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A Digital Platform Car Wash Business

Applied Research Project Proposal

Submitted by

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DECLARATION

I, Cebo Ndlovu, declare that this business venture proposal is my 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 Wits Business School, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Cebo Ndlovu

……

Signed at Wits Business School, Johannesburg
On the 23th day of May 2023

ACKNOWLEDGEMENTS

First and foremost, I would like to thank my family for their unwavering patience, understanding, and continuous support throughout my research journey. Their encouragement has been invaluable, and I am grateful for their belief in me.

I extend my sincere appreciation to Mr. Sewada, my manager for his support.

I am grateful to the Wits Business School for providing me with the opportunity to pursue this research and for equipping me with the necessary knowledge and resources to carry out my study. The quality of information and education I received from the institution has been exceptional, and I am thankful for their contribution to my academic growth.

I would like to extend my gratitude to all the respondents who generously dedicated their time and participated in my research. Their valuable input and willingness to share their experiences and perspectives have enriched my study.

Lastly, I want to express my deep appreciation to my supervisor, Dr. Mc Edward Murimbika. His guidance, expertise, and support have been invaluable. I am grateful for his insightful feedback, constructive criticism, and encouragement, which have significantly enhanced the quality and depth of my work.

I am sincerely thankful to all those mentioned above and anyone else who has contributed in any way to the success of my research.

SUPPLEMENTARY INFORMATION

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† Including Executive Summary, References and others,

EXECUTIVE SUMMARY

The Car Wash Digital Platform (App) is a new business venture that addresses the problem of customers needing a convenient car wash service.

This study was aimed at evaluating the viability of this new business venture. A customer discovery was conducted using an online survey to test if potential customers would be interested in such a service. The customer discovery was only made on the end user customer who would request the car wash service. The customer discovery for the service providers was not completed due to time limitations. This project's competitive advantages include the convenience it will provide to its clients in addition to fuel and mileage saved by not having to drive to a particular car wash facility. The time saved from driving to and from the car wash service provider is another competitive advantage of this business venture.

The New Business Venture adopted the Lean Business Canvas as its business strategy model. The data from the online survey contributed to mapping the Lean Business Canvas.

The marketing strategy was developed by using the marketing mix of customer segmentation, the 4 Ps of marketing, and Porter’s five forces model.

The financial analyses indicated that the new business venture could break even in its first year of operation and generate an estimated Net Profit Margin of 40% by the fourth year.

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CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The purpose of this study was to assess the viability of an online business platform that will link car washing service providers to customers at their preferred locations.

More and more people are looking for services custom designed to their needs, that prioritise convenience. The emergence of technology and the continuous development of the 4th industrial revolution enable these opportunities to happen. Examples of businesses that have taken advantage of the opportunity include Uber, Takealot, PostNet and Mr Delivery, to mention but a few.

The Covid-19 pandemic accelerated the need for online services due to the restrictions imposed on travel and other movements of people across the globe to stem the scourge. eCommerce users in South Africa were estimated at 22 million as of 2020 (Kibuacha, 2021). This number is expected to grow by 44% by 2024, reaching 32 million users (Kibuacha, 2021). The annual growth rate is 13% (2014-2020), projected to reach US$6M in sales in 2024 (Kibuacha, 2021). The increased number of eCommerce users has improved trust levels in the systems. Service providers have improved their online systems as the demand from the public grows.

South African public transport has its challenges, making people prefer to buy and use their own cars (StatsSA, 2020). The estimated total number of passenger vehicles in South Africa is 7.8 million, with Gauteng Province topping the list at 3.2 million vehicles, followed by the Western Cape and KZN with just over 1.5M (eNaTIS, 2022).

This research will use the Lean Business start-up model to examine the possibilities for the success of a digital platform-operated mobile car wash business venture.

1.2 Context of the Study

1.2.1 Business Opportunity

A car wash is an essential maintenance need for all car owners, and the demand and sales of cars drive the growth of this need (*Car Wash Services Market Size*, 2021). This venture is aimed at allowing the client to request a car wash service for their vehicle/s to be carried out at their preferred location within a reasonable time.

The business will achieve this by using a mobile Application (App) that will be a digital link between the customers and car wash service providers. The App will act as a market, a meeting place for those seeking the car washing service and those who will provide the service. The aim is to provide the following benefits to the client's preferred place in comparison to the client driving to the traditional car wash services:

- Reduced waiting time: With multiple service providers on the App, customers will have access to a larger pool of suppliers, leading to faster turnaround time from the moment they log their request to the arrival of the service provider and the start of the washing process. This will also be achieved by linking the requesting client with a car wash service provider closest to the delivery location of the service.
- Convenient service at the customer's chosen location: Customers will be able through the App to receive the service at their preferred place, making it more convenient than having to drive to a traditional car wash location.
- Flexibility to continue with other activities: The App will make it possible for the service to be provided at the customer's chosen location while they continue with other tasks such as work or watching TV.

It's important to note that while the business will develop and operate the App, it will not be providing car wash services directly, but rather connecting customers with car wash service providers. According to Stats SA (2022), there has been a significant increase in the number of cars hijacking victims, reaching 134,000 in 2021/22, while 42,000 households experienced theft of motor vehicles (StatsSA, 2022). These statistics highlight the need for improved security measures, especially for vulnerable car owners, such as women drivers, who may feel

exposed to potential theft or high-risk situations when using local car washes without knowledge of their security status. In response to this, the development of a secure and convenient mobile car wash App can address these concerns by offering customers the option to have their vehicles washed at their preferred location.

