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Impact of COVID-19 on consumer choices in the pre-owned car segment in Gauteng

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

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Wits Business School

Abstract

The current study explored changes in consumer behaviour in South Africa's pre-owned car segment following the COVID-19 pandemic. The study focused on supply and demand dynamics between new and used vehicles. It emphasized the automotive retail sector's essential role in economic growth, especially in developing counties.

The research aims to assess the pandemic's impact on consumer purchasing behaviour, focusing on changes in motivations and decision-making processes. The key questions investigate shifts in supply and demand, alterations in purchasing patterns, and the sustainability of these trends in the pre-owned car segment. The study's rationale was to enhance the existing literature on automotive pre-owned retail segment and consumer intent, aiding stakeholders in adapting strategies to meet changing consumer needs.

Using a quantitative method, the study surveyed individuals in Gauteng who bought pre-owned vehicles in the past three years and a Structural Equation Model (SEM) was used to analyse the relationships between perceived reliability, value, quality on consumer attitude to purchase, and the influence of remote work on consumer purchase intentions.

The study employed the Theory of Second-Hand Markets and the Theory of Planned Behaviour as its primary theoretical frameworks. These frameworks helped to understand consumer behaviour in the pre-owned car segment following the COVID-19 pandemic. This theoretical foundation enhanced the study's analysis of the shift in consumer choices and the evolving landscape of the automotive pre-owned segment in a post-pandemic world. The findings of the study revealed participants prefer to use financing options over such as loans and car finance over cash payments. Another finding of the study pointed to perceived value emerging as a crucial determinant in consumer decision-making for pre-owned vehicles.

Key words: Pre-owned cars, perceived reliability, consumer attitude, purchasing patterns, changes in consumer behaviour**.**

Declaration

I, Devendran Govender with student number 558516, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the University of the Witwatersrand, Johannesburg, and has not been submitted before for any degree or examination in this or any other University.

Name and surname : Devendran Govender



Signature

Signed at Randburg, Johannesburg On the 20th day of December 2024.

Dedication

This Master degree is dedicated to Kasturi Govender, whose constant belief in me and constant support provided the strength and courage needed to complete this degree. Her love and encouragement were the foundation of this journey, inspiring me through every challenge.

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First and foremost, I extend my heartfelt gratitude to Swami Ayyappa for providing me with the strength and guidance throughout this research journey. His divine blessings have been a source of inspiration and resilience.

I am deeply thankful to my beloved wife, whose unwavering support and encouragement have been invaluable to me. Her patience and understanding have allowed me to focus on my studies to achieve my academic goals.

To my two wonderful sons, Ashalen and Prishanthan, your enthusiasm and love have been a constant source of motivation. Thank you for bringing joy into my life and for understanding when my work and studies kept me away from family moments. A special thank you goes to Angel Govender, for always being by my side during the late nights and early mornings. Your presence during these challenging times were a source of comfort.

I also wish to express my sincere appreciation to my supervisor Dr Ademola E. Ayodele, whose expert guidance and insightful feedback have played a crucial role in shaping this research. Your mentorship has been a fundamental part of my academic growth, and I am truly grateful for your support and encouragement.

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CHAPTER ONE: BACKGROUND TO THE STUDY

1.0. Introduction

1.1 Statement of purpose

The aim of this research was to investigate evolving consumer choices in the pre-owned car segment following the Covid-19 pandemic. The study highlights the specific impacts and shifts in choices taking supply and demand of both the new and pre-owned car segments that have emerged as a result of the crisis.

1.2 Background of the study

The automotive retail sales cluster is a pivotal driver of an economy, significantly impacting economic growth in developing countries (Prieto & Caemmerer, 2013). Consumers play a crucial role as their choices significantly impact the economic growth of both pre-owned and new car segments (Mehta et al., 2020). For the purpose of this study, the author classifies both the used and second-hand vehicles as the pre-owned car segment. Before delving into the pre-owned car segment, it is crucial to contextualize it by incorporating data on the economy's new car segment. This dimension provides a comprehensive view of consumer choices that significantly impact the specific pre-owned segment when we delve into the second hand markets theory (Fox, 1957).

Prior the pandemic, up to 2019, the new car segment retail sales accounted for 2.4% of the economy's GDP and during the pandemic in 2020, its contribution contracted to 2.1% (Naamsa, 2021). Yet, the latest figures for 2022 post-pandemic reveal a further contraction to 2.0% (Naamsa, 2021). At the time of writing the report, the new car segment has experienced further negative contraction over the period August 2023, through to February 2024 respectively (Economics, 2023).

TransUnion Vehicle Pricing Index (VPI) report evaluates the relationship between new and pre-owned cars financed, presenting a ratio alongside price increases for both segments sourced from 15 leading manufacturers. According to TransUnion,

before the pandemic, the ratio of pre-owned vehicles financed to new cars financed stood at 2.26 (for every 1 new car financed 2.26 pre-owned cars were financed). Amid the pandemic, this ratio peaked at 2.35 in in the third quarter December 2020 and continued its upward trajectory to 2.41 by the third quarter December 2021 signalling a high demand for pre-owned cars. However, as both these segments began emerging out of the pandemic, the ratio began to decline, reaching a record low of 2.05 in the third quarter of December 2022. Post-pandemic, this decline continues to persist, reaching its lowest point of 1.43 by the end of in the third quarter December 2023 (TransUnion, 2019). This underscores a substantial 37.61% decline in the pre-owned segment financed deals concluded from pre-pandemic to post-pandemic periods. In the next section, the problem of the study is stated.

1.3 Problem Statement

The problem is that the COVID-19 pandemic has disrupted the automotive retail segment, including the pre-owned car market, necessitating an in-depth understanding of its specific impact on consumer choices in Gauteng. Key factors such as shifts in buying behaviour, financing trends, and supply chain disruptions for new cars during and after the pandemic need to be analysed to determine the extent of the pandemic's influence on consumer preferences in the pre-owned car segment in Gauteng. The next section sets the objectives of the study.

1.4 Research aims and objectives

The main aim of the study was to investigate the impact of COVID-19 on consumer choices in the pre-owned car segment in Gauteng.

The study further aimed to achieve the following objectives:

- To examine the relationship dynamics of the pre-owned car segment before and after the COVID-19 outbreak.
- To determine the extent to which the COVID-19 pandemic has reshaped consumer buying behavior in the pre-owned car segment.

- To identify changes in consumer purchasing trends, underlying motivations, and the decision-making framework, in post COVID-19 pandemic.

1.5 Research questions

The overall research question guiding this study was: What impact does COVID-19 have on consumer choices in the pre-owned car segment in Gauteng?
The study further aimed to answer the following supporting questions:

- In what ways have supply and demand in the pre-owned car segment shifted because of COVID-19?
- How has the COVID-19 pandemic altered consumer purchasing patterns in the pre-owned car segment?
- What trends have emerged in the pre-owned car segment post COVID-19 and how sustainable are these trends for future forecasting?

1.6 Rationale of the study

This research aims to enhance existing literature related to automotive retail sales segments and consumer purchasing intent through their decision-making process. Through this analysis, the study seeks to provide insights that complement current body of knowledge and assist automotive retail stakeholders in adapting strategies to meet the changing consumer needs.

1.7 Delimitations of the study

The scope of this study focuses on analysing the impact of the COVID-19 pandemic on consumer behaviour within Gauteng's pre-owned car market. It examines critical elements such as changes in buying behaviour. This research evaluates how factors like perceived value, perceived quality, and the influence of remote work shape consumer preferences in selecting pre-owned vehicles.

Additionally, the study is confined to the Gauteng region and targets individuals who have purchased pre-owned vehicles in the past three years, providing a localized understanding of consumer shifts. The study's findings aim to provide valuable

insights and practical recommendations, enabling automotive retailers and stakeholders to tailor their strategies to meet the shifting demands and preferences of the post-pandemic consumer segment.

1.8 Assumptions

The transition to remote work has potentially altered consumer behaviour towards vehicle ownership, with individuals possibly delaying the purchase of new vehicles and opting to retain their existing ones for extended periods. This shift reflects a reassessment of the necessity for new vehicles, influenced by reduced commuting requirements.

The scarcity of new vehicles, exacerbated by supply chain disruptions during the Covid-19 pandemic, may have redirected consumer interest towards the pre-owned car segment. This trend suggests a significant adjustment in consumer preferences and purchasing patterns, driven by the limited availability of new vehicles.

1.9 Organization of the study

This section provides the outline of the chapters.

Chapter one forms the background of the study, discussing the research problem, objectives, questions and identifying the limitations of the study.

Chapter two is the review of literature related to the topic of the study. The chapter looks at literature informing the study as well as the framework underpinning the study.

Chapter three discusses the methodology of the study. In this chapter, the methods, design, population, sampling and data analysis technique are discussed and justified for their choice in this study. The chapter also highlights ethical issues and validity aspects of the study.

Chapter four outlines the findings, unpacking the analysis and the interpretation of data.

Chapter five looks at the analysis and interpretations of the findings of the study.

In chapter six, the study outlines the implications of the findings and discusses the recommendations in line with the findings of the study.

1.10 Chapter 1 summary

The current chapter outlined the background of the study, research problem, research objectives and questions. The study provided the limitations of the study, as well as the hypothesis guiding the study. In the next chapter, literature is reviewed.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The previous chapter set the background and the rationale to the study. In the current chapter, literature relating to the focus of the study is reviewed. The chapter first discusses the COVID-19' s background, followed by its impact on the automative sector. Following this, the pre-owned car segment in South Africa is unpacked.

2.2 Covid-19 background

In late 2019, the world witnessed the emergence of a novel coronavirus, officially designated as 2019-nCoV or referred to as COVID-19, originating in Wuhan, China (Munster et al., 2020). Despite ongoing uncertainties regarding its origins and modes of transmission, evidence suggested an escalating trend of human-to-human spread. The potential for its widespread transmission posed significant challenges to global public health infrastructure (Munster et al., 2020). Consequently, governments worldwide implemented stringent lockdown measures to mitigate its spread, confining populations to their homes.

On March 5, 2020, South Africa documented its first confirmed case of COVID-19, marking the onset of a challenging period (Jamieson & van Blerk, 2022). In response, a national disaster was declared by President Ramaphosa's followed by the implementation of a stringent lockdown on the March 28, 2020, effectively confining the majority of the South African population to their residences, with exceptions granted only to essential workers (Jamieson & van Blerk, 2022). This decisive measure appeared instrumental in achieving pivotal objectives by preventing the overwhelming of South Africa's healthcare infrastructure and mitigating fatalities during the initial wave of the pandemic. The lockdown permitted limited travel for essential purposes such as procuring food and medicine or accessing medical assistance.

