, the existence of app-based ride services (Uber, Bolt) in passenger transport does strongly disrupt competition around the Cape metropolitan area by acquiring more customers through the use of cell phone apps, new and comfort vehicles, availability and flexibility.

Regarding the strategy, a study by Sun et al. (2015) on “Assessment of the Impacts of App-based Ride Service on Taxi Industry: Evidence from Yiwu City in China, Washington: Transportation Research Board”, revealed that app-based ride services (Uber, Bolt) do embark on aggressive strategies such as attracting newer vehicles. The findings of Sun et al. (2015) are similar to the current research findings conducted in the Cape metropolitan area. The current research also revealed that app-based ride services (Uber, Bolt) are focusing on a private and new vehicles strategy, which is negatively affecting traditional metered taxis’ strategies’ sustainability.

Onyango (2016) in his research, “e-hailing applications adoption and competitiveness of app-based taxi operators in Nairobi, Kenya” revealed that app-based ride services are enjoying an

absolute advantage that technology innovation is providing when compared to traditional taxis. This includes growth in income, and through acquiring more clients. These results are parallel with the current research as it was found that “technology innovation” and “consumer preference of Uber and Bolt” are the most current challenges metered taxi operators are facing since the arrival of app-based ride services (Uber and Bolt) in the Cape metropolitan area.

The current research finding also matches Dunn’s (2015) study on “Taxi driver who kept working during a 3,000 strong protest against Uber in Portugal is attacked in the street by angry cabbies” and Dube’s (2015) finding on the influence of app-based ride services fixed that are priced way below the norm in order to attract more customers. The current research findings point to app-based ride services (Uber and Bolt) in the Cape metropolitan area focusing on cheaper rides, which results negatively influencing traditional metered taxis’ business strategies’ sustainability.

Bashir, Yousaf and Verma (2016) in their research on “Disruptive Business Model Innovation: How a Tech Firm is Changing the Traditional Taxi Service Industry”, did find that app-based ride services have negatively influenced the taxi industry business model particularly to metered taxis through an important disruption that has changed old practices regarding capital requirements, metered taxi and drivers. Similarly, a report by the National Economic Development and Labour Council (NEDLAC) (2014), “Report on the metered taxi implementation strategy”, also pointed to the effects of Uber services in South Africa having impacted significantly on the local passenger transport industry and negatively affected traditional metered taxi operators. The above results are the same with the current research findings as it was found that Uber and Bolt around the Cape metropolitan area do negatively influence traditional metered taxis’ business sustainability through the implementation of high standard services and other subsidies; such as the use of comfort vehicles, flexibility and availability of their service vehicles.

Writer’s (2016) study on “Bolt relaunched in South Africa to take on Uber and metered taxis” revealed that app-based ride services (Uber and Bolt) enjoy the majority of the market compared to their rivals. Conversely, Chen’s (2015) research finding also pointed to the imperative position of app-based ride services (Uber and Bolt) on the market as it is impacting on consumers’ habits and changed the local travel demand. These results are similar to the current research finding as the research found that the effects of current app-based services’ (Uber, Bolt) business strategies are negatively influencing traditional metered taxis’ market share. Their number of trips per day has decreased and they are losing customers and their profitable position in the market because of customers using Uber and Bolt services.

CHAPTER SIX CONCLUSION AND RECOMMENDATION

6.1. Introduction

The previous chapter presented the research findings from the questionnaires handed to participants and interviews. The chapter also provided a discussion, which leads to conclude the study. This chapter provides answers by addressing the research's main questions. It also concludes and suggests certain recommendations based on the research findings. Limitations encountered are outlined and possible areas of further research are provided.

6.2. Addressing the research questions

This section provides answers to the research questions to give clarification to the study.

- **How do app-based ride services influence business sustainability of traditional metered taxis?**

App-based ride business services and those for traditional metered taxi are cared similarly to transport passengers from one point to another; however, app-based ride services are negatively influencing traditional metered taxis' business sustainability throughout different perspectives. Those perspectives are characterised by fast growing ability and embracing technology, and by the use of high standard services, such as implementing the use of luxury and comfort vehicles. It also includes focusing on availability of vehicles and flexibility of its services, providing safe and secure services to its customers and charging cheaper services per trip. These aspects are helping app-based ride services with more opportunities to grow and remain sustainable than traditional metered taxis where business is disappearing or decreasing.