Car owners will be able to download and register on the App, choose their preferred payment method, provide their physical address, and furnish their car details such as the make and size. They can then request the car wash service by logging in to the App, selecting the car or cars to be washed, and selecting their preferred washing method between the water based and waterless options. The system will generate the cost, the estimated time for the nearest available service provider to arrive on-site, and the estimated time to finish washing the car. If satisfied with this quote, the customer will confirm the service request. At this point, the App will automatically search for the service provider closest to the customer's preferred location and connect the two. Car wash service providers will also need to register on the App in order to link with car owners.

The App will generate revenue by charging a percentage fee from the money paid by the customer to the service provider for the washing service. This fee will be automatically deducted from the payment made by the customer, the balance being paid to the car wash provider. The App will provide a convenient and flexible car washing service that benefits both car owners and service providers.

1.3 Problem Statement

1.3.1 Main problem

One of the success factors of new business ventures is that they can solve a customer problem as their objective. The traditional car wash systems have always required that a vehicle owner drive to the car wash site, line up and wait for the vehicle to be washed, dried, vacuum cleaned and so on. It is not uncommon for this to take as much as two to three hours, depending on whether it is a peak day or a weekend (SMESA, 2022). The time spent and the need to drive to the car wash site takes away the hours that could be used productively

elsewhere. The current systems do not provide any alternatives to vehicle owners who may wish to spend less time at the car wash or may not want to drive to the car wash site. The vehicle owner usually cannot do much while they wait in the car wash queue or while the vehicle gets washed (Naidu, 2021). For some clients, this is time wasted and could be used to do other things. This is where innovative ideas such as the one proposed here come in.

The proposed car wash App will increase the safety and security of the customers. All car wash service providers on the App will undergo a thorough vetting process. This will help to ensure that the service providers are reliable and trustworthy, giving the customers peace of mind while using the App.

The primary problem this App intends to solve is the lack of a customer-centric car wash experience that eliminates the need for customers to drive to a car wash location and wait in line. This App aims to provide a solution that addresses the inconvenience and time constraints associated with traditional car wash systems.

1.3.2 Main proposition

The proposed business venture aims to develop and operate a state-of-the-art digital platform in the form of a car wash App. This platform will serve as a one-stop solution for connecting car owners with reliable and thoroughly vetted car wash service providers. With a focus on customers' convenience, efficiency, and safety, the App will provide a seamless and trouble-free way for car owners to request and receive high-quality car wash services at their preferred location. Additionally, the App will enable car owners to make bookings with the car wash service providers for service to be provided at their convenience.

By eliminating the need for customers to physically visit a car wash site and wait in line, the App will save them valuable time and effort. Similar to popular services such as Uber and the 60-minute grocery checkers system, the App will offer the convenience of on-demand services at the customer's location of choice. This approach will enhance the security and safety of the customers.

1.3.3 Main research question

The main problem this plan aimed to address is the feasibility of an App-based online booking system that connects car wash service providers with vehicle owners who wish to have their vehicles washed. The goal was to determine if the idea is viable and if it should proceed to the next level of developing a Minimum Viable Product. One of the key factors that could contribute to the success of this idea is whether customers are willing to allow car wash service providers to use their water supply, making the idea more practical.

1.3.4 Sub-questions

1.3.4.1 What is the market potential for developing and launching a Mobile car wash App in South African Metropolitan areas?

1.3.4.2 What is the level of demand for such a convenient car wash services in the major urban areas of South Africa?

1.4 Delimitation of the Study

This study was designed to focus on specific aspects of the development of an App-based online booking system for car wash services. The study aimed to assess the feasibility of the proposed system by investigating the potential demand for a mobile car wash using a digital platform. The study also examined the strategic issues related to developing the app, including the identification of key features and functionalities, marketing strategies, and potential revenue streams.

However, this study was limited in scope, and several factors were included. Firstly, the study did not include the development of a Minimum Viable Product (MVP) or the customer validation stage. Secondly, the study did not involve the participation of car wash service providers in the research process.

Therefore, the results of this study should be interpreted in the context of its delimitations, and further research may be required to fully explore the feasibility and potential of the app-based online booking system for car wash services.

Chapter 2. Literature Review

2.1 Introduction

Chapter 2 provides a comprehensive literature review that focuses on the current business situation, core competencies, market position, competitive landscape, opportunities, and value proposition of the proposed car wash app in South Africa. This chapter aims to establish a strong foundation of knowledge and understanding about the car wash market and the potential of a mobile App to address the needs of car owners and service providers. By examining existing research, industry reports, and market trends, this literature review highlights the gap in the market and the unique value that the car wash App can bring to the industry.

2.2 Current Business Situation

2.2.1 Current business and its market:

The car wash market in South Africa has experienced steady growth, driven by factors such as increasing vehicle ownership, urbanization, and a growing middle class (Dalberg, 2018). Car owners in South Africa take pride in their vehicles and prioritise their appearance, resulting in a demand for reliable car wash services (Sullivan, 2020). Traditional car wash businesses, including independent operators and franchise chains, dominate the market (Bizbolts, 2022). Success in the car wash market relies on various factors, including the location, service quality, pricing, and additional offerings (Bizbolts, 2022). The new car wash trend is to bring the car wash services to the customer's place, providing convenience and addressing concerns about leaving cars unattended at car wash centres (SMESA, 2022). Car owners sometimes resort to leaving their cars at car wash centres, which can be risky due to increasing incidents of car theft reported by the South African Police Service (SAPS) (MotoringStaff, 2021). The increasing popularity of mobile car wash booking systems in the form of mobile Apps can be attributed to their dual functionality, allowing car owners to conveniently schedule appointments for car wash services as well as directly contact available service providers through the App for immediate assistance, without the need for prior bookings (Aziz, Said, Ismail, & Hamidi, 2023). South Africans' high smartphone usage, with an estimated 26 million smartphone users, further supports the

accessibility and adoption of mobile Apps in various services, including car wash Apps (Taylor, 2023).

