

# APP-BASED RIDE SERVICES AND THE SUSTAINABILITY OF METERED TAXIS IN SOUTH AFRICA

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## Abstract

Developments in technology have disrupted many industries. Companies can no longer afford to ignore such vital technology. Many people in South Africa believe that the entry of ride-hailing apps like Uber and Bolt threatens the future of the country's traditional taxi industry. The paper sought to ascertain the influence of app-based ride solutions on the sustainability of conventional metered taxis and the ensuing survival strategies. A hybrid approach using both qualitative and quantitative data was adopted. Twenty participants and 80 respondents provided the qualitative and quantitative data utilized. The results suggest high-quality services and comfort vehicles offered by app-based services like Uber and Bolt have harmed the long-term viability of traditional metered taxis in the Cape Town metropolitan area. Since the advent of app-based ride services (Uber and Bolt), metered taxi operators have faced new challenges, including technological advancement, the demand for high-end transportation, and changing consumer tastes. The research could be helpful to companies providing metered taxi services in Cape Town by pointing to ways to improve operations. Hopefully, the findings of this research will aid regulators and other interested parties in making it easier for taxi companies that use meters to compete. Theoretically, the study may also contribute to the literature on the subject.

**Keywords:** technological disruptions, digital transport, app-based rides, Uber, Bolt, metered taxis and intelligent transport systems.

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## 1. INTRODUCTION AND BACKGROUND

Global population expansion and increasing mobility of people, goods, and services require cities to develop innovative transportation solutions continuously. Adebayo (2019) argues that no nation seeking

long-term prosperity can overlook the significant impact of transportation as its population expands. Effective transportation is crucial for securing employment, education, and government services, and this has produced a booming taxi industry in developing and affluent countries (Lowitt, 2006; Adebayo, 2019). For example, in South Africa, where public transportation options are limited, incorporating unlicensed taxis has become highly desired by a sizable population (Geitung, 2017). Taxis present two important services, namely a mode of transport for passengers who do not own their automobiles, and for those who own cars, a convenience (Rodrigues da Silva & Balassiano, 2011). Bickford (2013) asserts that the transportation business is a critical sector that can influence the future of South Africa's main cities and remains a significant source of revenue for its operators (Lowitt, 2006).

Since its debut in South Africa in 2013, ride-hailing apps such as Uber and Bolt have replaced metered taxis and created considerable competition for the latter (Dube, 2015). Through its sophisticated technology, the business focuses on providing consumers with affordable and efficient services, intensifying rivalry against metered taxis (Manuturi, 2015; Cramer & Krueger, 2016). While app-based transportation services are marketed as digital and associated technologies company that adapts to a changing environment, the scenario has generated significant opposition and controversy (Omarjee, 2020). Issues of unfair competition between app-based ride services (like Uber and Bolt) and more conventional taxis with meters (taxicabs) are a worry (Manuturi, 2015). To combat competition, metered taxi companies have responded by launching their own applications, such as YooKoo, Passenger, and Cruise App, which according to Competition Commission South Africa (2020), have been unsuccessful. Besides the issue of competition, the other issue concerns the welfare of conventional metered taxi operators.

In this regard, there has been a mixed response to calls to regulate the industry. Proponents who view regulation as a right will go to any length, including strike actions (Buckley, 2015; Dunn, 2015; Popper, 2015; Adebayo, 2019), while opponents view it as interfering with the free market's ability to function efficiently (Buckley, 2015).

One might wonder how the current challenges confronting metered taxi operators affect their market share and what options are available to traditional metered taxi operators because they compete directly with e-hailing services, which many view as unfair competition (Manuturi, 2015). Studies of the taxi industry have focused on a wide range of issues, such as regulation (Munshi, 2016; CCSA, 2018), operations (Geitung, 2017), employment prospects (Lowitt, 2006; Barry, 2015; Eye for Travel, 2015; Bickford, 2013), and taxi crises (Dube 2015; Manuturi, 2015; Adebayo, 2019). No studies addressing the sustainability practices of licensed metered taxi companies in the Cape Metropolitan region were found after a thorough search of various relevant sources, including academic journals, books, websites, policy

papers, and government publications. Thus, this article reports on the investigation of the difficulties traditional taxi services face and the methods they have adopted to compete with ridesharing apps (Uber and Bolt).