The COVID-19 pandemic brought about unprecedented changes across the globe, fundamentally altering how people live and work. One of the most significant shifts was the rapid transition to remote work. To curb the spread of the virus, businesses were compelled to adapt by enabling employees to work from home. As a result, the traditional office environment was redefined, leading to a new normal where flexibility and virtual connectivity became central to the workforce (Kramer & Kramer, 2020).

2.3 Impact of COVID-19 on the automotive segment

The COVID-19 pandemic led to unprecedented global disruptions, halting operations across numerous industries due to widespread restrictions and lockdowns (Frieske & Stieler, 2022). Among the sectors most severely affected was the automotive manufacturing industry, which experienced a considerable halt in the production of new vehicles. This disruption was primarily due to the closure of manufacturing plants and a sharp decline in consumer demand, as movement restrictions and the temporary closure of car showrooms precipitated a global downturn in the industry.

The pandemic further complicated the situation by affecting the supply chain of semiconductor chips, which are crucial for vehicle manufacturing (Frieske & Stieler, 2022). With the majority of these chips produced in China, the temporary cessation of automotive plant operations led to a surge in demand for semiconductors in other areas, particularly consumer electronics (Frieske & Stieler, 2022). This shift led semiconductor manufacturers to reallocate their production focus towards IT and consumer electronics. As lockdown measures began to ease, the automotive sector faced significant delays in semiconductor delivery, with a lag of five to eight months between ordering and receiving these essential components to manufacture vehicles. This delay was attributed to the production time required for the wafer, the electronic board crucial for building semiconductor components, which takes up to three months to manufacture (Frieske & Stieler, 2022).

2.4 The Pre-owned car segment in South Africa

The South African pre-owned car segment has experienced significant shifts before, during, and after the COVID-19 pandemic. South Africa at the onset of the pandemic and subsequent lockdowns led to significant disruptions. Sales plummeted during the initial lockdown periods due to restrictions on movement and economic uncertainty. The researcher for this section has shifted focus from academic literature to market data and industry report literature to provide context regarding the magnitude of the problem.

In December 2019, the ratio of new to pre-owned cars concluded the quarter at 2.09. The Vehicle Price Index (VPI) for new vehicles closed at 2.90%, while the pre-owned segment marked a VPI of 1.20% before any lockdown measures were implemented (TransUnion, 2019). By December 2020, amidst the peak of the COVID-19 pandemic, the new to pre-owned car ratio experienced an 8.45% increase, settling at 2.31. Concurrently, the VPI in FY23 Q4 for new vehicles surged to a record high of 7.0%, and the VPI for pre-owned vehicles ascended to 9.10% (TransUnion, 2019). As such, it is imperative for stakeholders in the automotive industry to adapt strategies to address these evolving dynamics and ensure the sustainability of the pre-owned vehicle segment in the face of changing consumer preferences.

Rising new car prices and reduced supply have pushed consumers towards pre-owned vehicles, underscoring the interconnected markets (Prado, 2010). This shift increased demand for pre-owned cars, disrupting market access. As new car prices rose and supply diminished, consumers increasingly opted for pre-owned cars, leading to a manifestation of pent-up demand. Today's new cars lay the foundation for tomorrow's pre-owned markets (Prado, 2010).

The COVID-19 pandemic caused significant disruptions globally, with industries like automotive manufacturing severely affected due to restrictions and decreased consumer demand. The closure of manufacturing plants and a shortage of

semiconductor chips further exacerbated the situation, leading to delays in new vehicle production and surging prices (Frieske & Stieler, 2022).

2.5 Consumer choices

Consumer purchase intent and attitude to purchase in the context of purchasing new or pre-owned cars is a complex subject that includes various factors influencing a consumer's decision to buy a new or pre-owned vehicle. This decision-making process is influenced by personal preferences, personal finance factors, social influences, and technological advancements.

A wealth of research has delved into the socio-demographic determinants that influence consumers' preferences for purchasing vehicles, as highlighted in studies by (Giuliano & Dargay, 2006; Vega-Gonzalo et al., 2023; Yan et al., 2022). Additionally, (Choo & Mokhtarian, 2004) have expanded this exploration by examining how factors such as attitudes, personality traits, lifestyle choices, and mobility needs impact the selection of vehicle types. Central to the decision-making process is the role of perception, which encompasses the processes of selecting, organizing, and interpreting information to guide purchasing choices.

A study conducted in India identified four key factors influencing consumer choices: the cost of the car, its future resale value, the car's quality, and the level of aftersales dealership service (Dhanabalan et al., 2018). In France (Prieto & Caemmerer, 2013) research identified additional factors, highlighting a correlation between higher income and a preference for new cars, often financed. Financing exerts a significant influence on new car purchases but has a negative effect on pre-owned car transactions (Prieto & Caemmerer, 2013). Moreover, employment status (Prieto & Caemmerer, 2013) emerges as another critical factor influencing car purchasing behaviour, prompting substitutions between new and pre-owned cars.

2.6 Analytical framework

2.6.1 Application of Theoretical and Conceptual Frameworks

This study is underpinned by two essential theories that illuminate the complexities of consumer behavior in the pre-owned car segment. The Theory of Second-Hand Markets delves into critical elements such as price fluctuations, product quality, transaction costs, and market dynamics unique to second-hand markets. It offers valuable insights into why consumers gravitate toward pre-owned vehicles, particularly in light of economic considerations and quality uncertainties.

Meanwhile, the Theory of Planned Behavior (TPB) provides a framework for understanding consumer purchasing behavior by examining attitudes, subjective norms, and perceived behavioral control. It explores how beliefs, societal influences, and the perceived simplicity or difficulty of transactions affect consumer decisions in this domain.

The study outlines three vital tenets of the framework essential to understanding the dynamics within second-hand markets. Firstly, it emphasizes the substantial economic impact these markets have on both production and consumption dynamics. Secondly, it discusses the perception of second-hand goods, such as pre-owned cars, which are often viewed as inferior in terms of reliability, durability and quality. This framework is applicable in this study as it examines how factors like price, depreciation, and holding costs significantly influence consumer decision-making processes in these markets.

2.6.2 Theoretical framework

Second-hand markets have a considerable influence on production, distribution, and consumption dynamics for economic activity (Scitovsky, 1994). Unlike durable goods, which endure wear and tear from use, second-hand goods typically exhibit signs of inferiority compared to their new counterparts (Fox, 1957). The perpetual availability of goods used in these markets necessitates a steady influx of new

production to sustain market demand. Within this dynamic, three key variables price, volume, and quality shape market dynamics while factors like mileage can influence value, age often takes precedence as the primary determinant (Fox, 1957).

The supply of used goods originates from first owners who opt to replace their assets with new ones, a decision influenced by economic considerations such as the length of asset lifespan (Fox, 1957). For pre-owned cars, in particular, consumers weigh the extent of deterioration they're willing to tolerate against the cost of repairs, spreading capital costs over a longer period while repair costs accrue, known as holding costs (Fox, 1957). The rate of depreciation reflects the opportunity cost incurred from being deprived of asset services during repairs, further illustrating the intricate balance between economic decision-making and asset management in second-hand markets (Fox, 1957).

It is important to highlight that the presence of goods of varying quality levels presents challenges for market theory, particularly evident in the significant price gaps between new and pre-owned cars (Akerlof, 1970). The growth of the secondhand market hinges on two key factors: a decrease in transaction costs and an increase in product lifetime (Thomas, 2003). Recently, the emergence of internet-based marketplaces has notably influenced these dynamics, placing pressure on transaction costs within both new and pre-owned markets (Thomas, 2003). Consumers navigating this market face uncertainty about whether their purchase will turn out to be a reliable car or a "lemon" over time (Akerlof, 1970). The section that follows outlines the conceptual framework underpinning the study.

2.6.3 Conceptual framework

Planned Behaviour Theory (PBT) (Ajzen, 1991) and the Theory of Second-Hand Markets (Fox, 1957) are frames used in the current study to provide a comprehensive framework to understand the impact of COVID-19 on consumer choices in the pre-owned car segment.

The Theory of Planned Behaviour (TPB) by Icek Ajzen is a widely recognized psychological theory that explains human behaviour through three critical factors: attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991). This framework is relevant for this study as it is insightful when applied to consumer choices, such as the decision to buy a pre-owned car.

Attitude: In the context of TPB, attitudes refer to the individual's positive or negative evaluations of performing a particular behaviour (Ajzen, 1991). When applied to buying a pre-owned car, a consumer's attitude is shaped by their beliefs about the benefits and drawbacks of purchasing a pre-owned car.

Subjective Norms: Subjective norms involve the perceived social pressure to perform or not perform the behaviour (Ajzen, 1991). This includes the influence of family, friends, and societal expectations. As such, when buying second-hand cars, consumers are likely to be influenced by their family and friends in the decision-making process.

Perceived Behavioural Control: This factor refers to the individual's perception of how easy or difficult it is to perform the behaviour (Ajzen, 1991). It encompasses the belief in one's ability to overcome barriers. For purchasing a pre-owned car, perceived behavioural control is likely to be influenced by factors such as the price of the car (Fox, 1957), availability of financing options, the consumer's knowledge about cars, or the ability to inspect and judge the condition of a pre-owned car.

2.7 Research hypotheses (or propositions)

Lower prices of pre-owned cars increase their demand, assuming the average quality of these cars remains constant. This hypothesis suggests that as the cost of acquiring a pre-owned car decrease, more consumers are likely to consider purchasing them, given that the perceived value or quality does not diminish. Hybrid work and WFH has impacted consumer choice in the pre-owned segment.

H1: Higher perceived reliability of pre-owned cars positively influences consumer attitude to pre-owned car purchases.

H2: Higher perceived value influences consumer attitude to pre-owned car purchases.

H3: Higher perceived quality of pre-owned cars positively influences consumer attitude to pre-owned car purchases.

H4: Remote work due to the pandemic drive consumer choices towards pre-owned car purchase intent.

2.8 Chapter 2 summary

The current chapter reviewed literature related to the objectives of the study, with the intention to contribute towards the problem of the study, to have a clear understanding of the relationship dynamics of the pre-owned car segment before and after the COVID-19 outbreak. To achieve this, the chapter unpacked then impact of COVID-19 on the automotive segment, consumer choices and the pre-owned car segment in South Africa. The chapter also discussed the dual conceptual framework guiding the study, highlighting its significance in terms of perceived behaviour, attitudes and subjective norms towards the decision by the consumer to buy a pre-owned car. Chapter three will highlight the methodology guiding the study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

The previous chapter discussed literature related to the current study. The chapter outlined some important aspects such as consumer choice, the impact of COVID-19 on consumer choices as well as the significant changes experienced by the pre-owned car market in South Africa. The current chapter looks at the methodology aspects of the study. First, the research design is discussed, followed by the methodology. Next data collection methods and the identification of research participants follow the discussion. The chapter ends with the discussion on quality assurance. In what follows, the research design is discussed.