There is currently a significant gap in the availability of a car wash App in South Africa that can effectively link car owners with car wash service providers. This gap highlights the need for innovative solutions to facilitate seamless connections between car owners and service providers.

2.2.2 Core Competencies:

The core competencies of the car wash App are based on the dimensions of service convenience identified by Jiang (2011), focusing on enhancing convenience in the e-service dimension, see table 2.1 (Jiang, Jiang, & Liu, 2011).

Table 2.1 presents these six dimensions and their respective sub-dimensions.

Dimension	Description
Access Convenience	1) Time flexibility
	2) Space flexibility
	3) Energy used
	4) Accessibility of Web sites
	5) Availability of products and brands
Search Convenience	1) Download speed
	2) Web design
	3) Search engine capacity
	4) Search function
	5) Product classification
	6) Average number of items per product menu listing
	7) Number of lists to scroll down
Evaluation Convenience	1) Product information
	2) Standardised and branded products
	3) The presence of price information in product listings
	4) Product categorisation
Transaction Convenience	1) Check-out process
	2) Payment methods (check, cash)
	3) Changes in purchase
	4) Confirmative reply
	5) Price inconsistency
Possession Convenience	1) Delivery offered
	2) On-time delivery
	3) Delivery time uncertainty
	4) Delivery change notification

Dimension	Description
	5) Product undamaged
	6) Attitude and performance of deliverymen
Post-purchase Convenience	1) Keep promises (product return, reward delivery)
	2) Customer protection
	3) Self-protection tips
	4) Personal data security (email address)

TABLE 2.1: DESCRIPTIONS OF E-SERVICE DIMENSIONS

SOURCE : Jiang et al., 2013; pg198.

These competencies aim to improve the overall user experience and customer satisfaction.

The car wash App will offer access convenience by allowing customers to book and request for a mobile car wash services at their preferred time and location.

It will provide search convenience through an intuitive interface and quick search functionality, enabling customers to easily find the desired car wash services and explore different options.

The App will ensure evaluation convenience by providing detailed information for comparing quality and prices, offering standardised and branded service options to give customers confidence in their choices.

Transaction convenience will be facilitated through streamlined payment methods, including cash, card, and credit options, ensuring a smooth and hassle-free checkout process.

Possession convenience will be ensured by providing reliable and on-time delivery of the car wash service, with effective communication about the delivery status and any changes, to ensure customers are well-informed and receive the service without any damage.

Post-purchase convenience will be offered through responsive customer support, easy returns or rewards processes, and measures to protect customer data

security. The app will also provide self-protection tips to enhance customer confidence in using the app.

By focusing on these core competencies, the car wash App aims to provide a seamless and convenient car wash experience for both customers and service providers. These competencies contribute to enhancing the overall convenience of the App, improving customer engagement, and differentiating the App from traditional car wash services (Jiang, 2011; Aziz et al., 2023).

2.2.3 Current business and market position:

The car wash App market in South Africa is experiencing significant growth due to the rising demand for convenient and on-demand car wash services (Naidu, 2021). Car owners are increasingly busy and lack the time to wash their cars themselves or visit traditional car wash centres (Aziz et al., 2023). This growing demand has led to a projected compound annual growth rate of 8.5% in the global car wash App market from 2021 to 2030 (Industrygrowthinsight, 2021).

In this market, the proposed mobile car wash App aims to create an on-demand marketplace platform that connects car wash service providers with car owners. The App not only facilitates connections with car wash providers but also accommodates those who have their own closed-loop app systems, including companies like MobiwashSA (Naidu, 2021).

2.2.4 Competitive landscape:

The competitive landscape for the mobile car wash App in South Africa revolves around addressing the problem of how people order and receive car washing services conveniently. While some independent operators may already have their own closed-loop business applications, the proposed mobile car wash App aims to provide a comprehensive solution for customers to book and receive car wash services online.

Independent Operators: In South Africa, independent car wash businesses vary in size and utilise a range of approaches, from manual labour to automated systems. These operators prioritise personalised service, customer relationships, and local marketing strategies (Bizbolts, 2022). The proposed mobile car wash App can integrate with independent operators by providing them with a centralised platform to reach a wider customer base, streamline appointment

management, and enhance their visibility in the market. By leveraging the App's technology, independent operators can expand their reach and offer their personalised services to a larger audience, ultimately boosting their business growth and competitiveness.

Franchise Chains: Franchise chains in the mobile car wash industry can leverage the mobile car wash App to offer standardised services. By integrating their services with the App, franchise chains can provide customers with a convenient and user-friendly platform for booking car wash services, enhancing their competitive position in the market. The App can streamline the ordering process and connects customers with franchise locations that utilise automated equipment systems.

Multi-Service Providers: Some car wash businesses are part of larger automotive service centres or petrol stations. These establishments offer a range of services, including fuelling, car maintenance, and car washes (Bizbolts, 2022). They can also integrate with the proposed mobile car wash App. This integration allows customers to conveniently book car wash services.