## 2. LITERATURE REVIEW

### 2.0 Sustainability

The term "sustainability" has multiple meanings depending on the specific context in which it is used. In this article, "sustainability" refers to the capacity for economic survival or persistence (Iwu et al., 2015; Gomis et al., 2011).

### 2.1 Transportation

It is impossible to overstate the significance of efficient transportation networks to the socio-economic growth of cities and countries. Global population growth and increased mobility of people, commodities, and services need cities to continuously develop new ways of meeting growing demands for efficient, effective, and cheap transportation. No country desiring long-term growth and development can afford to ignore the enormous significance of transportation (Adebayo, 2019). Effective transport is crucial for access to work, education, public services, and it creates a lucrative taxi industry in developing and developed countries (Lowitt, 2006; Adebayo, 2019). Due to the limited availability of public transportation in South Africa, for instance, the incorporation of illegal taxis has become highly desired by a significant portion of the population (Geitung, 2017). Taxis are an alternative mode of transportation for people who do not have access to a private vehicle or who prefer to use a taxi for other reasons than transportation (Rodrigues da Silva & Balassiano, 2011). Despite the unfavourable conditions (high cost of fuel, cost of licencing) in the market, taxis continue to be lucrative (Lowitt, 2006). Bickford (2013) argues that the transportation sector is pivotal to the future of South Africa's major cities and that the taxi industry, in particular, may influence and even determine how the government responds to the growing demand for public transportation.

### 2.2 App-based transportation

The degree of passenger service excellence is increasingly becoming a benchmark worldwide (Merenkov, 2017), with more and more people using digital transport or intelligent transport systems (Akbulaev, 2020).

According to Barry (2015), since their inception, app-based services such as Uber and Bolt have become the most popular form of transportation, particularly among younger customers who are usually more educated. According to the Schaller Consulting (2018) study, authorities in major cities have difficulties reacting to the unabated growth of these specialized services. According to Bhuiyan (2018), the advent of app-based transportation solutions such as Uber and Bolt has wreaked havoc on other modes of conventional transportation, notably metered taxi services. Additionally, Wade (2015) said that app-based services such as Uber and Bolt are well-positioned because of their simple-to-use tactics, excellent service levels, and pricing transparency.

Since its introduction, app-based taxi services have successfully democratized taxi ownership by allowing entrepreneurs to join as operators or drivers (Barry, 2015). The rapid growth of this business sector has generated many concerns about other global transportation sectors (Eisenmeier, 2018). According to the CCSA (2018) study, even if these services are deemed essential for urban mobility, they are not permitted under the existing regulatory framework since no legislation regulates app-based service operations. Unlike metered taxis, the app-based service relies on smartphone applications thus eliminating the need to hail a car or conduct business via calls (Commuter Connections, 2015).

### **2.3 App-based transport services in South Africa**

According to Mokoena (2016), South Africa's "Uber industry" has improved in recent years. The platform has been instrumental in developing solutions that benefit commuters by providing them with technology that makes it simple to get taxi services at reasonable rates. Since its inception in 2013, Uber has led in market share compared to its rivals (Mybroadband, 2016). Using its first-mover advantage, Uber has proliferated, attracting more drivers from disadvantaged communities and creating about 2,000 jobs for drivers. Over the next few years, tens of thousands of new jobs could be created (Eye for Travel, 2015).

Bolt (formerly Taxify) was launched in late 2015 in South Africa and is also one of the most well-known app-based businesses attempting to expand into a larger market (Mybroadband, 2016). As a direct competitor to Uber, Bolt has had little effect on generating new demand and enabling customers to move to their services. Since its debut in 2015, Bolt has struggled to penetrate the market, forcing the platform to rebrand in 2016 (Ziady, 2016). Additionally, Ziady (2016) noted that Zebra Cabs, a well-known metered taxi business, adopted electronic taxi-hailing technology in 2016 to compete with Uber and Bolt directly.

## 2.4 App-based competitive model

According to Zott, Amit, and Massa (2011), a business model is the bedrock for building, delivering, and capturing value. It also adds value in commercializing scientific innovations, lowering expenses, and overcoming social limitations such as affordability.