- **What are the effects of current app-based ride services business strategies on traditional metered taxi strategy sustainability?**

Traditional metered taxis 'existing strategies are not sustainable or competitive compared to those for app-based ride services (Uber, Bolt). The effects of well-organised and sustainable aspects of current app-based ride services' (Uber, Bolt) strategies, such as app technology, luxury new private vehicles, and cheaper rides, are negatively affecting traditional metered taxis' strategies sustainability. These unfortunate strategies by Uber and Bolt keeps traditional metered taxi operators from not having sustainable or competitive strategies that can compete with those of

Uber and Bolt. App-based ride services' business strategies are making metered taxis' strategies unable to attract new customers. This is so as to maintain passengers' satisfaction, maintain prices strategy and a standard of new vehicles for a much longer period. All traditional metered taxis' strategies are unable to be managed for long periods as they get obsolete quickly from the pressure of Uber and Bolt strategies.

- **How do current challenges facing metered taxi operators and drivers influence their market share?**

App technology innovation, new and luxury vehicle, comfort vehicles, availability of vehicle and flexibility in service, providing safe and secure services to its customers and cheap services are selected challenges faced by metered taxi operators and drivers as customers now prefer more service provided by Uber and Bolt than traditional metered taxi. These challenges are negatively influencing traditional metered taxi operators' market share. It is evident that, maintaining a positive market share require good strategies in order to have an acceptable market penetration; however, current app-based ride services (Uber, Bolt) business strategies are dragging down traditional metered taxi's daily trips, it makes metered taxi to lose customers and market position and are unable to keep up with Uber and Bolt adoption of app technology services on the market.

- **What are the options available to traditional metered taxi operators to maintain their market share?**

Traditional metered taxis' drivers, owners or operators have no idea whether the traditional metered taxis' market share can be overturned despite the aggressive penetration strategy used by app-based services. The following are options available identified for traditional metered taxi operators to maintain their market share. These are: "adopting app technology", "Implementing much affordable price", "Adopting new and luxury vehicles", "improving service quality", "enhancing better relationship with customers", "Improving customers security", "adopting flexible pick-up" and "Implementing an easy and accurate payment methods". With a vigorous implementation, these strategies will maintain a positive market share for traditional metered taxi companies.

6.3. Limitation of the research

Firstly, the research was limited to traditional metered taxi operators, drivers and owners around the Cape metropolitan area, which includes the CBD in Cape Town only. Secondly, the research was limited regarding definite information as some respondents were less knowledgeable

regarding management terms used in the questionnaire. Third, the research was also limited in the fact that respondents in the quantitative survey might only select familiar words to them. Fourth, the research was based only on two app-based services (Uber and Bolt).

6.4. Recommendation

To maintain business sustainability and market share against app-based ride services, traditional metered taxis must vigorously:

- Implement similar app technology to match app-based service flexibility.
- Concentrate on improving standard services, through luxury and comfort vehicles.
- Consider eliminating company vehicle marked paint in order to use original vehicle painting and attribute different signs that identify the company.
- Employ experienced and educated drivers to ensure safety and security of customers.
- Adopt cheap services to match those of app-based services.
- Concentrate on preserving a long run strategy to maintain a positive market share.

6.5. Conclusion and possible further study

The current research raised the problem of traditional metered taxis' survival with regards to the entry of mobile technology's app-based ride services such as Uber and Bolt who focus on business strategies such as private cars, technology, cheaper rides and other subsidies into passenger transport markets in the Cape metropolitan area. The goal of this research is to observe the survival mechanisms of traditional metered taxi operators' strategies in response to the implementation of Uber and Bolt strategies and envisage a comprehensive approach to help traditional metered taxi operators' strategies in order to maintain their position in the market.

Passenger transportation is essential in South Africa, mostly for bigger cities such as Cape Town, particularly for local and tourist transportation in order to maintain social development. The traffic congestion caused by app-based ride services (Uber, Bolt) and traditional metered taxi services have been widely noticed in the Cape metropolitan area. Nevertheless, some of these services, such as app-based services (Uber, Bolt), are enjoying a robust advantage that is upsetting the survival of traditional metered taxis around the Cape metropolitan area. Despite traditional metered taxis' long existing experience in the market, the industry is still unable to maintain its competition position with app-based services (Uber, Bolt) who are combining the use of technology and other subsidies to disrupt competition within the industry. For traditional metered taxis around

the Cape metropolitan area, these strategies perpetrated by app-based ride services (Uber, Bolt) are viewed as a concern as they have a direct negative effect on their business survival.

For traditional metered taxis, the aggressiveness of app-based ride services (Uber, Bolt) strategies, such as implementation of high standard services, make use of comfort vehicles, maintaining flexibility of service and availability of the vehicle, providing safe and secure services to customers is giving less room for their business survival. It is evident that, for any service to survive in this industry, consistency has to be proven in their principal strategies; which is not the case with traditional metered taxis around the Cape metropolitan area. It is evident that in Cape Town, their core business strategies are proven not to be sustainable. App-based services' (Uber, Bolt) strategies action are well calibrated, which has a direct negative influence on traditional metered taxi survival strategies. It is clear that it does render their strategies obsolete, unable to attract new customers, unable to maintain passenger's satisfaction, unable to maintain a long run prices' strategy and unable to maintain the standard of new vehicles for a considerable period in order to maintain it survival strategies.