Specialty Car Washes: There is a growing market for specialty car washes that cater to specific customer preferences. These service providers can leverage the mobile car wash App to expand their reach. Examples include eco-friendly car washes that use waterless or low-water technologies, high-end detailing services. By offering their unique services through the App, these businesses can tap into a larger customer base. These specialty car washes target niche segments and differentiate themselves based on their unique offerings (Bizbolts, 2022).

Competitive Differentiation: The mobile car wash App differentiates itself by providing a comprehensive and user-friendly platform for ordering car wash services online. While some independent operators may have their own closed-loop business applications, the proposed App offers a centralised solution that allows customers to access a wide range of car wash providers through a single platform, providing convenience and choice. The App's integration with automated equipment systems and its ability to handle payments, scheduling, and real-time updates further enhance its competitive advantage.

By considering the competitive landscape and the existence of independent operators with their own closed-loop applications, the mobile car wash App aims to provide a centralised and convenient solution for customers to order car wash services online. This approach enhances the competitive position of franchise chains, multi-service providers, and specialty car washes, while offering a user-friendly platform that sets the App apart from traditional car wash methods.

2.2.5 Opportunity:

The car wash market in South Africa presents a promising opportunity for a car wash App. With the increasing urbanisation and busy lifestyles of car owners, there is a growing demand for convenient and on-demand car wash services. Traditional car wash methods often require car owners to visit a physical location, resulting in time-consuming and inconvenient experiences. However, with the advent of a car wash App, car owners can now easily schedule car wash appointments, select service options, and even have their vehicles cleaned at their preferred locations, such as their homes or workplaces. This shift towards a more convenient and on-demand service model indicates a significant market opportunity for a car wash App.

2.2.6 Offering of the Car Wash App:

The car wash App, designed to function like an Uber for car wash services, offers a range of features and functionalities that enhance the car wash experience for both car owners and service providers. Through the App, car owners can access a network of available car wash service providers in their vicinity. They can view the profiles of these service providers, including ratings and reviews from previous customers, enabling them to make an informed choice. Once a car wash request is made, the App checks the availability of service providers and indicates the supplier who will come to the customer, along with an estimated time of arrival.

In addition to the service provider selection process, the App facilitates easy scheduling of appointments, allowing car owners to choose convenient time slots for their car wash services. Whether they require a simple exterior wash, a detailed interior cleaning, or both, the App provides service options based on the

car owner's specific needs. This flexibility ensures that the App caters to a wide range of car wash preferences.

One of the key advantages of the car wash App will be its ability to offer on-location car wash services. Car owners will no longer need to visit a physical car wash facility; instead, the service provider comes directly to their preferred location. This feature is particularly valuable for busy individuals who prioritise time-saving and convenience. By eliminating the need for car owners to travel to a car wash facility, the App streamlines the car wash process, making it more convenient and efficient.

By incorporating the functionality of requesting nearby available car wash service providers, indicating estimated arrival times, and enabling convenient bookings, the car wash App enhances the overall car wash experience for both car owners and service providers. It simplifies the process, saves time, and offers the convenience of on-location car wash services, revolutionising the traditional car wash industry.

2.2.7 Target Audience and Value Proposition:

The mobile car wash App targets various customer segments, including car owners with busy lifestyles, urban dwellers seeking on-demand services, and eco-conscious consumers. The value proposition lies in convenience, time-saving, personalised service options, and the ability to rate and review services received.

The mobile car wash App also focuses on attracting service providers to complete the ecosystem. By offering a platform for service providers to connect with a large pool of potential customers, the App provides them with an opportunity to expand their client base and increase their revenue. Service providers will benefit from the convenience of the digital platform and access to a steady stream of customers. The value proposition for service providers lies in the potential for business growth and increased visibility to a diverse range of customers.

2.2.8 Value of the Car Wash App in the Current Market:

The car wash App brings significant value to the current market by addressing the pain points and challenges faced by both car owners and car wash service providers. For car owners, the App will offer a seamless and hassle-free car wash

experience, allowing them to book appointments with a few taps on their smartphones. The real-time tracking feature will enable car owners to monitor the service provider's arrival, providing transparency and peace of mind. Secure payment options ensure convenience and safety during transactions. For service providers, the App serves as a platform to reach a wider customer base, manage appointments efficiently, and streamline operations. It is aimed at optimising their schedules, improves customer engagement, and enhances their visibility in the market. The car wash App aligns with market trends such as increasing smartphone penetration, the demand for convenience, and technological advancements in the automotive industry, making it a valuable proposition in the current market.

The car wash App will adopt a digital platform ecosystem as depicted in Figure 2.1 (Alstyne, 2016). This ecosystem includes four key players: the Owner (the proposed business being studied), Providers (the smartphone tools used to interface the producers and consumers), Producers (the car wash suppliers interested in providing their services), and Consumers (the car owners interested in the producers' offerings). The digital platform's biggest asset will be the information and interaction between the producers and consumers, giving it a competitive advantage over pipeline businesses.