Numerous academics have debated whether adopting app-based solutions like Uber and Bolt is entirely about technical innovation. An argument can be made that the primary motivation behind app-based services is the desire to disrupt established systems (Yousaf & Verma, 2016). The app-based competitive model is primarily concerned with doing business differently from conventional taxi operators and adapting as a transitional service (Isaac, 2014; Laurell & Sandström, 2016).

Thus, the emergence of Uber and Bolt has disrupted the traditional taxi industry's economic model which necessitated huge capital, meters, and drivers (Bashir, Yousaf, & Verma, 2016). Rides are now cheaper and more efficient, thanks to apps (Davidson, 2015). Recently, the focus has moved to business model innovation. Due to technological advancements, app-based services have a relative edge over the conventional taxi. Besides increasing revenue, app-based services save time, improve service quality, and enhance customer satisfaction (Onyango, 2016).

Essentially, the arrival of Uber in South Africa has made it difficult for the local taxi business to compete and stay relevant (Dube, 2015). Bolt and Uber's concept has caused many problems for the taxi industry, which argues that it is anti-competitive and breaches local transportation laws (Manuturi, 2015). Pau (2016) claims that since taxis are governed by regulations, while Uber and Bolt are not, app-based services are seen as unfair competition by the taxi industry. According to the National Land Transport Act (2009), the app-based disruptive competition model has shifted the market in their favour, while conventional taxis cannot compete. Uber's business model has dominated the market from the outset. For instance, Uber and Bolt can identify the customer's phone, establish its position, and connect the user immediately to the driver using technology (Uber, 2015). This has resulted in a significant deficit in the metered taxi sector. Additionally, Uber (2015) reported that rather than tracking down the contact information for a metered taxi service or contacting one without knowing when it would arrive or be available, Uber provides customers with a more predictable, definite, and transparent mode of transportation.

## 2.4 App-based strategies

To be successful, a business needs a well-thought-out strategy. Thompson (2008) stated that companies must implement strategic initiatives to help the organization compete successfully. These initiatives

include pleasing customers, building offensive and defensive actions against competitors' tactics, reviewing market conditions, and aligning its strength to market conditions.

Johnson (2014) emphasized the efficiency with which app-based businesses such as Uber and Bolt extract value. Additionally, the author said that app-based service providers get a competitive edge over their competitors by making their model challenging to replicate, which forces them to retain economic sustainability. By not employing drivers or owning a cab, this approach allows them to compete more effectively with conventional metered taxis, which need significant upfront expenditures on cars, recruiting drivers, maintenance expenses, and driver's pay (Karnik, 2015).

Isaac (2014) states that the competitive strategic approach of app-based services threatens traditional metered taxis since it reduces their market presence and revenue. With its adaptable method, app-based services enable customers to request services from their homes, offices, or other locations while tracking real-time information regarding wait times (Dube, 2015). Rayle et al. (2014) assert that app-based services use efficient techniques that enable customers to monitor their orders by presenting comprehensive information about the driver's arrival time, the trip's cost, and the trip's length through a dedicated driver-passenger application.

Pricing is also one of the strategies used by app-based services. Dunn (2015) asserts that the app ride service uses a pricing strategy much lower than what is available in the market to attract more consumers. According to Clewlow and Mishra (2017), app-based services also have a competitive edge in choosing new vehicles less than two years old. The authors also demonstrated that it emphasizes cleanliness and customer service standards by implementing a rating system for motorists. Further, this results in a more secure, dependable, and efficient mode of transportation.

## **2.5 Traditional metered taxi competition**

According to the OECD (2018) study, conventional metered taxi sectors succumb to app-based service competition and embrace technology. The industry is responding by introducing new methods and modernizing its services by implementing its e-hailing apps. Additionally, the study noted that South African Metered Taxi Association (SAMTA) considered creating an e-hailing service called "Yookoo Rider" that would connect customers to traditional metered taxi drivers. It was hoped that implementing an e-hailing system in Cape Town would accelerate the transition of the conventional taxi business into a demand-responsive service.