Consequently, metered taxis in the Cape metropolitan area are experiencing a decrease in their daily business activities, mostly unable to hold onto customers and their profitable position in the market as app-based services (Uber, Bolt) are adopting considerable pressure through their strategies. Traditional metered taxis in Cape Town are aware that their competitive actions do not match those of app-based ride services (Uber, Bolt) and it is clear that they have to redefine their business survival and the position in terms of market share. To do so, several options such as vigorous implementation of similar strategies as app-based services (Uber, Bolt) were mapped to overcome all the negative influence over business and strategies' survival situation. From this point, possible research might be needed in finding the reason behind traditional metered taxis in Cape Town's uncertainty on market share improvement despite options given to match the aggressiveness of app-based services.

REFERENCES

- Babbie, E. 2004. Survey research. *The practice of social research*, 10(1):242-280.
- Babbie, E. 2010. *The Practice of Social Research*. Belmont: Wadsworth Cengage
- Babbie, E. & Mouton, J. 2001. *The Practice of Social Research*. Cape Town: Oxford University Press. pp. 489-516.
- Babbie, E.R. & Mouton, J. 2010. *The practice of social research*. Cape Town: Oxford University Press.
- Barry, H. 2015. Does it pay to own an Uber? *Moneyweb*.
<http://www.moneyweb.co.za/moneyweb-radio/safm-market-update/>. [11 July 2019].
- Bashir, M, Yousaf, A. & Verma, R. 2016. Disruptive business model innovation: How a tech firm is changing the traditional taxi service industry. *Indian Journal of Marketing*, 49-59.
- Bickford, G. 2013. *South African Cities Network: Literature review on public transport and mobility in municipalities*. http://www.sacities.net/wp-content/uploads/2014/10/literature_review_on_public_transport_and_mobility.pdf [11 July 2019].
- Bless, C. & Smith, C.H. 2000. *Fundamentals of social research methods: An African perspective*. Lusaka: Juta Education.
- Bhuiyan, J. 2018. Uber Powered Four Billion Rides in 2017. It Wants to Do More and Cheaper in 2018. *Recode*. <https://www.recode.net/2018/1/5/16854714/uber-four-billion-rides-coo-barney-harford-2018-cut-costs-customer-service>. [15 March 2019].
- Burns, N. & Grove, S. 2003. *Understanding quantitative research*. 3rd ed. Philadelphia: W. B. Saunders.
- Business Tech. 2015. *Black middle class on the rise in South Africa*
<https://businesstech.co.za/news/wealth/98964/black-middle-class-on-the-rise-in-south-africa/> [20 April 2019].
- Chan, N.D. 2012. Ridesharing in North America: Past, Present, and Future. *Transport Reviews*, 32:1, 93-112.
- Chen, Z. 2015. Impact of ride-sourcing services on travel habits and transportation planning. Master's thesis, Beijing Jiaotong University.
- Clewlow, R.R. & Mishra, G.S. 2017. *Disruptive transportation: the adoption, utilization, and impacts of ride-hailing in the United States (7)*. Research Report–UCD-ITS-RR-17.
- CPUC. 2016. *Transportation Network Companies*. <http://www.cpuc.ca.gov/General.aspx?id=787> [02 May 2019].
- Coldwell, & Herbst, F. 2004. *Business research*. Cape Town: Juta and Co.
- Collins, J. & Hussey, R. 2013. *Business research: A practical guide for undergraduate and postgraduate students*. Basingstoke: Palgrave Macmillan.
- Competition Commission of South Africa. 2018. Discussions on the “WP2 Roundtable on taxis, ride-sourcing and ride-sharing services”. <https://concurrences.com/en/bulletin/news-issues/april->

[2018/the-OECD-holds-a-roundtable-on-taxis-ride-sourcing-and-ride-sharing-services](#)[18 March 2019].

Commuter Connections. 2015. *How Ridesourcing services fit into the transportation landscape*. <http://www.commuterconnections.org/wp-content/uploads/Newsletter-Winter-2015.pdf> [22 April 2019].

Cramer, J. & Krueger, A.B. 2016. Disruptive change in the taxi business: The case of Uber. *The American Economic Review*, 106(5):177-182.

Creswell, J. 2008. *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River: Pearson/Merrill Education.