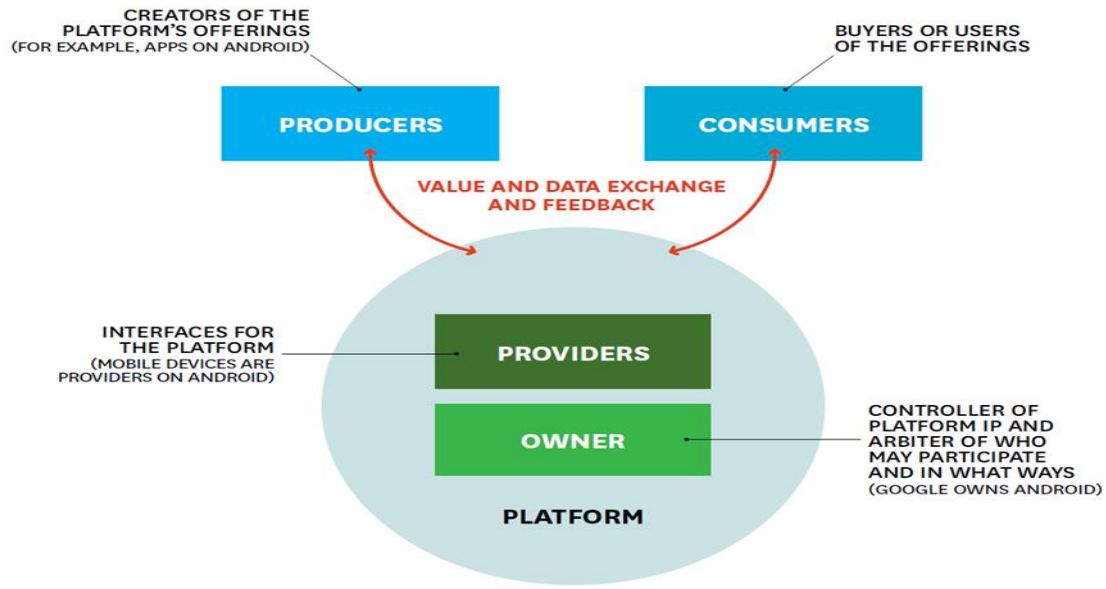


FIGURE 2.1: DIGITAL PLATFORM ECOSYSTEM
Source: Van Alstyne, 2016; pg6.

In the context of the car wash App venture, success will rely on the interest and engagement of both the Producers (car wash suppliers) and Consumers (car owners). The Owner (Digital Platform Car wash) is responsible for creating a business model that maximises the interaction between the owners and suppliers. By adopting the digital platform ecosystem and leveraging the information sharing and interaction between the key players, the car wash App enhances the overall value proposition and competitiveness in the market.

2.3 Business Model

The business model is a crucial element that defines the proposed car wash App-venture and its unique value proposition in the market. It serves as a strategic roadmap that outlines how the App will deliver its value to customers and maintain a competitive advantage in the dynamic car wash industry (Lüttgens & Diener, 2016).

By introducing a digital platform that connects car owners with car wash service providers, the car wash App revolutionises the traditional business model in the car wash market.

In line with the concept of disruptive innovation, the car wash App-venture aims to introduce a better business model that significantly improves the customer experience and surpasses existing market offerings (Ovans, 2015). The App's business model not only focuses on generating revenue but also prioritises solving customers' problems and creating value for them.

The car wash App-venture's business model emphasises the importance of validating the identified problem with customers and potential customers, ensuring that it effectively addresses their pain points and meets their needs. Through continuous customer engagement, the model seeks to gather feedback, iterate on the App's features and functionalities, and refine the business offering to deliver a solution that exceeds customer expectations.

Furthermore, the business model of the car wash App venture embraces agility, recognising the necessity of adapting to a rapidly changing market environment.

It places a strong emphasis on collecting and incorporating customer feedback to drive continuous improvement and enhance the App's value proposition.

Overall, the car wash App-venture's business model aligns with the fundamental principles of identifying customer problems, delivering value, and remaining agile in response to market dynamics. By reinventing the traditional car wash business model through digital innovation, the App aims to revolutionise the industry and provide a superior car wash experience for customers.

2.4 Lean Business Start-up Methodology

The car wash App aligns with the Lean Business Start-up (LBS) methodology, which emphasises cost reduction, waste elimination, and the development of a minimum viable product to validate the problem and remove unnecessary features (Balocco, Cavallo, Ghezzi, & Berbegal-Mirabent, 2019). This methodology, inspired by lean thinking principles pioneered by Toyota, is well-suited for the proposed car wash App venture (Balocco et al., 2019).

Traditionally, new businesses follow a formulaic approach that includes creating a business plan, seeking investment, assembling a team, starting production, and then selling the product. However, this conventional approach often leads to a high failure rate of 75% (S. Blank, 2020). In contrast, the lean business approach advocated by the LBS methodology encourages validating the product with customers before seeking extensive investment, thereby reducing waste and minimising the risk of failure (Blank, 2013).

In today's business landscape, where disruptors are increasingly prevalent, the Lean Business Canvas (BMC) model has gained significance as a tool for designing efficient and specific business models (Balocco et al., 2019).

By adopting the Lean Start-up methodology, the car wash App venture aims to develop an innovative and efficient business model. The implementation of this methodology, as depicted in Figure 2.2, guides the creation of the Digital Platform Car wash Lean Start-up Business Model, ensuring a customer-centric approach, waste reduction, and continuous improvement (Balocco et al., 2019).