3.2 Research design

For this study, data was collected through primary data and the respondent would be by sample frame. A survey design was used to examine the influence of the two independent variables, COVID-19 and consumer choices, on the dependent variable, the pre-owned car segment. A survey is This methodology enables the researcher to gather data at a singular moment, facilitating the analysis of current trends and consumer attitudes towards pre-owned car segment. It is important to note that the current study used internet survey as the questionnaire was shared to the participants via email. Internet survey is commended for being cost effective (Vaske, 2011).

A Structural Equation Model (SEM) used by (Dhanabalan et al., 2018) was used to measure perception of customer value elements including brand, price, quality, design, utility, and technical considerations. To gain insights into the French households that acquired a new or pre-owned vehicle (Prieto & Caemmerer, 2013) utilized random utility theory and employed a multinomial logit modelling for its analysis.

To uncover insights into the determinants shaping individuals' attitudes and actions regarding work-from-home (WFH) in the United States, (Zheng et al., 2023) constructed an additional Structural Equation Modelling (SEM) framework. This

model was used to predict the frequency of in-office workdays and the general contentment with WFH arrangements. The research conducted by (Yan et al., 2022) introduced an integrated choice and latent variable (ICLV) model that accounts for the internal and external influences on consumer decisions regarding automobile purchases in China, specifically under the conditions brought about by COVID-19. The ICLV model was used to assess the impact of latent variables on the propensity of individuals to buy automobiles amidst the pandemic.

Based on insights gathered from the literature review, Structural Equation Modelling (SEM) stands out as a compelling method to understand how COVID-19 impacts consumer decisions in the pre-owned car segment. SEM will help in deciphering intricate relationships between both the dependant and independent variables. The next section looks at data collection methods.

3.3 Data collection methods

3.3.1 Population

Six hundred and fifty questionnaires were distributed to the potential respondents over the age of 18 who have previously purchased a pre-owned car in Gauteng with three years. The aim was to get back at least one hundred respondents to complete the survey. Wu et al (2022) explain that the average response rate for online surveys is 44.1%, highlighted that increasing the number of survey recipients does not necessarily lead to a higher response rate. Conversely, targeting a well-defined and specific population has a positive effect on increasing the response rate of online surveys.

3.3.2 Sample and sampling method

A Purposive sampling method was used to ensure representation across different demographics, age, gender, income, education, methods for purchasing a pre-owned vehicle, such as financing options and geographical location.

3.4 Research instrument

Data collection for the current study was conducted between October 1 and October 30, 2024. The instrument used for data collection was a questionnaire, which comprised both closed questions and statements for participants and they were asked to rate their agreement on a five-point Likert scale, ranging from "strongly agree" equals 1 to "strongly disagree" equals 5. A questionnaire was a practical research instrument for data generation in this study. Potthof and Eller (2000) advocate for questionnaires by arguing that they generate timely results, while allowing data to be collected from many participants within a relatively short period of time. Questionnaires were distributed to six hundred and fifty potential participants by email. However, only two hundred and nineteen valid responses were received. The target population for the current study was consumers residing in Gauteng. Thus, each participant was asked to indicate the province of residence so that those who reside outside Gauteng would not form part of the study participants.

This information was crucial, as our purposive sampling strategy targeted individuals specifically from Gauteng who had recently bought a pre-owned vehicle. Purposive sampling was used to identify participants who have bought pre-owned cars and reside in Gauteng. A total of two hundred and nineteen valid responses were received, allowing for a focused analysis of consumer behaviour in the pre-owned vehicle market within the Gauteng region.

3.5 Data analysis strategies and interpretation

Quantitative data analysis software SPSS was used for statistical analysis to include descriptive statistics to summarize the data, chi-square tests for categorical variables, and regression analysis to identify factors predicting consumer choices. According to Vorhies (2017), SPSS stands out as a software that is designed to handle large quantities of data. SPSS was worthy to use in this study as it allows multiple computer systems. A Structural Equation Model (SEM) was employed to analyse the data.

Interpretations focused on how COVID19 has altered consumer preferences and behaviours in the pre-owned car segment.

3.6 Limitation

The study faced limitations such as, limited geographical reach due to survey distribution limited to respondents in Gauteng only.

3.7 Quality assurance

3.7.1 External validity (or transferability)

Assesses the study's findings' applicability beyond its immediate context, examining if pandemic-induced shifts in consumer behaviour hold true across various regions, economic conditions, and over time. High external validity indicates that the insights can be extended to similar sectors, empowering stakeholders to make informed decisions on a wider scale.

3.7.2 Internal validity (or credibility)

Ensures the study accurately reflects the real impact of COVID-19 on consumer choices by rigorously evaluating its design, methodology, and analysis. It is essential for proving a direct cause-and-effect link between the pandemic and consumer behaviour changes, attributing findings solely to COVID-19. High internal validity denotes the study's reliability, indicating that its conclusions are replicable and can reliably forecast consumer behaviour in the pre-owned car segment under similar circumstances.

3.7.3 Reliability (or dependability)

Assesses the reliability of the data collected, the researcher utilised the Cronbach's alpha. This involves grouping variables that measure similar constructs, calculating the Cronbach's alpha for each group, and interpreting the results. A Cronbach's alpha of 0.70 or higher, indicates a good consistency (George & Mallery, 2002). If values are below this threshold, the researcher

should consider revising or removing items to improve reliability and by repeating this process for each ensure robustness. In (Dhanabalan et al., 2018) study, a Composite Reliability (CR) test was performed, yielding results ranging from 0.89 to 0.97. These findings indicate that CR values exceeding 0.70 are considered acceptable and reliable.

3.8 Ethical considerations

The researcher obtained informed consent from participants, ensuring clarity on the study's objectives, procedures, and potential risks. Robust measures were implemented to protect confidentiality and privacy, safeguarding personal data. The researcher also obtained ethical clearance from Wits Business School ethics committee, with protocol number WBS/BA558516/830. The identity of the participants was also kept confidential throughout the study.

3.9 Chapter 3 summary

This chapter provided a justification for the research methodology and design chosen to conduct the study. The chapter also discussed data collection instrument used to generate data. The chapter further discussed the ethical considerations taken in this study to protect the participants. Permission to conduct the study was granted by the ethics committee of the Wits Business school. The next chapter presents the results of the study.

CHAPTER FOUR: DATA PRESENTATION

4.1 Introduction

This chapter is organized into four key sections to showcase the gathered data. Initially, it provides an overview of the respondents' demographic information. Following this, it details the reliability and validity of the measurement tools, highlighting the Cronbach Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) scores for each factor in the survey. The Confirmatory Factor Analysis (CFA) tests the relationship of observed variable and unobserved constructs. While the fourth section examines the outcomes of the tested hypotheses, utilizing the Structural Equation Model (SEM), to determine whether the research findings support these hypotheses.

4.2 Descriptive profile of respondents

Data was collected using an online questionnaire, distributed via email between October 1 and October 30, 2024. In total, six hundred and fifty questionnaires were sent out for participants to complete. Participants were asked to indicate their province of residence and whether they had purchased a pre-owned vehicle in the last three years. This information was crucial, as our purposive sampling strategy targeted individuals specifically from Gauteng who had recently bought a pre-owned vehicle. A total of two hundred and nineteen valid responses were received, allowing for a focused analysis of consumer behaviour in the pre-owned vehicle market within the Gauteng region.

This results in a response rate of approximately 33.7%. According to Wu et al (2022), the average response rate for online surveys is 44.1%, and their study highlighted that increasing the number of survey recipients does not necessarily result in a higher response rate. This suggests that our response rate, though slightly below average, was influenced more by the targeted criteria than by volume alone.

Table 1 Descriptive statistics

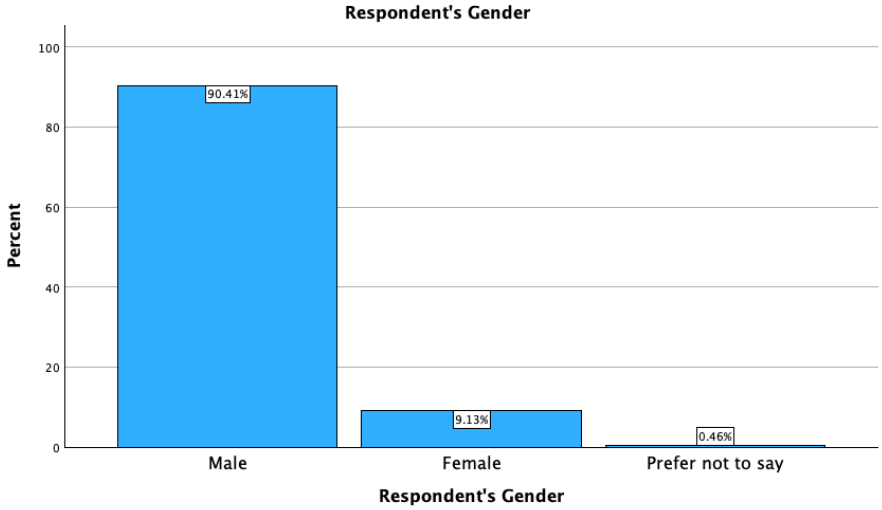
Variable	Value	Frequency	Percentage
Gender	Male	198	90.4%
	Female	20	9.1%
	Prefer not to say	1	0.5%
	Total	**219**	**100%**
Age	18 - 25 Years Old	3	1.4%
	26 - 35 Years Old	42	19.2%
	36 - 45 Years Old	52	23.7%
	46 - 55 Years Old	60	27.4%
	55 Years and Older	62	28.3%
	Total	**219**	**100%**
Income	R0 - R15 000	27	12.3%
	R15 001 - R30 000	41	18.7%
	R30 001 - R50 000	67	30.6%
	R50 001 - R100 000	56	25.6%
	Greater than R100 001	28	12.8%
	Total	**219**	**100%**
Education	No Matric	4	1.8%
	Matric	35	16.0%
	Diploma/Certificate	86	39.2%
	Undergraduate degree	38	17.4%
	Postgraduate degree (Honours, Masters, Doctorate)	56	25.6%
	Total	**219**	**100%**
Purchase Method	ABSA Vehicle Finance	37	16.9%
	FNB -WesBank Finance	40	18.3%
	Nedbank MFC Finance	37	16.9%
	Standard Bank Vehicle Finance	18	8.2%
	Cash	78	35.6%
	Personal Loan	9	4.1%
	Total	**219**	**100%**

4.2.1 Demographics

a) Gender

A frequency table was created to illustrate the gender distribution within the sample. As depicted in Table 1, majority of respondents were male, accounting for 198 individuals (90.4%). In contrast, 52 respondents (9.1%) were female, and 1 respondent (0.5%) chose not to disclose their gender identity. These results are visually represented in Figure 1 below.