Creswell, J.W. 2009. *Research design: Qualitative, Quantitative, and Mixed Methods Approaches*. London: Sage Publications.

Davidson, L. 2015. The colossal cost of competing with Uber. *The Telegraph*. <http://www.telegraph.co.uk/finance/newsbysector/transport/11478167/The-colossal-cost-of-competing-with-Uber.html> [23 March 2019].

Dube S.C. 2015. Uber: a game-changer in passenger transport in South Africa. *CCRED Quarterly Review* <http://www.competition.org.za/review/2015/11/22/uber-a-game-changer-in-passenger-transport-in-south-africa> [2 March 2019].

Dunn, J. 2015. 'Taxi driver who kept working during a 3,000 strong protest against Uber in Portugal is attacked in the street by angry cabbies'. <https://dailymail.co.uk/news/article-3226651/amp/-Taxi-driver-who-kept-working-during-a-3,000-strong-protest-against-Uber-in-Portugal-is-attacked-in-the-street-by-angry-cabbies.html>[26 February 2019].

Durheim, E. 2000. *Who's who in the twentieth century*. http://historylearningsite.co.uk/structured_questionnaires.htm [12 February 2019].

Eisenmeier, S.R.J. 2018. *Ride-sharing platforms in developing countries: effects and implications in Mexico City*. Pathways for Prosperity Commission Background Paper Series, No. 3, Oxford.

Eye for Travel. 2015. *Uber in South Africa: great for riders, what about the drivers'*. <http://www.eyefortravel.cm/>. [16 May 2016].

Galletta, A. 2013. *Mastering the Semi-structured interview and Beyond: From Research Design to analysis and Publication*. New York & London: New York University Press.

Gravetter, F.J. & Forzano, L.B. 2012. *Research methods for the behavioral sciences*. London: Wadsworth Cengage Learning.

Geitung, I. 2017. *Uber drivers in Cape Town: Working conditions and worker agency in the sharing economy*. Master's thesis, University of Oslo.

Holloway, I. & Wheeler, S. 2002. *Qualitative research in education*. 2nd ed. Blackwell: Oxford.

Ingle, M. 2009. *An historical overview of problems associated with the formalization of the South African minibus taxi industry*. *New Contree*, 57:71–86.

Isaac, E. 2014. *Disruptive Innovation: Risk-Shifting and Precarity in the Age of Uber*. *Berkeley Roundtable on the International Economy*, BRIE Working Paper 2014-7.

- Ivankova, N.V. & Greer, J.L. 2015. Mixed methods research and analysis. In Paltridge, B. & Phakiti, A. (eds). *Research methods in applied linguistics: A practical resource* (pp. 63-82). London: Bloomsbury.
- Johnson, D. 2014. See where Uber faces the biggest competition. *Time Tech*. <http://time.com/3598873/uber-alternatives/Academic>. [11 May 2019].
- Karnik, M. 2015. Uber's biggest competitor in its second-largest market is getting even bigger. Quartz India. <http://qz.com/353773/ubers-biggest-competitor-in-its-second-largest-market-is-getting-even-bigger/> <http://www.businessinsider.com/uber-china-2014-8?IR=T> [22 May 2019].
- Laurell, C. & Sandström, C. 2016. Analysing uber in social media disruptive technology or institutional disruption? *International Journal of Innovation Management*, 20(5):19.
- Lisa, R. 2014. App-Based, On-Demand Ride Services: Comparing Taxi and Ridesourcing Trips and User Characteristics in San Francisco. Berkeley: UCTC.
- LoBiondo-Wood, G. & Haber, J. 2013. Nursing research in Canada: Methods, critical appraisal and utilization with study guide. Milton: Elsevier Science.
- Lowitt, S. 2006. *The job-creating potential of the metered taxi industry in South Africa's urban areas: some preliminary findings*. Research report, Employment Growth & Development Initiative, Human Sciences Research Council (HSRC), South Africa.
- Manuturi, V. 2015. 'Uber on the Defensive After Ban from Bandung Streets'. Jakarta Globe
- Monette, D. R., Sullivan, T. J. & De Jong, C.R. 2011. Applied social research: a tool for the human services. 8th ed. New York: Publisher?
- Mert, İ.S. Bayramlik, H. & Turgut, H. 2014. A qualitative research to define the successful decision making competencies in public sector: evidence from Turkey. *International Journal of Academic Research in Business and Social Sciences*, 4(5):395-409.
- Mokoena. 2016. "Are Uber Drivers Employees? A look at Emerging Business Models and Whether they can be Accommodated by South African Labour Law", *Industrial law journal*, 1574.
- Mouton, W. 2000. *Social research methods*. Pretoria: Oxford University Press.
- Mtila, A. 2016. Africa's richest-square-mile Uber drivers attacked". *CNBC Africa*. <http://www.cnbc.com/news/africa>. [11 April 2019].
- Munshi, R. 2016. 101: Uber in SA. *Financial Mail*. <http://www.financialmail.co.za/fmfox/2016/05/91/101-uber-in-sa/>. [22 May 2016].
- Naik, S. 2015. We compare: Uber vs metered taxi <http://www.iol.co.za/motoring/industry-news/>. [11 February 2019].
- National Household Travel Survey (NHTS). 2003. *Travel and Household Database 2003*. South African Bureau of Statistics on Collaboration with the South African Department of Transport, Pretoria, South Africa.
- National Household Travel Survey (NHTS). 2013. *Travel and Household Database 2013*. South African Bureau of Statistics on Collaboration with the South African Department of Transport, Pretoria, South Africa.