In summary, the car wash App venture embraces the Lean Business Start-up methodology, leveraging its principles of cost reduction, waste elimination, and

iterative development to create a robust and efficient business model. This approach not only enhances the App's chances of success but also enables it to adapt and thrive in the face of disruptive market forces

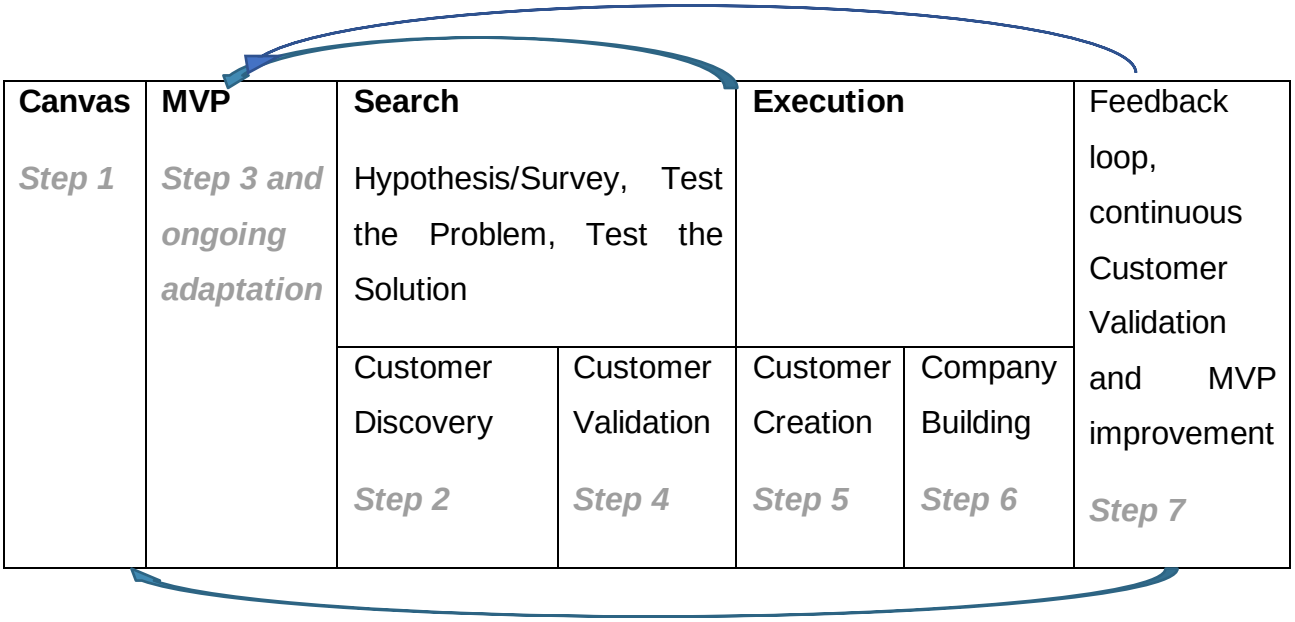


FIGURE 2.2: LEAN START-UP 7-STEP METHODOLOGY
Source: Blank, 2013.

2.4.1 Lean Canvas

The car wash App aligns with the Lean Canvas model, which provides a practical and concise way of presenting a business plan (Maurya, 2016). By utilising the Lean Canvas, the car wash App-venture can clearly define its strategy and key components on a single page, focusing on both the market and the product (Pereira, 2022).

The Lean Canvas consists of nine key blocks that shape the business's strategy, including customer segments, value proposition, channels, customer relationships, revenue, key metrics, solution, problem, and cost structure (Pereira, 2022). These blocks are interconnected and essential for building a successful business model.

Customer segments are defined based on the specific needs of the customers, allowing the start-up to tailor its offerings accordingly (Pereira, 2022). The value proposition represents the value the car wash App commits to delivering to customers, whether through an improved product or service for an existing market or an innovation for a current or new market (Pereira, 2022).

Channels refer to the means through which the car wash App delivers its value proposition to customers, including communication strategies and potential partnerships (Pereira, 2022). Customer relationships focus on how the business maintains a strong connection with its customers (Pereira, 2022).

Revenue reflects the price customers are willing to pay for the value proposition, which may vary among different customer segments (Pereira, 2022). Key metrics are important variables that measure the performance of the business, such as the number of registered App users and the number of regular users (Pereira, 2022).

The solution block represents the design of solutions that address customer-validated problems and the key activities required to deliver those solutions (Pereira, 2022). Problem validation is crucial for the success of the start-up, as it aims to solve a customer problem and create value (Felin, Gambardella, Stern, & Zenger, 2019). It is the responsibility of the entrepreneur to understand the problem and develop suitable solutions (Felin et al., 2019)9).

The cost structure block encompasses the various costs associated with running the business, including resource procurement, maintenance, operations, and fixed and variable costs (Pereira, 2022).

By using the Lean Canvas, the car wash App-venture formed hypotheses and validated them, ensuring alignment with customer needs (Felin et al., 2019). It provided a framework for developing a unique business strategy and viewpoint, going beyond creating hypotheses and conducting experiments (Felin et al., 2019).

In summary, the car wash App-venture embraced the Lean Canvas model to define its business hypotheses, validated customer problems, and design effective solutions. This approach allowed for a focused and efficient development of the business model, considering customer segments, value proposition, channels, customer relationships, revenue, key metrics, solution, problem, and cost structure. Figure 2.3 illustrates the nine key blocks.