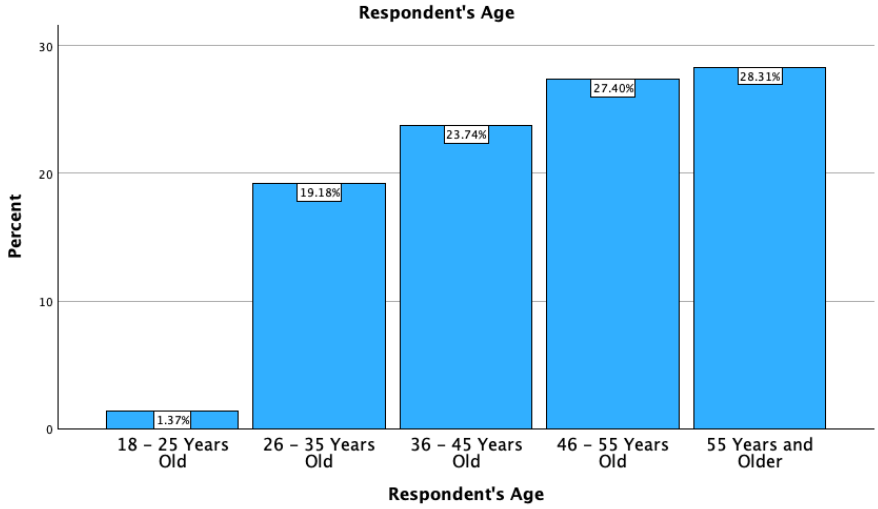
Figure 1 Graph of gender distribution



b) Age

Descriptive statistics were used to summarize the age distribution within the sample. As shown in Table 1, the largest age group was 55 years and older, comprising 62 individuals (28.3%). This was followed by the 46-55 years group with 60 individuals (27.4%), the 36-45 years group with 52 individuals (23.7%), and the 26-35 years group with 42 individuals (19.2%). The smallest age group was 18-25 years, with only 3 individuals (1.4%). These results are detailed in Figure 2 below.

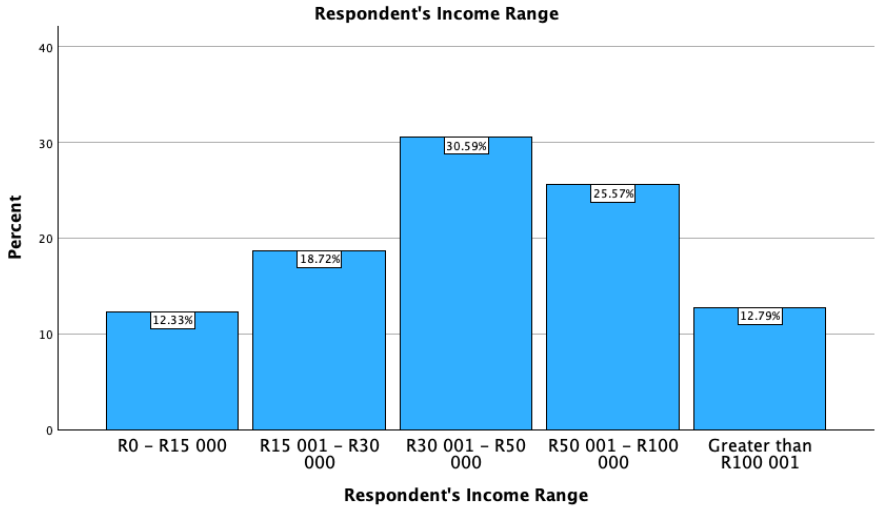
Figure 2 Graph of age distribution



c) Income

A frequency table was created to illustrate the income distribution. As shown in Table 1, the largest income range was R30,001 - R50,000, with 67 individuals (36.6%). This was followed by the R50,001 - R100,000 range, with 56 individuals (25.6%), and the R15,001 - R30,000 range, with 41 individuals (18.7%). The income range greater than R100,001 included 28 individuals (12.8%). The smallest income range group was R0 - R15,000, with 27 individuals (12.3%). These are detailed in Figure 3 below.

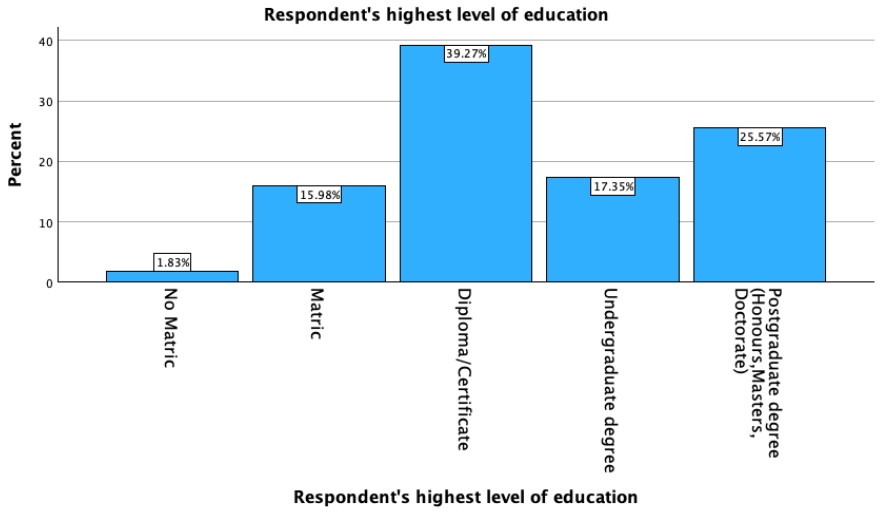
Figure 3 Graph of income range distribution



d) Level of education

A frequency table was created to show the distribution of respondents' education levels. As shown in Table 1, the highest proportion held a Diploma/Certificate (86 individuals, 39.2%), followed by Postgraduate degrees (56 individuals, 25.6%), Undergraduate degrees (38 individuals, 17.4%), and Matric qualifications (35 individuals, 16.0%). The smallest group had no Matric (4 individuals, 1.8%). These detailed results are presented in Figure 4 below.

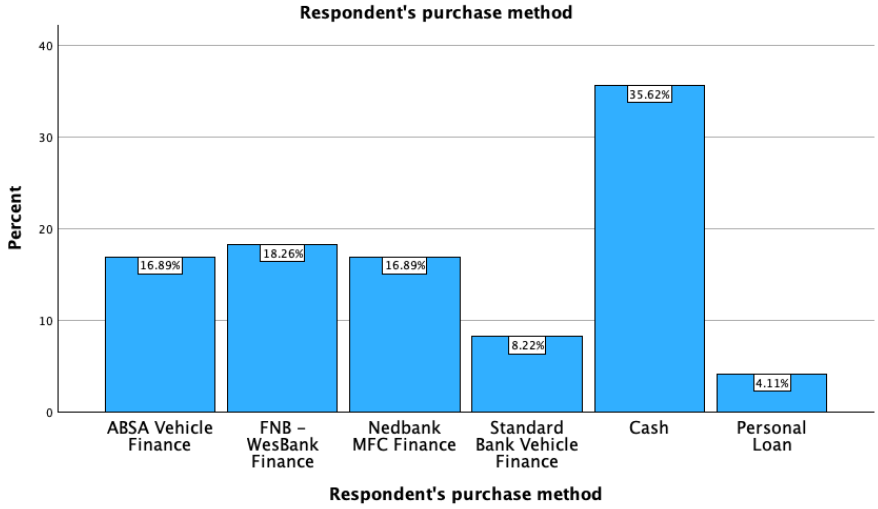
Figure 4 Graph of respondents' level of education distribution



e) Preowned segment vehicle purchase method

A frequency table was created to show the distribution in Table 1 of respondents' methods for purchasing pre-owned vehicles. Consumers used cash, vehicle financing from major South African banks, or a personal loan. As shown in Figure 5, the most common method was cash (78 respondents, 35.6%), followed by financing through various banks and 9 respondents (4.1%) used a personal loan.

Figure 5 Respondents method to purchase a preowned vehicle distribution



4.3 Measurement model

4.3.1 Construct Reliability (Cronbach's Alpha, CR and AVE)

Reliability, which measures the internal consistency of a construct in a study, is deemed acceptable if the Cronbach's Alpha is greater than 0.70. In this study, this measure was used to assess reliability. The results indicated that the Perceived Reliability (PR), Perceived Value (PV), Perceived Quality (PQ), Perceived Work from Home (WH), Attitude towards Purchases (AP) Attitude towards Purchases (PI) scales, each consisting of 4 items, were reliable, as all their alpha values surpassed the 0.70 threshold (George & Mallery, 2002). The summarized reliability results for these scales are presented in the Table 2 below.

Table 2 Reliability Statistics

Constructs	No of Items	Alpha (α)
Perceived Reliability (PR)	4	.826
Perceived Value (PV)	4	.836
Perceived Quality (PQ)	4	.797
Perceived Work from Home (WH)	3	.866
Attitude towards Purchases (AP)	4	.887
Purchasing Intent (PI)	4	.851

4.3.2 Composite Reliability

To assess the convergent validity of the scale items, we calculated the Average Variance Extracted (AVE). The AVE provides an indication of the amount of variance captured by the constructs in relation to the amount of variance attributable to measurement error. In this study, the AVE values for all scales exceeded the recommended threshold of 0.50, indicating that the scales effectively capture the underlying constructs they are intended to measure (Fornell & Larcker, 1981). Consequently, the scales employed in this study demonstrate satisfactory convergent validity, ensuring that the items within each scale are adequately related to one another.

Table 3 Factor loading, Reliability and Average Variance Extracted

Items	Factor Loadings	Alpha (α)	CR	AVE
Perceived Reliability		.826	0.855	0.605
PR1	0.919			
PR2	0.739			
PR3	0.875			
PR4	0.515			
Perceived Value		.836	0.838	0.640
PV1	0.785			
PV2	0.698			
PV3	0.812			
PV4	0.703			
Perceived Quality		.797	0.806	0.541
PQ1	0.802			
PQ2	0.892			
PQ3	0.501			
PQ4	0.627			
Perceived Work from Home		.866	0.867	0.686
WH1	0.759			
WH2	0.847			
WH3	0,875			
Attitude towards Purchases		.887	0.889	0.667
AP1	0.749			
AP2	0.828			
AP3	0.807			
AP4	0.877			

Items	Factor Loadings	Alpha (α)	CR	AVE
Purchasing Intent		.851	0.847	0.585
PI1	0.789			
PI2	0.824			
PI3	0.848			
PI4	0.566			

4.3.3 Reliability measurements

Confirmatory Factor Analysis (CFA) was performed using AMOS to evaluate the measurement models. While conducting the CFA, we evaluated the factor loadings for each item. Model-fit indices, including CMIN/DF, GFI, CFI, TLI, SRMR, and RMSEA, were employed to assess the overall model fit in table 4, and all these indices fell within generally accepted thresholds. A CMIN/DF of < 3 indicates an acceptable fit between the hypothetical models (Kline, 2016).