- Nemusimbori, N.E. 2017. An appraisal of the status of Uber drivers in South African labour law. Master's thesis, University of Pretoria.
- Organisation for Economic Co-operation and Development (OECD). 2018. *Taxi, Ride-Sourcing and Ride-Sharing Services*. Directorate For Financial and Enterprise Affairs Competition Committee. Working Party No. 2 on Competition and Regulation, South Africa.
- Onyango, J.J. 2016. *E-hailing applications adoption and competitiveness of app-based taxi operators in Nairobi, Kenya*. Master's thesis, University of Nairobi.
- Pau, A. 2016. Politsei tunnistas Uberi juhtide tegevuse Eestis ebaseaduslikuks. <http://tehnika.postimees.ee/3578037/politsei-tunnistas-uberi-juhtide-tegevuse-eesisebaseaduslikuks> [23 February 2019].
- Phakathi, B. 2016. Cape Town impounds more than 300 Uber vehicles". *Business Day*. <http://www.bdlive.co.za/national/cape-town-impounds-more-than-300-ubervehicles/>. [18 June 2016].
- Ponelis, S.R. 2015. Using Interpretative Qualitative Case Studies for Exploratory Research in Doctoral Studies: A Case of Information System Research in Small and Medium Enterprises. *International Journal of Doctoral Studies*, (10):535-550.
- Polit, D. & Hungler, T. 2001. *Introduction to research design* <http://dwb4.unl.edu./Diss/Hardy/chapter3.pdf> [3 February 2019].
- Popper, B. 2015. 'New York City's taxi industry insiders made an app to compete with Uber: A way to hail yellow cabs without the extra fee or surge pricing'. *The Verge*
- Rayle, L., Dai, D., Chan, N., Cervero, R. & Shaheen, S. 2016. Just a better taxi? A survey-based comparison of taxis, transit and ridesourcing services in San Francisco. *Transport Policy*, 45:168-178.
- Rayle, L., Shaheen, S., Chan, N., Dai, D., & Cervero, R. 2014. *App-based, on-demand ride services: Comparing taxi and ridesourcing trips and user characteristics in San Francisco*. Berkeley: UCTC.
- Reja, U., Manfreda, K. L., Hlebec, V. & Vehovar, V. 2003. Open-ended vs. closed-ended questions in web questionnaires. *Developments in Applied Statistics*, 19:159–177.
- Rodrigues da Silva, A.N. & Balassiano, R. 2011. *Global Taxi Schemes and Their Integration In Sustainable Urban Transport Systems*. São Paulo: University of São Paulo.
- Rowlands, B. 2005. Grounded in practice: Using Interpretive research to build theory. *The Electronic Journal of Business Research Methodology*, 3(1):81-92.
- SA Taxi. 2017. *Business Overview: Financial years 2017*. www.sataxi.co.za [16 February 2019].
- Sreejesh, S., Anusree, M.R., & Mohapatra, S. 2014. *Business Research Methods: An Applied Orientation*. Basel: Springer International Publishing.
- Shaffer, P. 2013. *Q-squared: Combining qualitative and quantitative approaches in poverty analysis*. Oxford: Oxford University Press.
- Schaller Consulting. 2018. *The New Automobility: Lyft, Uber and the Future of American Cities Brooklyn New York*