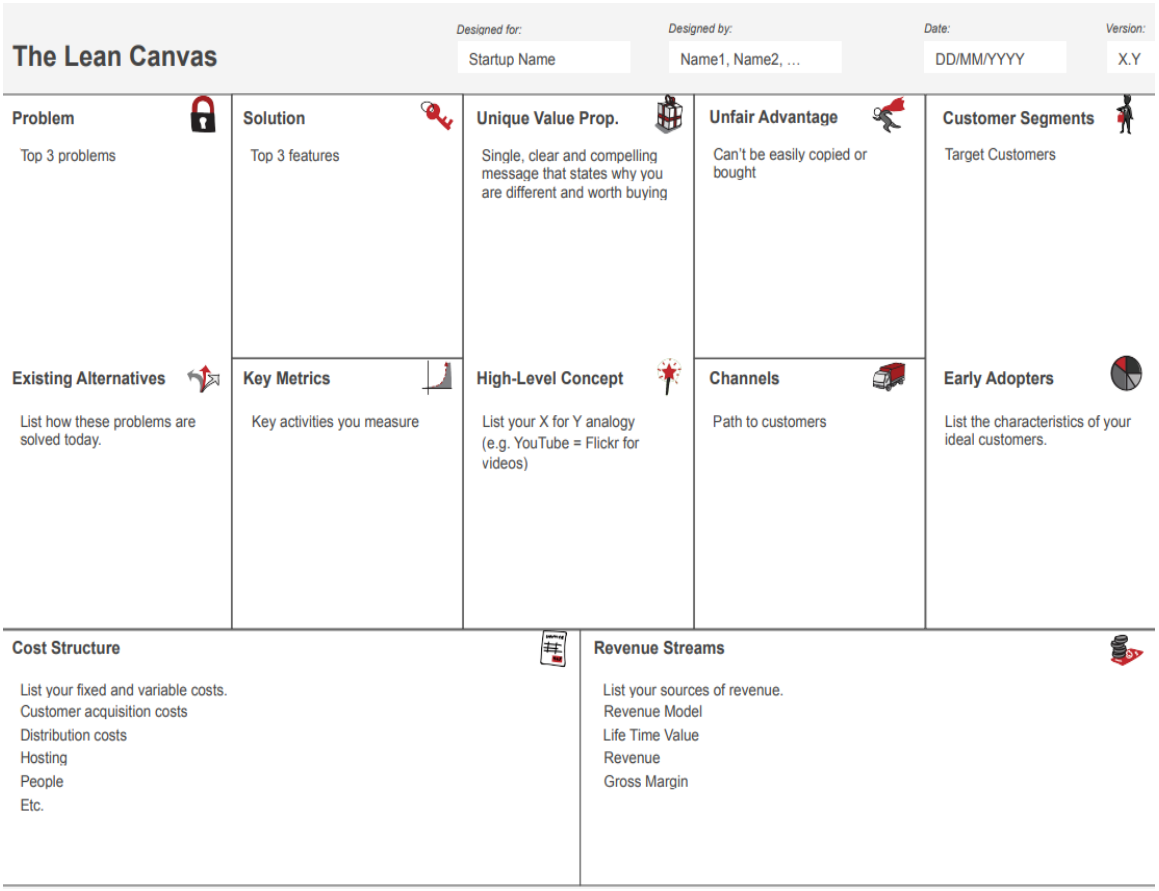


FIGURE 2.3: LEAN CANVAS
Source: Pereira, 2022.

2.4.2 Customer Discovery

The car wash App embraced the principles of customer development, with a specific emphasis on customer discovery for this study, following the guidelines of the Lean Start-up Methodology (Blank, 2013). Customer discovery (Figure 2.4) is the initial step in the customer development process (Figure 2.5), where the new business venture aims to verify the identified problem with potential customers and confirm market availability (S. Blank & Dorf, 2020).

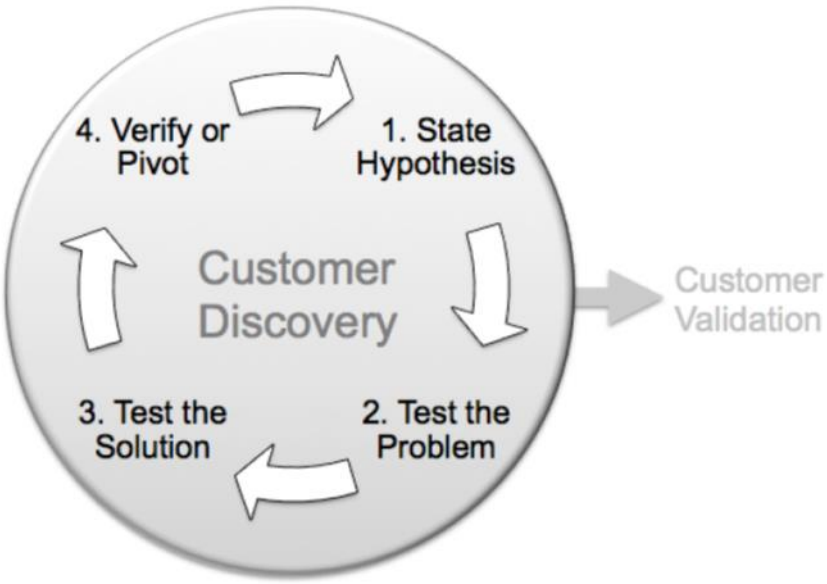


FIGURE 2.4: CUSTOMER DISCOVERY PROCESS
Source: (S. Blank & Dorf, 2020).