Traditional metered taxis have tried to narrow the competitive gap by launching similar applications to halt the aggressive rivalry technique used by app-based businesses. However, the applications' impact has been limited since the market's early adopters (app-based businesses) have

garnered more devotion. In the lack of appropriate regulatory instruments, the dominance of app-based services resulted in a wave of violence, resulting in unnecessary fatalities (OECD, 2018).

Traditional metered taxis rethought their operating strategy in response to the competitive limitations imposed by app-based services. This, however, has proved ineffective, and some conventional metered taxi drivers have chosen to register with Uber or Bolt (CCSA, 2018; OECD, 2018).

## **2.6 Metered taxi and app-based service regulations**

Globally, the metered taxi sector has seen increased demonstrations and strikes over the last several years (Buckley, 2015; Dunn, 2015; Popper, 2015; Adebayo, 2019). For instance, in Toronto, Canada, taxi drivers threatened to strike during a major sporting event in the city in protest of Uber services. These populist uprisings have occurred in South Africa as well. The leading cause for industry stakeholders' opposition is technology advancements, such as app-based services (National Land Transport Act, No.5, 2009). While the development of technological platforms has resulted in considerable growth, it has also presented new challenges for policymakers and regulatory authorities. Government involvement has controlled the conventional metered taxi sector, presenting a conundrum regarding enacting new rules for growing operators utilizing transportation-based applications (Arun, 2014). To Munshi (2016), the development of app-based services has largely eluded regulators since the market disrupter evolved long before legislative procedures to address the changes brought about by app-based services. For instance, the City of Cape Town grounds app-based cars for not having permits as metered taxis, while the Gauteng Department of Roads and Transportation issues operational licenses to app-based service drivers to operate as metered taxis (Phakathi, 2016).

## **3. MATERIAL AND METHODS**

Generally, the research design's central significance is to state the research layout and present the methodology to be adopted. Data was gathered for this study using mixed methods. The advantage of this technique is that it integrates qualitative and quantitative methods simultaneously or sequentially to better understand the study issues (Creswell, 2008). In the context of this article, the qualitative approach assists in validating the quantitative methodology's outcome.

### **3.1 Research site, sampling technique, sample size and data collection**

The study took place in the Western Cape. According to the 2011 census, the Western Cape has about 5.82 million people split into six districts: the City of Cape Town Metropolitan Municipality, the West Coast, the Cape Winelands, the Overberg, Eden, and Central Karoo. The City of Cape Town was chosen as the district to collect data for the study.

Purposive sampling was employed to choose participants and collect empirical data. Purposive sampling specifies how to select participants based on their orientation (Teddlie & Yu, 2007). The study was planned for as many as one hundred (100) participants. Purposive sampling allowed the researchers to select taxi companies and drivers based on their subjective impressions and preferences.

Bryman and Bell (2015) describe data collection as gathering primary data from a sample via surveys, questionnaires, and interviews to address a study topic or problem. A semi-structured questionnaire and an interview guide were used to collect the necessary information.

### **3.2 Data analysis**

Data analysis occurs due to making primary data available or structuring it meaningfully (Polit & Hungler, 2001). Microsoft Excel was the primary tool used for data analysis. After returning the questionnaire to the researcher, data were entered into Excel sheets. Subsequently, the analysis process consisted of assigning a code (A1) to each cell representing a respondent and a code (Q1) to the first question of the questionnaire. The responses were quantified, and the sum formula was used to add the values in each cell in a row. The total was then converted to a chart that displayed the raw data's respective percentages.

The qualitative data were analyzed thematically. Throughout this process, the recorded data was classified according to their initial impressions, and each idea was noted and then reviewed and re-read several times. The researcher then grouped similar ideas to show how they all contributed to a single conclusion.

## **4. RESULTS**

The quantitative analysis' findings are presented, together with word-for-word quotations from the qualitative study.

### **4.1. Background information**

The study's findings revealed that male taxi drivers or employees dominate the traditional metered taxi sector in the Cape metropolitan area. In addition, it was emphasized that the majority of traditional metered taxi drivers, owners, and operators in the Cape metropolis have been in the industry for fifteen



(15) years or more. Given the nature of the study, it was determined that all participants had a firm grasp of the concept of ridesharing apps like Uber and Bolt.