- Schalekamp, H. & Behrens, R. 2013. "Engaging the paratransit sector in Cape Town on public transport reform: Progress, process and risks". *Research in Transportation Economics*, 39(1):185-190.
- Teddlie, C. & Yu, F. 2007. Mixed Methods Sampling: A Typology with Example. *Journal of Mixed Methods Research*, 1(1):77-100.
- Thanh, N.C. & Thanh, T.T.L. 2015. The interconnection between interpretivist paradigm and qualitative methods in education. *American Journal of Education Science*, 1(2):24-27.
- Transport for Cape Town (TCT). 2013. Comprehensive integrated transport plan. City of Cape Town
- Transportation Research Board. 2015. *Between Public and Private Mobility: Examining the Rise of Technology-Enabled Transportation Services*. TRB Special Report 319, December 2015.
- Vanderschuren, M. & Baufeldt, J. 2017. *Ride-sharing: A potential means to increase the quality and availability of motorised trips while discouraging private motor ownership in developing cities?* Thredbo 15 Conference, 13-17 August 2017.
- Wade, M. 2015. How to avoid being 'Uberized'. International Institute for Management Development. <http://www.imd.org> [12 February 2019].
- Zikmund, W.G. 2003. *Business Research Methods*. 7th ed. London: Thomson/South-Western.
- Welman, C., Kruger, F. & Mitchell, B. 2006. *Research methodology*. Cape Town: Oxford University Press. pp. 9-79.
- Wicks, J. 2016. Stolen Uber vehicle leads cops to murder suspects. *News24*. <http://www.bnews24.com/SouthAfrica/News/>. [11 October 2019].
- World Bank Group. 2016. *World Bank Database, Population growth (annual %), period 1960-2016*. <http://data.worldbank.org/indicator/SP.POP.GROW>. [26 February 2019].
- Writer, S. 2016. 'Taxify relaunched in South Africa to take on Uber and metered taxis'. Mybroadband .
- Yin, R.K. 2003. *Case study research: Design and methods*. Thousand Oaks: Sage Publications.
- Ziady, H. 2016. Transaction Capital plans to dominate SA's metered taxi industry. *MSN*. <http://www.msn.com/en-za/news/other/>. [11 May 2019].
- Zott, C., Amit, R., & Massa, L. 2011. The business model: Recent developments and future research. *Journal of Management*, 37(4):1019-1042.

APPENDICES

APPENDIX A: RESEARCH QUESTIONNAIRE

QUANTITATIVE QUESTIONNAIRE

Research title: The influence of app-based ride services on survival strategies of formal metered taxi operators in the Cape metropolitan area

Name of the researcher: Siphokazi Nonyusa
Course: Master of Technology: Business Administration
Department: Business and Management Science
Name of University: Cape Peninsula University of technology (CAPE TOWN CAMPUS)
University address: Keizersgracht Street P.O Box 652 CAPE TOWN Postal code: 8000
University contact details: +27 (0)21 460 3068

I Siphokazi Nonyusa, am conducting this study for the fulfilment of Master of Technology degree in Business Administration. This study aims to examine the survival mechanisms of traditional metered taxi operators' strategies toward the implementation of app-based ride services. The study will also envisage comprehensive approach to help traditional metered taxi operators' strategies in order to maintain their position in the market.

The information will be treated as confidential and will only be used for the purpose of the research. Your participation in this investigation is entirely voluntary. As a respondent, you have to respond personally to all questions in the paper. For a non-English speaker you might solicit support from an English speaker. The respondent is free to decline or exit from the investigation process. No risks of participating in this investigation are anticipated. As taxi operator you will broadly benefit from the study.

This research has been reviewed and approved by the CPUT Office of Research Ethics. All respondents might address any concerns or complaints to Siphokazi Nonyusa (+27 814375766, nonyusas@gmail.com). The final report will be placed on University websites to be used in promotional and educational materials, and policy-related initiatives.

I agree, of my own free will, to participate in this questionnaire survey for the Cape Peninsula University of Technology.

Yes / No

QUANTITATIVE QUESTIONS

1. Please indicate your gender

Male Female

2. Please indicate your status

Taxi driver Taxi owner Taxi operator Other

3. For how long have you been a taxi driver, taxi owner or operator?

1-5 years	5-10 years	10-15 years	Over 15 years

4. What is your focus transportation?

Taxi meter Traditional taxi Other

5. Which transport industry sector do you operate?

Private industry Public industry Other

6. What is the geographical focus in which you provide transportation?

CBD Cape Town suburb Metropolitan area All above

7. Do you know what is app-based services (Uber, Bolt)?

Yes No

8. App-based service disruptive competition

	Agree	Strongly agree	Neutral	Disagree	Strongly disagree
App-based services (Uber, Bolt) implementation does disrupt competition within passenger transport industry					
App based service acquire more customers with their integrated cellphone Apps					
Most passengers now do prefer Uber and Bolt services					
Uber and Bolt are strong because of app technology and new vehicle					
Uber and Bolt vehicles are readily available and flexible					
App-based service disruptive competition today is good for business survival of traditional metered taxi					

App-based service disruptive competition has negative impact on business survival					
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9. App-based services (Uber, Bolt) influence to traditional metered taxi's business sustainability