Table 4 Model Fit Statistics CFA

Fit Indices	Obtained Value	Recommended Value	Accepted / Rejected
CMIN/DF	1.387	<3	Accepted
GFI	.901	>.90	Accepted
CFI	.968	>.90	Accepted
TLI	.961	>.90	Accepted
SRMR	.054	<.08	Accepted
RMSEA	.042	<.08	Accepted

Note: CMIN/DF= minimum discrepancy per degree of freedom; GFI = Goodness of Fit Index; NFI= Normed Fit Index; RFI=Relative Fit Index; IFI= Incremental Fit Index; TLI= Tucker-Lewis Index; CFI= Comparative Fit Index; RMSEA = Root Mean Square Error Approximation

4.3.4 Discriminant validity (Fornell – Larcker)

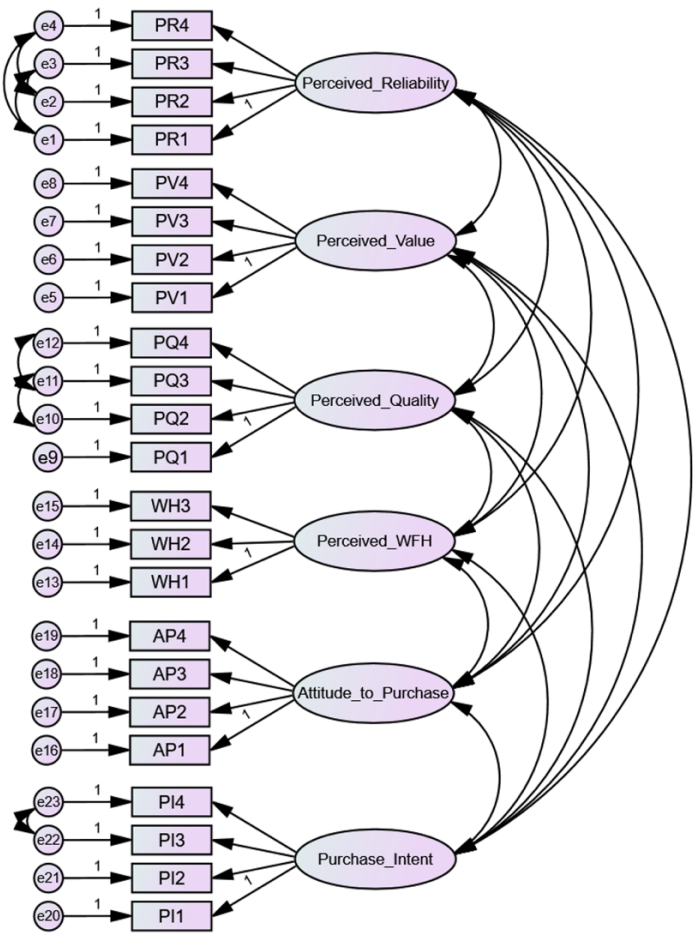
In this study, discriminant validity was evaluated using the Fornell and Larcker Criterion (Fornell & Larcker, 1981). According to this criterion, a construct demonstrates discriminant validity if the square root of its Average Variance Extracted (AVE) is greater than its correlation with other constructs. The results, presented in the Table 5, indicate that each construct's AVE square root exceeds its correlations

with other constructs, confirming that discriminant validity is established. This demonstrates that the constructs are distinct and accurately measure different concepts.

Table 5 Discriminant validity using Fornell - Larcker

Construct	PR	PV	PQ	WH	AP	PI
PR	**0.778**	0.437	0.521	0.077	0.339	0.179
PV	0.437	**0.751**	0.561	0.129	0.453	0.297
PQ	0.521	0.561	**0.722**	0.204	0.546	0.300
WH	0.077	0.129	0.204	**0.828**	0.092	0.343
AP	0.339	0.453	0.546	0.092	**0.817**	0.119
PI	0.179	0.297	0.300	0.343	0.119	**0.765**

Figure 6 Confirmatory Factor Analysis (CFA)



4.4 Structure Equation Model (SEM)

In this study, Structural Equation Model (SEM) was employed to examine the complex relationships among several constructs, including Perceived Reliability (PR), Perceived Value (PV), Perceived Quality (PQ), Perceived Work-from-Home (WH), Attitude to Purchase (AP), and Purchase Intent (PI). SEM is a powerful statistical technique used to validate the measurement models by assessing the relationship between observed variables and their underlying latent constructs.

The model depicted uses arrows to illustrate directional relationships. Each construct, represented as an oval, links to multiple observed variables indicated by rectangles. The arrows pointing from rectangular observed variables to the ovals demonstrate the factor loadings, which are essential for understanding how well each variable represents its respective construct. Furthermore, the model includes interconnections between different constructs, highlighting the hypothesized paths of influence. For example, arrows extend from Perceived Reliability, Value, Quality, and WH to Attitude to Purchase and Purchase Intent, suggesting potential pathways by which these perceptions may influence consumer attitudes and intentions in the pre-owned vehicle segment. The CFA model serves as a blueprint as shown in Figure 6 regarding the structural relationships within the dataset and provides insights into the underlying factors that drive consumer behaviour in this context.

4.5 Path Modelling

A structural equation model was created using AMOS to examine the relationships as seen in Figure 7. Structural Equation Modelling (SEM) is a comprehensive statistical approach used to understand complex relationships among observed and latent variable. A model is considered to have a good fit when the CMIN/DF value is less than 3 (Kline, 2016), and the goodness-of-fit indices, such as the Goodness of Fit Index (GFI), Tucker-Lewis Index (TLI), and Confirmatory Fit Index (CFI), are greater than 0.90 as suggested by (Hair et al., 2010). Additionally, an adequately fitting model should have a Standardized Root Mean Square Residual (SRMR) below 0.05, and a

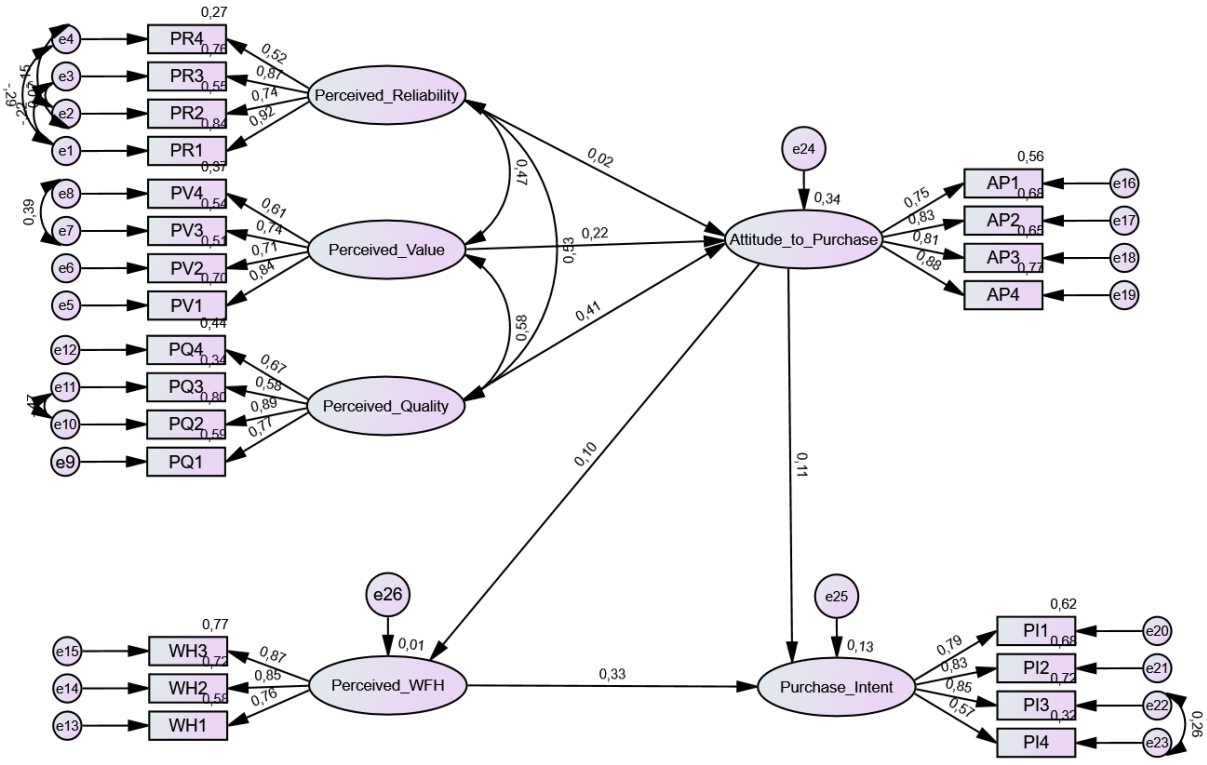
Root Mean Square Error of Approximation (RMSEA) between 0.05 and 0.08 (Hair et al., 2010). The fit indices for the model are detailed in Table 6.

Table 6 Model Fit Statistics SEM

Fit Indices	Obtained Value	Recommended Value	Accepted / Rejected
CMIN/DF	1.404	<3	Accepted
GFI	.900	>.90	Accepted
CFI	.966	>.90	Accepted
TLI	.960	>.90	Accepted
SRMR	.076	<.08	Accepted
RMSEA	.043	<.08	Accepted

Note: CMIN/DF= minimum discrepancy per degree of freedom; GFI = Goodness of Fit Index; NFI= Normed Fit Index; RFI=Relative Fit Index; IFI= Incremental Fit Index; TLI= Tucker-Lewis Index; CFI= Comparative Fit Index; RMSEA = Root Mean Square Error Approximation

Figure 7 Structural Equation (SEM)



4.6 Hypothesis Testing Results

The study analysed how COVID-19 impacted consumer attitudes and choices in the pre-owned car segment in Gauteng. The squared multiple correlation for the attitude towards purchasing a pre-owned vehicle was 0.33. This indicates that 33% of the variance in purchasing attitude can be explained by factors such as perceived reliability, perceived value, and perceived quality.

Hypothesis 1 (H1): Higher perceived reliability of pre-owned cars positively influences consumer attitude to pre-owned car purchases.