#### **4.2. Competition and business survival**

A statement was made to ascertain if the profitability of traditional taxis has been affected by the rise of app-based ride services like Uber and Bolt. The results show that a large majority of the respondents (67%) agree that the app-based services' disruption negatively impacts taxi business survival. A lesser proportion of the respondents (30%) strongly agreed with the statement, while 3% did not answer the question. The majority believe that metered taxis are losing customers and advantageous position in the market. This finding was supported qualitatively by the participants through word verbatim remarks.

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

#### **4.3. Traditional metered taxi strategies**

One of the questions asked was whether the current strategy employed by metered taxi operators is sustainable or competitive compared to those app-based ride companies (Uber and Bolt). The majority of (65%) disagreed with the statement. A further 35% of the respondents strongly disagreed with the statement.

#### **4.4 Challenges:**

##### **4.4.1 Impact of app-based services business strategies on traditional metered taxis**

The questionnaire included a statement that sought to ascertain if the traditional metered taxi industry is threatened by the current app-based ride services' business strategies, including luxury private cars and cheaper rides. All respondents agreed that traditional metered taxi business models are threatened by the advent of app-based ride services offering luxury private cars at lower prices.

4.4.2 How Uber and Bolt influence traditional metered taxis' business sustainability

Survey participants were asked to weigh in on whether or not the rise of app-based ride services like Uber and Bolt threatens the viability of the traditional metered taxi industry by forcing them to raise their service standards. Respondents overwhelmingly agreed that Uber and Bolt undermine the long-term viability of the traditional metered taxi industry by providing higher-quality services, better vehicles, increased customer safety and security, private new vehicles, lower fares and fees, greater availability and flexibility, app technology, and a more affordable ride.

4.4.3 How app-based ride services erode traditional metered taxis' market share

According to the results, traditional metered taxis are losing business, customers, and market share to ridesharing services like Uber and Bolt.

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

A list of potential alternatives to maintain a good market share for traditional metered taxis was provided to the respondents. 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. 93% identified "improve service quality", 89% pointed to "enhance better relationship with customers", 74% identified "Improve customers security", 72% pointed to "flexible pick-up", 59% identified "Implement easy and accurate payment methods", and only 12% pointed to "Improve booking option".

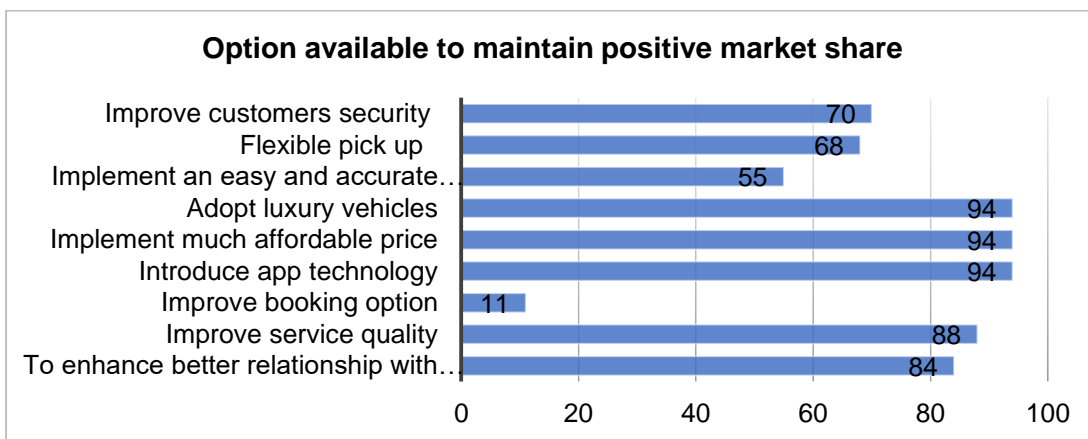


FIGURE 1. OPTIONS AVAILABLE TO TRADITIONAL METERED TAXIS TO MAINTAIN A POSITIVE MARKET SHARE

Qualitatively, most interviewees noted that traditional metered taxi operators have options to maintain their market share against app-based services, including aggressive implementation of similar technology and the adoption of luxury vehicles that can match Uber and Bolt in terms of performance. The minority of interviewees pointed out that a competitively fair price might also be a positive way to maintain market share against app-based services.