	Agree	Strongly agree	Neutral	Disagree	Strongly disagree
App-based services (Uber, Bolt) negatively influence traditional metered taxi's business sustainability					
Uber and Bolt negatively influence traditional metered taxi's business sustainability through the implementation of high standard services					
Uber and Bolt negatively influence traditional metered taxi's business sustainability with the use of comfort vehicles					
Uber and Bolt negatively influence traditional metered taxi's business sustainability in terms of flexibility and availability					
Uber and Bolt negatively influence traditional metered taxi's business sustainability throughout the safety and security of customer					
Uber and Bolt negatively influence traditional metered taxi's business sustainability throughout of cheap services fares fees.					

10. Current effect of app-based services business strategies on traditional metered taxi's strategy sustainability

	Agree	Strongly agree	Neutral	Disagree	Strongly disagree
Current app-based services business strategies such as app technology, private new vehicle, cheaper ride is negatively affecting traditional metered taxi's strategies sustainability					
Metered taxi strategies are unable to attract new more customers for a long period					
Metered taxi strategies are unable to maintain passenger satisfaction for a long period					

Metered taxi strategies are unable to maintain a long run prices strategy					
Metered taxi strategies are unable to maintain the standard of new vehicle					
Traditional metered taxi's current strategies are sustainable or competitive compared to those applied by app-based ride services					

11. Influence of current app-based services business strategies on traditional metered taxi market share

	Agree	Strongly agree	Neutral	Disagree	Strongly disagree
Current app-based services business strategies are negatively influencing traditional metered taxi's market share					
The number of Traditional metered taxi's trips per day has decreased with use of Uber and Bolt services					
loss of customers and profitable position in its market.					
Traditional metered taxi's market share is decreasing with Uber and Bolt services Apps adoption					
Traditional metered taxi market share can be overturn despite aggressive strategy penetration by app-based services					

12. Options available to traditional metered taxi to maintain a positive market share

	Agree	Strongly agree	Neutral	Disagree	Strongly disagree
To enhance better relationship with customers					
The desire to improve service quality					
Improve booking option					
Introduce app technology					
Implement much affordable price					
Adopt luxury vehicles					
Implement an easy and accurate payment methods					
flexible pick up					
Improve customers security					

SIPHOKAZI NONYUSA
Master of Technology: Business Administration
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Cape Peninsula University of technology

QUALITATIVE QUESTIONNAIRE

Research title: The influence of app-based ride service on sustainability strategies of formal metered taxi operators in the Cape Metropolitan Area

I would like to invite you to take part in my research study that aims to examine the surviving mechanisms of traditional metered taxi operators' strategies toward the implementation of app-based ride services. The study will also envisage comprehensive approach to help traditional metered taxi operators' strategies in order to maintain their position in the market.

If you agree to participate in this research, time and location to conduct the interview will entirely be of your choice. Questions about background, activities and perception will be asked. The interview should last about 20 to 30 minutes. The information will be treated as confidential and will only be used for the purpose of the research. Your participation in this investigation is entirely voluntary. You are free to decline to answer any questions you don't wish to, or to stop the interview at any time. If results of this study are published or presented, individual names and other personally identifiable information will not be used. The original interview record will be held in locked cabinets in the university offices until the end of the investigation, and then destroyed.

With your permission, please select the appropriate format:

Audiotape Yes No

Notes Yes No

Videotape Yes No

If you agree to being audiotaped or videotaped but feel uncomfortable at any time during the interview, I will turn off the recorder at your request. If you have any questions please contact Siphokazi Nonyusa (+27 814375766, nonyusas@gmail.com).

Agree to participate in this study
Yes No

Name:.....Signature:.....Date:/...../.....

QUALITATIVE QUESTIONS

1. Please tell me about the influence that app-based services such as Uber and Bolt has on business sustainability of traditional metered taxi

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2. Please tell me about the effects of current app-based services business strategies on traditional metered taxi strategy sustainability.

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3. What are the current challenges you facing as metered taxi operators with app-based service presence?

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4. Please tell me how these challenges are influencing your market share

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5. Please take through options available you think traditional metered taxi operators might use to maintain their market share against app-based service.

.....
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.....
.....

SIPHOKAZI NONYUSA
Master of Technology: Business Administration
Email: nonyusas@gmail.com
Telephone: +27 (0) 814375766
Cape Peninsula University of technology

APPENDIX B: LETTERS OF PERMISSION

.....