Perceived reliability on attitude to purchase decisions showed a positive impact with a standard estimate of 0.02. Despite the results indicating a strong relationship between PR and AP, they were not statistically significant, as the p-value was 0.816 and insignificant. Consequently, Hypothesis 1 (H1) was not supported. This is demonstrated in Table 7.

Table 7 Hypothesis 1

Relationship	Estimates	t-value	p-value	Decision
Higher Perceived Reliability (PR) → Attitude to Purchase (AP)	0.02	.233	.816	Not Supported

Note: p-value <0.01

Hypothesis 2 (H2): Higher perceived value influences consumer attitude to pre-owned car purchases.

Perceived value on attitude to purchase decisions showed a positive impact with a standard estimate of 0.22. However, despite a strong relationship between PV and AP, the result was statistically significant, as the p-value was 0.017. Consequently, Hypothesis 2 (H2) was supported. This is demonstrated in Table 8.

Table 8 Hypothesis 2

Relationship	Estimates	t-value	p-value	Decision
Perceived Value (PV) → Attitude to Purchase (AP)	0.22	2.385	.017	Supported

Note: p-value <0.01

Hypothesis 3 (H3): Higher perceived quality of pre-owned cars positively influences consumer attitude to pre-owned car purchases.

Perceived value on attitude to purchase decisions showed a positive impact with a standard estimate of 0.41. However, regardless of the results indicating a strong relationship between PQ and AP, the result was statistically significant, as the p-value was < 0.01. Consequently, Hypothesis 3 (H3) was supported. This is demonstrated in Table 9.

Table 9 Hypothesis 3

Relationship	Estimates	t-value	p-value	Decision
Perceived Quality (PQ) → Attitude to Purchase (AP)	0.41	4.287	< 0.01	Supported

Note: p-value <0.01

Hypothesis 4 (H4): Remote work (WH) due to the pandemic drive consumer choices towards pre-owned car purchases.

Remote work on consumer intent to purchase decisions showed a positive impact with a standard estimate of 0.33. However, despite the indication of a strong relationship between WH and PI, the result was statistically significant, as the p-value was < 0.01. Consequently, Hypothesis 4 (H4) was supported. This is demonstrated in Table 10.

Table 10 Hypothesis 4

Relationship	Estimates	t-value	p-value	Decision
Remote Work (WH) → Purchase Intent (PI)	.0.33	4.205	< 0.01	Supported

Note: p-value <0.01

4.7 Chapter 4 summary

In this chapter, we presented the survey findings based on questionnaire responses. Data analysis was performed using SPSS and AMOS 28. Initially, we explored and discussed the descriptive statistics of the respondents, followed by evaluating the reliability and validity of the study constructs. Confirmatory Factor Analysis (CFA) was applied to examine the questionnaire's scale validity, model fit, and reliability. Additionally, Structural Equation modelling (SEM) was utilized to assess model fit and analyse the hypotheses. The next chapter will relate these results to the research problem and hypotheses.

CHAPTER FIVE: DATA ANALYSIS AND DISCUSSION

5.1 Introduction

This chapter examines the study's findings in conjunction with the primary research problem, objectives, and questions. It provides a detailed analysis of the respondents' profiles, followed by an exploration of the various hypotheses and the relationships outlined in the conceptual framework. Each theme is discussed in relation to the study's results.

5.2 Data Respondent’s profiles

In this section, we explore the profile of the respondents to gain a deeper understanding of their characteristics and demographics, which are crucial for analysing the impact of COVID-19 on consumer choices in the pre-owned car segment.

5.2.1 Demographic profiles

The demographics provides an insightful overview of the sample's composition, shedding light on the various characteristics of the respondents. In terms of gender distribution, the sample was predominantly male, with 90.4% of the respondents being male, while only 9.1% were female. A minimal 0.5% chose not to disclose their gender identity.

Examining the age distribution, the largest segment of the respondents was aged 55 years and older, accounting for 28.3%. This was closely followed by individuals in the 46-55 age range, who made up 27.4% of the sample. The 36-45 years group comprised 23.7%, while those aged 26-35 represented 19.2% of the respondents. The youngest group, aged 18-25, was the smallest, comprising only 1.4% and may still be finishing school or pursuing higher education and might not yet possess a driver's license. This distribution suggests a demographic skew towards older age groups, reflecting potential differences in priorities and financial stability.

In terms of income distribution, the largest proportion of respondents reported earning between R30,001 and R50,000, comprising 36.6% of the sample. This was followed by those earning between R50,001 and R100,000, making up 25.6%, and 18.7% earning between R15,001 and R30,000. Higher income earners, those with salaries above R100,001, constituted 12.8%, while the smallest income group, earning between R0 and R15,000, accounted for 12.3%. These figures highlight the economic diversity within the sample, reflecting varied financial backgrounds that shape purchasing behaviour and financial decision-making. A study in France (Prieto & Caemmerer, 2013) found that higher income correlates with a preference for new cars, often financed, indicating that financing significantly boosts new car purchases while negatively impacting pre-owned car transactions.

The educational level of the respondents revealed that the largest group held a Diploma or Certificate, encompassing 39.2% of the sample. Those with Postgraduate degrees accounted for 25.6%, while 17.4% held Undergraduate degrees. Respondents with Matric qualifications represented 16.0%, and a small segment of 1.8% had no Matric. Overall, this indicates a generally well-educated sample.

Various financing options were chosen by respondents for purchasing pre-owned vehicles. The most popular method was bank finance followed by cash, used by 35.6% of respondents, indicating a preference for outright purchases without accruing debt. FNB-WesBank Finance was the most utilized financial service, chosen by 18.3% of the participants, reflecting its strong position in the vehicle financing market. Both ABSA Vehicle Finance and Nedbank MFC Finance were used by 16.9% of respondents each, suggesting competitive offerings that appeal to consumers. Standard Bank Vehicle Finance was opted for by 8.2% of respondents, showing a more modest reach compared to its counterparts. Lastly, personal loans were the least common method, used by only 4.1% of participants, possibly due to higher interest rates or less favourable terms compared to direct vehicle financing options. This founding is confirmed by Chisasa and Dlamini

(2013) who argue that consumers' decision to buy cars are also influenced by interest rates on loans.

The finance to cash deals ratio in this study indicates that for every cash purchase, there are approximately 1.81 financed deals. This suggests a strong preference for financing options over outright cash payments among respondents. In the literature review the TransUnion data revealed a significant shift in financing trends, with the ratio of pre-owned to new cars financed dropping from a peak of 2.41 during the pandemic to 1.43 by December 2023 (TransUnion, 2019). This reflects changing consumer preferences as the market stabilizes post-pandemic. This confirms that finance is one of the contributing factors to consumers' buying decisions (Sormin et al., 2022).

5.3 Hypothesis discussion

The research hypothesis was evaluated, and the results indicated that three out of the four hypotheses were supported, while one hypothesis was not supported.

5.3.1 Hypothesis 1

Higher perceived reliability of pre-owned cars positively influences consumer attitude to pre-owned car purchases. Higher Perceived Reliability (PR) → Attitude to Purchase (AP).

The outcome of the study indicated that Perceived reliability on attitude to purchase decisions showed a positive impact, however despite this indicating a strong relationship between PR and AP, the result was not statistically significant, as the p-value was 0.816 and insignificant.

The literature review confirms that purchasing a pre-owned car is challenging due to the imbalance of information. Consumers often do not have access to key details, such as past maintenance records and existing mechanical issues (Akerlof, 1970). This lack of transparency can lead to uncertainty about the

vehicle's reliability. Consumers navigating this market face uncertainty about whether their purchase will turn out to be a reliable car or a "lemon" over time (Akerlof, 1970). Secondly, the predictability of finding specific makes and models is lower in the pre-owned car segment. Unlike new car dealerships which have set locations and inventories, pre-owned cars are listed as becoming available across dealerships and private sellers (Singh et al., 2014). Unlike durable goods, which endure wear and tear from use, second-hand goods typically exhibit signs of inferiority compared to their new counterparts (Fox, 1957). Additionally, perceived reliability can enhance perceived behavioral control, a key component of Theory of Planned Behavior (TBP) (Ajzen, 1991). Consumers who believe they can rely on a pre-owned vehicle might feel more confident in their ability to make a wise purchasing decision, thus increasing their intention to buy. This sense of control can mitigate apprehensions about potential car problems commonly associated with pre-owned vehicles.

A study conducted by Deloitte (Deloitte, 2024) found that 50% of consumers who acquired their vehicle pre-owned indicated a preference for purchasing a new vehicle the next time they are in the market for one. The preference of 50% of consumers to buy a new vehicle next time indicates potential dissatisfaction or uncertainty with the reliability of pre-owned cars. This aligns with the idea that perceived reliability may influence purchase decisions, as buyers might opt for new cars to avoid the uncertainty associated with used ones.

Overall, this highlights the crucial role perceived reliability plays in influencing consumer behavior in the pre-owned car market. It emphasizes the importance of providing comprehensive inspection reports for dealers selling pre-owned cars to enhance consumer trust and confidence.

5.3.2 Hypothesis 2

Higher perceived value influences consumer attitude to pre-owned car purchases. Perceived Value (PV) → Attitude to Purchase (AP).

Based on our findings, the hypothesis that perceived value (PV) positively influences consumer attitudes towards purchasing pre-owned cars is supported. The analysis revealed a positive relationship with an estimate of 0.22, indicating that higher perceived value leads to more favorable purchase attitudes. Furthermore, the relationship is statistically significant, with a p-value of 0.017, thus confirms that perceived value plays a crucial role in shaping consumer attitudes toward buying a pre-owned car.

The literature review highlighted that growth of the secondhand market hinges on two key factors: a decrease in transaction costs and an increase in product lifetime (Thomas, 2003). Secondly, three key variables price, volume, and quality shape market dynamics while factors like mileage can influence value, age often takes precedence as the primary determinant (Fox, 1957). This leads to inconsistency: despite the presence of both good and bad cars, they tend to sell at the same price due to the buyer's inability to distinguish between them (Akerlof, 1970). This is further confirmed by Shareef and Banu (2022) where consumers indicated their lack of trust on second hand cars as they are unreliable due to lack of proper information pertaining to the car. Lastly, Consumers navigating this market face uncertainty about whether their purchase will turn out to be a reliable car or a "lemon" over time (Akerlof, 1970).

Furthermore, perceived value can affect subjective norms, another component of Theory of Planned Behavior (Ajzen, 1991). If purchasing a pre-owned vehicle is seen as a smart financial decision within a consumer's social circle, this perceived norm can enhance positive attitudes and the likelihood of purchase intention. This finding supports the hypothesis that higher perceived value leads to more favorable purchase attitudes to purchase. Despite other factors like price and quality

influencing market dynamics, perceived value emerges as a crucial determinant in consumer decision-making for pre-owned vehicles. As such, businesses in the automotive segment should focus on enhancing perceived value attributes, such as assuring quality and competitive pricing, to positively sway consumer attitudes and drive pre-owned car sales.