*P14 went on to say: "You know, it will not be easy, but I believe that for us to maintain a good market share against Uber and Bolt, we must acquire a similar robust technology that connects us directly to customers. These cell phone apps used by Uber and Bolt are the technology that makes our business lose its market share. So, with a well-developed app that similarly gives us also advantage in connecting with customers. That will put us back on the map and increase our market share."*

*P5 said: "I 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 using new cars might work for all of us because customers nowadays want luxury and Uber and Bolt give it to them. If we want to maintain our market share against them, we must also use new cars as they do."*

#### **4.6. Discussion of findings**

The study found that men dominated the conventional metered taxi business. Despite females in the sector, the services in the Cape Metropolitan region are still a male-dominated profession. Traditional metered taxi drivers outnumbered taxi company owners and operators.

The research found that app-based ride services (Uber, Bolt) disrupt competition within the transport industry around the Cape metropolitan area. One might argue that the business model used by app-based transportation services (Uber, Bolt) has taken the competition in this sector by storm and elevated it to a new level. This result is consistent with Sun et al. (2015) and Dube (2015) about Uber and Bolt's disruptive and aggressive tactics. Some authors argue that using innovative applications is the primary driver of change and disruption (Dube, 2015; Yousaf & Verma, 2016; Akbulaev, 2020).

As a pioneer, along with the adaptability of its services, these factors are unsettling competition by attracting more customers than conventional metered taxis through smartphone technology. The competitive landscape is continuously evolving because of new technologies and means of transportation.

Both Uber and Bolt may be disrupting the competition because of their usage of app technology and new cars.

One's ability to exert reasonable control over the competition increases when its activities are primarily available and flexible. App-based ride services have been seen as having a significant competitive advantage over traditional metered taxi companies because of the level of disruptive competition they face. This is because app-based ride services are more likely to use cutting-edge technologies and flexible service models (Uber, Bolt). It could be argued that the survival of the traditional metered taxi industry is not conducive to these types of innovations. In order to thrive, a company needs to exert a manageable amount of influence over its major rivals. Metered taxis in the Cape Town metropolitan area are not doing so. It was discovered that traditional metered taxis are disadvantaged by disruptive competition, which hurts the survival and core sustainability of the business.

The study confirm that app-based ride services (Uber, Bolt) have a detrimental impact on the long-term viability of traditional metered taxis in the Cape metropolis. This result aligns with Onyango (2016), who pointed to the absolute advantage of app-based ride services over metered taxis in Kenya. One may claim that the rapid developments in app-based transportation negatively influence traditional metered taxis' business sustainability. Uber and Bolt benefit from technological advances to provide unparalleled services. This will expand their market share, threatening the viability of metered taxis. Moreover, it may be claimed that the direct grounds for Uber and Bolt supremacy are the application of such elements as the usage of comfort cars, flexibility in service, the provision of safe and secure services for its clients and cheaper services. These features allow app-based ride services to expand and remain more financially stable than traditional taxis with meters.

Business strategies employed by app-based ride services, such as app technology, luxury new private vehicles, and low-price trip rides, have harmed the viability of traditional metered taxis (Sun et al., 2015). It has been argued that Uber and Bolt's strategy of using brand-new, high-end private cars is what ultimately undermines the business models of most traditional taxi companies. This is because traditional taxi services often compete with more upscale options. However, they must use mostly pre-owned, functional vehicles painted uniquely to adhere to the operator's brand standards. These additions harm customers' perceptions of the car. However, since they still need to make a profit, low prices negatively for metered taxi companies. Unlike Uber and Bolt, who don't have to pay employees or taxes, these businesses must factor these costs into their pricing models.