289 LOWER MAIN ROAD
OBSERVATORY
CAPE TOWN
7925
TEL: 021 448 4444
FAX: 021 447 0755
www.excitetaxis.co.za
10 June 2019

EXCITE TAXIS 2CC

To : Whom to may concern

From : Excitetaxis 2cc

Date :10 June 2019

Research Topic :The influence of app based ride service on survival of former meter taxi operators in Cape Metropolitan Area


Subject : Consent letter

To whom it may concern :

This letter seeks to confirm that Siphokazi A Nonyusa student number 206232810 a master student at CPUT has granted a permission to collect data from Taxi operators of the ExciteTaxis 2cc to conduct her research by means of interview and questionnaire

I wish you the best with your endeavours

Please contact us should have any queries

Regards
Muneeb 

THE MANAGER OF EXCITE TAXIS 2CC

.....

APPENDIX C: ETHICAL CERTIFICATE



P.O. Box 1906 • Bellville 7535 South Africa • Tel: +27 21 4603291 • Email: fbmsethics@cput.ac.za
Symphony Road Bellville 7535


Office of the Chairperson Research Ethics Committee	Faculty: BUSINESS AND MANAGEMENT SCIENCES
--	--

At a meeting of the Faculty's Research Ethics Committee on **30 April 2019**, **Ethics Approval** was granted to **Siphokazi A. Nonyusa (206232810)** for research activities of **M Tech: Business Administration** at Cape Peninsula University of Technology.

Title of dissertation/thesis/project:	THE INFLUENCE OF APP-BASED RIDE SERVICE ON SURVIVAL OF FORMAL METERED TAXI OPERATORS IN THE CAPE METROPOLITAN AREA. Lead Researcher/Supervisor: Prof R Tengeh
---------------------------------------	--

Comments:

Decision: Approved

 Signed: Chairperson: Research Ethics Committee	18 July 2019 Date
---	----------------------

Clearance Certificate No | 2019FOBREC683

APPENDIX D: GRAMMARIAN'S CERTIFICATE



Kingdom Editing

26 Cinnamon Street, Kuils River, 7580
takutau@gmail.com
079 636 8353



Declaration of Professional Editorial Assistance for MTech Thesis

Professional editorial work undertaken in the preparation of this thesis has been done according to the Cape Peninsula University of Technology's (CPUT) guidelines.

Professional editorial intervention was restricted to: proof reading, CPUT formatting, grammar, spelling, punctuation and clarity of meaning.

The professional editor provided advice on grammar and structure; gave examples only and did not undertake a structural re-write themselves.

Material for editing or proofreading was submitted in hard copy, or where an electronic copy was submitted to the editor, their mark-up was done using Track Changes.

Candidate's Name: Siphokazi Nonyusa

Thesis Title: The Influence of App-Based Ride Services on Survival Strategies of Formal Metered Taxi Operators in the Cape Metropolitan Area

Editor's Name: Takudzwa Musiyarira

I declare that I have edited/proofread this thesis in compliance with the above conditions, as requested by the candidate.

The documents submitted by the student for proofreading or editing purposes remain the sole and exclusive intellectual property of the student.

Signed:..... Date:*25/12/2019*.....

Professional Editors' Guild

APPENDIX E: PROOF OF REGISTRATION



PROOF OF REGISTRATION To Whom It May Concern

09-Apr-2020

It is hereby confirmed that the under mentioned person is a registered student at the Cape Peninsula University of Technology.

Student Number: 206232810
Name: SIPHOKAZI AYAKHULA NONYUSA
Registered for Period: 09-Jan-2020 - 20-Dec-2020
Course: MTBUAC M TECH: BUSINESS ADMIN (COURSE WORK) PT PART-TIME - DISTRICT 6 CAMPUS

Subject	Description	Qual.	Class Group	Exam Year	Exam Month	Cancel	Offering Type	Amount
R5MB01C	0 YEAR (JAN-NOV) DISSERTATION	MTBUAC	A	2020	11	N	PT	5750.00
Subtotal:								5750.00

YOU HAVE BEEN ENROLLED FOR THE FOLLOWING SUBJECT/S. IT IS IN YOUR INTEREST TO CAREFULLY CHECK THIS INFORMATION AND SHOULD THERE BE ANY ERRORS OR OMISSIONS INFORM THE FACULTY OFFICE IMMEDIATELY!
ALL FEES WITH THE VALUE OF R9 990.00 / R99 990.00 MUST BE REPORTED AFTER REGISTRATION TO YOUR FACULTY OFFICE FOR RECTIFICATION

APPENDIX F: SIMILARITY INDEX

Turnitin Originality Report

THE INFLUENCE OF APP-BASED RIDE SERVICES ON THE SURVIVAL STRATEGIES
OF FORMAL METERED TAXI OPERATORS IN THE CAPE METROPOLITAN AREA
by Siphokazi Nonyusa



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