Overall, this indicates valuable insights into how perceived value can shape consumer behavior in the pre-owned car segment, underscoring the importance of strategic marketing and value enhancement initiatives.

5.3.3 Hypothesis 3

Assess Higher perceived quality of pre-owned cars positively influences consumer attitude to pre-owned car purchases. Perceived Quality (PQ) → Attitude to Purchase (AP).

The analysis found a strong positive relationship between the perceived quality of pre-owned cars and consumer attitudes toward purchasing them, reflected in a standard estimate of 0.41. This suggests that as consumers perceive higher quality in pre-owned cars, their attitude towards purchasing these cars becomes more favourable. Furthermore, the relationship is statistically significant, with a p-value of less than 0.01. Consequently, these results support the hypothesis that higher perceived quality positively influences consumer attitudes toward purchasing pre-owned cars.

The literature review highlighted that the presence of goods of varying quality levels presents challenges for market theory (Fox, 1957). The demand for pre-owned cars is influenced by two main factors: the price of the cars and the average quality of pre-owned cars. An equilibrium is achieved when supply matches demand at a specific average quality level. According to Akerlof (Akerlof, 1970), this implies that a decrease in prices is often associated with a reduction in the overall quality of pre-owned cars. While owners gain insights into their car's quality

after owning it, a fundamental information asymmetry emerges, with sellers possessing more knowledge than buyers (Akerlof, 1970). This leads to inconsistency: despite the presence of both good and bad cars, they tend to sell at the same price due to the buyer's inability to distinguish between them (Akerlof, 1970). This phenomenon, often referred to as Gresham's Law, suggests that lower-quality products, or "lemons," tend to dominate the market, ultimately driving out higher-quality alternatives (Akerlof, 1970).

Quality perceptions also bolster perceived behavioral control. Consumers who perceive high quality in pre-owned cars might feel more capable of making a satisfactory purchase, thus strengthening their buying intentions.

5.3.4 Hypothesis 4

Remote work (WH) due to the pandemic drive consumer choices towards pre-owned car purchases. Remote Work (WH) → Purchase Intent (PI).

Our findings indicate a positive relationship between remote work and consumer purchase intent, with a standard estimate of 0.33, suggesting that increased remote work correlates with higher purchase intent. The results are statistically significant, as evidenced by a p-value of less than 0.01. Consequently, these results support the hypothesis that remote work (WH) positively influences consumer Purchase Intent (PI) toward purchasing pre-owned cars.

The literature review confirms that the COVID-19 pandemic transformed global work and lifestyle patterns by forcing businesses to shift rapidly to remote work, redefining traditional office environments with a new emphasis on flexibility and virtual connectivity (Kramer & Kramer, 2020). Furthermore, employment status (Prieto & Caemmerer, 2013) significantly influences car purchasing behaviour, affecting choices between new and pre-owned vehicles. Recent research (Zheng et al., 2023) has emphasized how remote work is altering car usage frequency, which in turn affects decisions related to vehicle purchases. In a similar study by

Yang et al (2022) it was highlighted that individuals or families without private cars encounter challenges like heightened anxiety over travel risks. Owning a private car provides a sense of safety by facilitating social distancing and minimizing the Covid-19 virus exposure. Dealerships can mitigate declines in pre-owned car sales by enhancing their online presence, offering exceptional customer service and flexible financing and diversifying pre-owned car inventory.

5.4 Chapter 5 summary

In this section, a detailed discussion of the results alongside the research problem and hypotheses was conducted. The findings revealed that three out of the four hypotheses were supported. However, the hypothesis concerning perceived reliability was not validated. On the other hand, perceived value demonstrated a confidence level of 0.017, while both perceived quality and the work-from-home factor showed a stronger influence with a confidence level of less than 0.01. Consequently, we can conclude that consumer choices significantly impact consumer attitude to purchase, while the work-from-home trend plays a crucial role in shaping consumer intent.

CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The previous two chapters provided a detailed analysis of the study's findings. The study's main findings and implications are summarized in this chapter. Suggestions for further research are also provided, along with recommendations for important stakeholders.

6.2 Conclusion of the study

Data was collected using an online questionnaire among respondents, focusing on consumers who have purchased a pre-owned car within the last three years. This approach aligned with our purposive sampling strategy, which specifically targeted residents of Gauteng who fit this criterion. Our analysis led to significant findings, supporting three out of the four proposed hypotheses. However, the hypothesis regarding perceived reliability did not find empirical support.

Firstly, consumer behaviour insights indicates that perceived reliability, despite being intuitively important, may not always serve as a decisive factor in consumer purchasing decisions. This is particularly true in situations of asymmetric information (Akerlof, 1970), where the uncertainty about the true reliability of pre-owned cars is heightened, causing consumers to rely on perceived reliability based on past experiences.

Secondly, perceived value significantly impacts consumer attitudes toward purchasing pre-owned cars. Three critical variables price, volume, and quality play crucial roles in shaping market dynamics. While mileage can affect perceived value, the age of the pre-owned car often emerges as the primary determinant, aligning with Theory of Second-Hand Markets (Fox, 1957) perspective that age predominates in value determination.

Thirdly, integrating insights from the Theory of Planned Behaviour (TPB) (Ajzen, 1991) enhances our understanding of the consumer's decision-making process. This integration underscores the multifaceted nature of attitude formation and behavioural intentions in the pre-owned car segment. When consumers perceive higher quality and value in pre-owned cars, their purchasing attitude becomes more favourable.

Fourthly, as consumers perceive higher quality in pre-owned cars, their attitude towards purchasing these cars becomes more favourable. The demand for pre-owned cars hinges primarily on the vehicle's price and the average quality, with equilibrium being reached when supply matches demand at this average quality level (Akerlof, 1970). A decrease in prices is commonly linked with a reduction in the overall quality of pre-owned cars.

Lastly, the widespread adoption of remote work, accelerated by the COVID-19 pandemic, has dramatically influenced consumer behaviours, particularly in vehicle purchases (Zheng et al, 2023). The shift to home-based work has resulted in changes to car usage patterns, thereby affecting consumer purchasing decisions on pre-owned cars.

6.3 Implications of the study

This study has implications for both academic theories and real-world business applications, which will be discussed in the part that follows.

6.3.1 Theoretical implications

This research’s aim was to enhance the existing literature related to automotive pre-owned car sales and consumer purchasing intent by examining perceived reliability, quality, and value on attitude to purchase, and the influence of work from home on purchase intent. Through this analysis, the study provided insights that complement the current body of knowledge and assist automotive pre-owned car retail stakeholders in adapting strategies to meet changing consumer needs.

6.3.2 Practical Implications

A practical implication of this study is that automotive pre-owned car retail stakeholders can leverage insights on perceived reliability, quality, and value to better target their marketing strategies and product offerings, thereby influencing consumer attitudes toward purchasing. Additionally, understanding the impact of work-from-home trends on purchase intent can help these stakeholders tailor their sales approaches and services to accommodate the evolving lifestyle and preferences of consumers, such as offering online purchasing options or enhancing at-home test drive experiences. This adaptation will ensure that businesses remain competitive and responsive to the changing demands of their customers.

6.4 Recommendations

The COVID-19 pandemic significantly impacted car sales in South Africa, leading to a noticeable decline in both new and pre-owned car transactions. In response to these challenging market conditions, dealerships can counteract decreases in pre-owned car sales by boosting their online visibility, delivering outstanding customer service, and offering flexible financing options. Expanding their pre-owned car inventory, promoting certification programs, and using inspection reports are also crucial strategies. By focusing on these elements, dealers and sellers can improve the perceived quality of used cars, thereby enhancing customer satisfaction and trust. Factors like the car's features, car reviews, and any warranties or certifications play a significant role in shaping the overall perception of consumers. Highlighting the perceived reliability is essential in influencing consumer behaviour in the pre-owned car segment. It underscores the importance of providing comprehensive inspection reports to build consumer trust and confidence in the vehicles sold by dealers.

6.5 Study limitations

A study with a sample size confined to Gauteng faces limitations related to generalizability due to its unique economic, and social characteristics. This geographic restriction can lead to selection bias and limited variability, as the sample may not represent broader population diversity or capture a range of variables. Environmental and socio-economic factors specific to Gauteng might uniquely influence outcomes. Future researchers can address these issues by including diverse geographic samples or conducting comparative studies in other regions to enhance generalizability.

6.6 Suggestions for further research

Researchers can consider examining the impact of digital information availability on consumer decisions in the pre-owned car segment. This could include exploring the role of online platforms like marketplaces and review sites in influencing consumer trust and decision-making. Additionally, the study can be replicated on the expanding market of electric vehicles (EVs) and hybrid vehicles entering the South African market to understand evolving consumer perceptions and market dynamics. Key areas include exploring how advanced technological features in EVs and hybrids impact perceptions of value and reliability, compared to traditional vehicles especially during the same period of the pandemic. Lastly researchers could also examine the impact of Chinese automotive brands entering the South African market, with particular focus on their transition to the pre-owned car sector. It is essential to investigate consumer perceptions regarding the quality, reliability, and value of these brands, and to understand how these perceptions influence their acceptance and success in the pre-owned market.

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APPENDIX

8.1 Appendix A Participation Information Sheet



PARTICIPATION INFORMATION SHEET

Dear Sir/Madam,

I am currently conducting a research study titled " Impact of Covid-19 on consumer choices in the pre-owned car segment in Gauteng."

I kindly request 5-10 minutes of your time to complete the accompanying questionnaire provided below.

Your participation is crucial to the success of this study, and please note that there are no right or wrong answers. Your anonymity will be strictly maintained, and all responses will be kept confidential. Rest assured; you will not be identified as a respondent in any publications arising from this research.

Participation in this study is entirely voluntary, and you are free to opt out at any time. Your voluntary completion of the self-administered assessment will be considered as your consent. There are no risks, penalties, or loss of benefits associated with your participation or non-participation. We kindly ask that you respond to all questions honestly to the best of your knowledge about pre-owned cars.

If you have any questions during or afterwards about this research study, feel free to contact me or my supervisor on the details listed below. If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za.

Thank you sincerely for your willingness to participate in this study.

Researcher: Devendran Govender
University of the Witwatersrand
558516@students.wits.ac.za | 082 888 9033

Supervisor: Dr Ademola E. Ayodele
University of the Witwatersrand
ademola.ayodele@wits.ac.za

8.2 Appendix B Research Instrument

Questionnaire Part 1

Pre-screening Question:

Which province to you live in?

Gauteng	1
Outside Gauteng	2
If No = 2	Close Survey

Have you purchased a used vehicle within the last three years?