Currently, app-based ride services like Uber and Bolt have unfavourable effects on the market share of traditional, metered taxi services. Metered taxis are expected to lose business to app-based services like Uber and Bolt as customers are enticed to favour them more. Having adequate market

penetration depends on maintaining a positive market share, which necessitates good strategies for an excellent competitive position. As a result of Uber and Bolt's strategies, traditional metered taxis in the Cape metropolitan area are losing customers and falling behind in their adoption of app-based technology services, which has led to a decline in their daily trips. Despite Uber and Bolt's aggressive strategies, the research found that traditional metered taxi drivers, owners, and operators are in the dark about the future of their industry. It could be argued that no one in the transportation industry knows what the future holds for ridesharing apps (Uber and Bolt). Therefore, conventional metered taxis face an uncertain growth outlook. There is a lack of certainty in the market because of the aggressive business practices of app-based ride services like Uber and Bolt and the reluctance of traditional metered taxis to compete with them and stake out their niche in the market.

One might argue that businesses must be technology-integrated in today's climate. Adopting technological innovation, such as app technology, should be a positive and critical choice for conventional metered taxis to retain a good market share. Strategies that could challenge Uber and Bolt and reposition traditional metered taxis on the market include lowering prices, switching to "luxury vehicles," improving service quality, fostering better relationships with customers, bolstering customers' sense of security, allowing for more flexibility in scheduling pickups, and instituting easy, accurate payment methods. The strategies cited are well-considered and widely known. However, a robust implementation is essential as some metered taxi firms have attempted to incorporate technology into their operations with limited success.

## 5. CONCLUSION

The results suggest that app base rides have eroded a significant portion of metered taxi market share. They have done so by embracing technology and taking advantage of its capabilities. In so doing, the app-based services have provided high-standard services. Their innovative approach includes the use of luxury and comfortable vehicles. It emphasizes convenient car access, customizable service options, customer safety and security, and affordable per-trip rates. These factors provide greater possibilities for app-based transportation services to develop and stay sustainable than conventional metered taxis, which are vanishing or experiencing declines in revenue.

When compared to app-based transportation alternatives (Uber, Bolt), the business models used by traditional metered taxis are not only unsustainable but also uncompetitive. Uber and Bolt have well-thought-out and long-term strategies, while traditional metered taxis do not. The utilization of revolutionary smartphone technology, luxurious new private cars, and cheaper trips endangers conventional metered

taxis. Uber and Bolt have made it difficult for metered taxis to fill up. Even so, Uber and Bolt rapidly rendered obsolete any counter-strategy strategies by conventional metered taxi strategies.

The adoption of new technology, availability of comfortable vehicles, the flexibility of service hours, customer safety and security, and the low cost of metered taxi rides are just a few issues that metered taxi operators and drivers must contend with. These obstacles negatively impact traditional metered taxi operators' market share. It goes without saying that successful business practices are essential for preserving a growing share of the market. However, contemporary app-based transportation service business models (Uber, Bolt) reduce the daily rides of conventional metered taxis, causing metered taxis to lose passengers and market share.

Traditional metered taxi companies have many alternatives to keep their market share:

- Concentrate on basic service enhancements through luxury and comfort cars.
- Employ knowledgeable and experienced drivers to guarantee the safety and security of passengers.
- Adopt low-cost services to compete with app-based services.
- Maintain a long-term strategy focused on maintaining a good market share

## 6. RESTRICTIONS ON THE STUDY AND FUTURE DIRECTIONS

To begin, this study only included traditional metered taxi companies, drivers, and owners in the Cape Town metropolitan area and Central Business District. Second, there were some gaps in certainty in the data collected because some respondents did not have a firm grasp of management jargon. The third limitation of the study is that respondents to the quantitative survey might have been influenced to choose only standard terms. As a fourth criticism, the study only considered two app-based services (Uber and Bolt).

Traditional metered taxis in Cape Town know their competitive actions do not match app-based ride services (Uber, Bolt). They must redefine their business survival and market share position. Options were mapped out to deal with the numerous threats to the continued existence of the metered taxis, including the aggressive implementation of app-based services like Uber and Bolt. With options available to match the aggressiveness of app-based services, traditional metered taxis in Cape Town may need further investigation to determine why they have been unable to increase their market share.

## 7. IMPLICATIONS

The research may assist metered taxi companies in Cape Town by proposing potential solutions to the industry's issues. Policymakers and stakeholders may use the study's findings to better help metered taxi operators from a competitive standpoint. Theoretically, this research could also add to existing works on the topic.

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