Yes	1
No	2
If No = 2	Close Survey

Questionnaire Part 2

Please indicate your responses by selecting the appropriate choice from the dropdown menu.

A1. Please indicate your gender:

Male	1
Female	2
Prefer not to say	3

A2. Please indicate your age group:

18 – 25 years old	1
26 – 35 years old	2
36 – 45 years old	3
46 – 55 years old	4
55 years old and above	5

A3. What is your estimated monthly income?

R0 – R15 000	1
R15 001 – R30 000	2
R30001 – R50 000	3
R50 001 – R100 000	4
Greater than R100 001	5

A4. What is the highest level of education you have completed?

No Matric	1
Matric	2
Diploma/Certificate	3
Undergraduate degree	4
Postgraduate degree (Honours, Masters, Doctorate)	5

A5. How did you finance the purchase of your used vehicle?

ABSA Vehicle Finance	1
FNB -WesBank Finance	2
Nedbank MFC Finance	3
Standard Bank Vehicle Finance	4
Cash	5
Personal Loan	6

Questionnaire Part 3

In this section, kindly express your level of disagreement or agreement with each statement. Use the 5-point scale below to indicate your response:

(1) = Strongly disagree
(2) = Disagree
(3) = Neutral
(4) = Agree
(5) = Strongly agree

No	Question/Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	*2*	*3*	*4*	*5*
Perceived Reliability						
PR1	Based on my experience, the used vehicle I purchased has proven to be just as reliable as a new car.					
PR2	The used vehicle I purchased has delivered on all the promises made by the seller.					
PR3	I have confidence in the reliability of the used vehicle I purchased, particularly considering its consistent operation and minimal maintenance issues.					
PR4	Having comprehensive information about the used vehicle's history was crucial for me before finalizing my purchase.					
Perceived Value						
PV1	The used vehicle I purchased has offered good value for the price I paid compared to a new car.					

No	Question/Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	*2*	*3*	*4*	*5*
PV2	I found that the used vehicle I purchased delivered on my expected performance.					
PV3	While shopping for my vehicle, I noticed that the pricing of used cars was remarkably competitive.					
PV4	The age of the used car I purchased held little significance for me compared to its mileage.					
Perceived Quality						
PQ1	Quality was a priority for me when I bought my used vehicle.					
PQ2	I believe that the used car I purchased underwent rigorous quality checks.					
PQ3	While shopping for my used vehicle, I could tell the difference between vehicles of good and poor quality.					
PQ4	I took along a friend, family member, or mechanic when purchasing my used vehicle because they had more knowledge about vehicles than me.					
Perceived Importance of Work from Home						
WH1	The option to work from home has led to me retaining my current vehicle for a longer period due to less travel.					
WH2	The option to work from home played a significant role in my decision to purchase a used vehicle, as it influenced my transportation needs and priorities.					
WH3	Working from home has prompted me to purchase a used vehicle as an additional vehicle for my household to running errands.					
Attitude towards Purchasing a used vehicle						
AP1	The used vehicle must meet all my required expectation.					

No	Question/Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	*2*	*3*	*4*	*5*
AP2	The make and model of the used vehicle should be familiar to me and recognized by my friends and family.					
AP3	I felt confident about purchasing my used vehicle, as I was provided with detailed information, including vehicle service history and condition reports, to make an informed decision.					
AP4	I have a positive perception of buying a used vehicle, as it allowed me to purchase a reliable used car within my budget constraints.					
Purchase Intent						
PI1	Long waitlists at dealerships for new vehicles led me to consider a used car due to its availability.					
PI2	The current economic climate has influenced my intention to purchase a used car.					
PI3	I am inclined to immediately purchase the specific used car if offered a good deal.					
PI4	I am highly inclined to purchase another used vehicle in the future.					

8.3 Appendix C Ethical Clearance Certificate

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/BA558516/830
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	Impact of Covid-19 on consumer choices in the pre-owned car segment i Gauteng
Investigator / Researcher	Mr Devendran Govender
Nature of Project	MBA (Research Article)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.
Issue Date of Certificate	17/07/2024
Expiry date	Date of submission of the project / research report
Chairperson	Dr Ayanda Magida ☎ +27 11 717 3953 ✉ ayanda.magida@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Et Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research a guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature

22 July 2024
Date:

8.4 Appendix D Standardised Regression Weights CFA

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
PR1	<---	Perceived_Reliability	0.919
PR2	<---	Perceived_Reliability	0.739
PR3	<---	Perceived_Reliability	0.875
PR4	<---	Perceived_Reliability	0.515
PV1	<---	Perceived_Value	0.785
PV2	<---	Perceived_Value	0.698
PV3	<---	Perceived_Value	0.812
PV4	<---	Perceived_Value	0.703
PQ1	<---	Perceived_Quality	0.802
PQ2	<---	Perceived_Quality	0.892
PQ3	<---	Perceived_Quality	0.501
PQ4	<---	Perceived_Quality	0.627
WH1	<---	Perceived_WFH	0.759
WH2	<---	Perceived_WFH	0.847
WH3	<---	Perceived_WFH	0.875
AP1	<---	Attitude_to_Purchase	0.749
AP2	<---	Attitude_to_Purchase	0.828
AP3	<---	Attitude_to_Purchase	0.807
AP4	<---	Attitude_to_Purchase	0.877
PI1	<---	Purchase_Intent	0.789
PI2	<---	Purchase_Intent	0.824
PI3	<---	Purchase_Intent	0.848
PI4	<---	Purchase_Intent	0.566
AP3	<---	Attitude_to_Purchase	0.806
AP4	<---	Attitude_to_Purchase	0.879
PI1	<---	Purchase_Intent	0.788
PI2	<---	Purchase_Intent	0.827
PI3	<---	Purchase_Intent	0.846
PI4	<---	Purchase_Intent	0.566

8.5 Appendix D Standardised Regression Weights SEM

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Attitude_to_Purchase	<---	Perceived_Reliability	,018
Attitude_to_Purchase	<---	Perceived_Value	,221
Attitude_to_Purchase	<---	Perceived_Quality	,414
Perceived_WFH	<---	Attitude_to_Purchase	,105
Purchase_Intent	<---	Perceived_WFH	,332
Purchase_Intent	<---	Attitude_to_Purchase	,108
PR1	<---	Perceived_Reliability	,918
PR2	<---	Perceived_Reliability	,740
PR3	<---	Perceived_Reliability	,874
PR4	<---	Perceived_Reliability	,515
PV1	<---	Perceived_Value	,840
PV2	<---	Perceived_Value	,712
PV3	<---	Perceived_Value	,737
PV4	<---	Perceived_Value	,605
PQ1	<---	Perceived_Quality	,769
PQ2	<---	Perceived_Quality	,894
PQ3	<---	Perceived_Quality	,579
PQ4	<---	Perceived_Quality	,666
WH1	<---	Perceived_WFH	,760
WH2	<---	Perceived_WFH	,846
WH3	<---	Perceived_WFH	,875
AP1	<---	Attitude_to_Purchase	,746
AP2	<---	Attitude_to_Purchase	,826
AP3	<---	Attitude_to_Purchase	,806
AP4	<---	Attitude_to_Purchase	,879
PI1	<---	Purchase_Intent	,788
PI2	<---	Purchase_Intent	,827
PI3	<---	Purchase_Intent	,846
PI4	<---	Purchase_Intent	,566

8.6 Appendix E Certification of Language Editing

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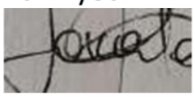
07/12/2024

Dear Sir/ Madam

Re: Certification of Language Editing

This is to certify that Mr Devendran Govender's (558516) Masters Dissertation entitled "Impact of COVID-19 on consumer choices in the pre-owned car segment in Gauteng" has been language edited by Dr Ntsoaki Mokala, a professional editor in the Division of Languages, Literacies and Literatures at Wits School of Education.

Thank you.



Email: ntsoaki.mokala@wits.ac.za
Dr N.T. Mokala
Lecturer: WSoE

8.7 Appendix F Turnitin Report

Impact of COVID-19 on consumer choices in the pre-owned car segment in Gauteng 08-12-2024.docx

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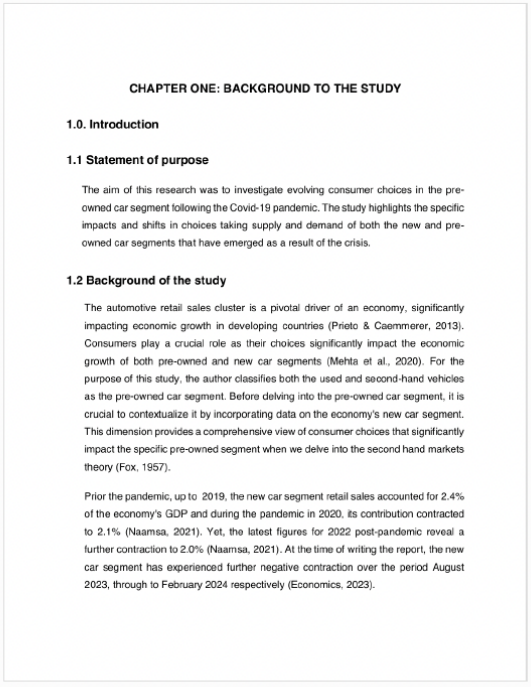
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CHAPTER ONE: BACKGROUND TO THE STUDY

1.0. Introduction

1.1 Statement of purpose

The aim of this research was to investigate evolving consumer choices in the pre-owned car segment following the Covid-19 pandemic. The study highlights the specific impacts and shifts in choices taking supply and demand of both the new and pre-owned car segments that have emerged as a result of the crisis.

1.2 Background of the study

The automotive retail sales cluster is a pivotal driver of an economy, significantly impacting economic growth in developing countries (Prieto & Caemmerer, 2013). Consumers play a crucial role as their choices significantly impact the economic growth of both pre-owned and new car segments (Mehta et al., 2020). For the purpose of this study, the author classifies both the used and second-hand vehicles as the pre-owned car segment. Before delving into the pre-owned car segment, it is crucial to contextualize it by incorporating data on the economy's new car segment. This dimension provides a comprehensive view of consumer choices that significantly impact the specific pre-owned segment when we delve into the second hand markets theory (Fox, 1957).

Prior the pandemic, up to 2019, the new car segment retail sales accounted for 2.4% of the economy's GDP and during the pandemic in 2020, its contribution contracted to 2.1% (Naamsa, 2021). Yet, the latest figures for 2022 post-pandemic reveal a further contraction to 2.0% (Naamsa, 2021). At the time of writing the report, the new car segment has experienced further negative contraction over the period August 2023, through to February 2024 respectively (Economics, 2023).