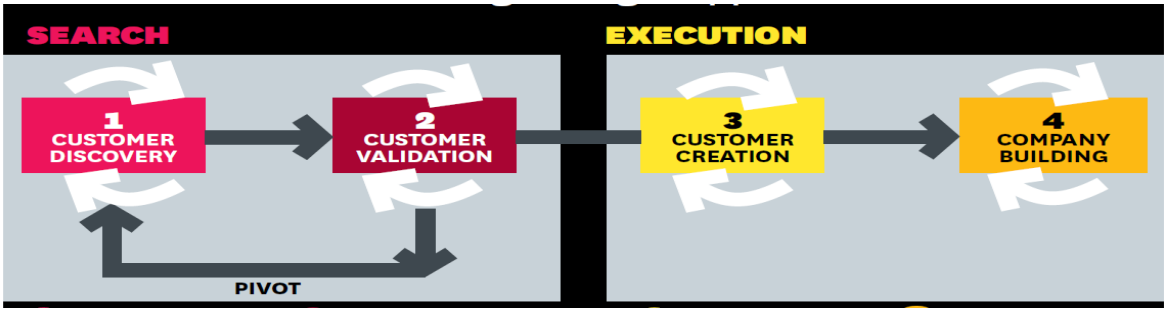


FIGURE 2.5: CUSTOMER DEVELOPMENT
Source: Blank, 2013; pg6.

By gathering customer feedback through surveys, the car wash App venture has assessed the impact of the perceived problem on customers and evaluated if the proposed solution aligns with their needs (Blank, 2013). This iterative process helped refine the app's value proposition based on customer input. Customer validation, minimum viable product (MVP) testing, and company building stages were excluded from the research focus.

By incorporating customer development principles and Lean Startup Methodology, the App ensures continuous improvement and validation through user feedback. This research focused on customer discovery within the customer

development process, utilising the Lean Canvas and conducted a customer survey to validate the problem and test the proposed solution. The findings from the survey guided the decision-making process for the car wash App venture.

2.5 Technology Adoption Model (TAM)

The Technology Adoption Model (TAM) is a widely recognised theoretical framework that explains the adoption and usage of technology by individuals or organisations. It provides valuable insights into the factors that drive or hinder the acceptance and adoption of innovative technologies. In the context of this research, TAM was highly relevant in understanding the factors influencing the adoption of the mobile car wash App.

TAM suggests that the perceived usefulness and perceived ease of use are critical determinants of technology adoption. Perceived usefulness refers to the users' perception of the App's ability to enhance their performance and meet their needs. In the case of the mobile car wash App, it entailed users' evaluation of the App's convenience, time savings, service quality, and cost-effectiveness compared to traditional car wash methods. Assessing users' perceptions of the App's usefulness provided insights into their motivations to adopt the technology (Lai, 2017).

Perceived ease of use, another key factor in TAM, focused on users' perceptions of the App's simplicity and user-friendliness. Users are more likely to adopt a technology if they find it easy to navigate, book services, make payments, and interact with the overall user interface. Usability testing and user feedback can offer valuable insights into users' experiences with the App's ease of use (Singh, Gaur, & Ramakrishnan, 2017).

Furthermore, TAM highlights the importance of attitudes and behavioural intentions in technology adoption. Understanding users' attitudes toward the mobile car wash App was crucial in determining their beliefs, opinions, and overall satisfaction with the App's features and performance. Additionally, assessing users' behavioural intentions, such as their likelihood to recommend the App to others or continue using it in the future, provided insights into their actual adoption behaviour (Lai, 2017).

It is also essential to consider external factors that influence technology adoption. These factors include social norms, perceived risks, compatibility with existing systems, and support from influential individuals or organisations. In the case of the mobile car wash App, investigating how external factors, such as social influence or recommendations from friends and family, impact users' adoption decisions offered valuable insights. Addressing factors like trust, privacy concerns, and security measures can also help overcome potential barriers to adoption (Lai, 2017).

By applying the TAM framework to this research, a comprehensive understanding of the factors influencing users' adoption decisions was gained. This information guided the development, marketing strategies, and user engagement efforts for the mobile car wash App, with the aim of increasing the likelihood of successful adoption and long-term usage.

2.6 Additional Concepts

2.6.1 Customer convenience

The car wash App venture aims to enhance customer convenience by improving service delivery turnaround time (Ghazal, Hamouda, & Ali, 2016). Traditional car wash businesses typically adopt the Multi-Channel Multi-Phase model, as depicted in Figure 2.6, to reduce waiting time (Melisa Irene & Ferdinand, 2015).

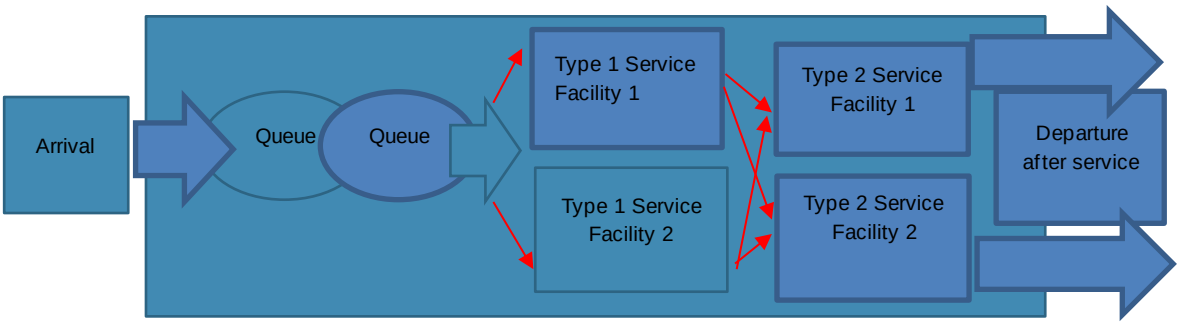


FIGURE 2.6 MULTI-CHANNEL MULTI-PHASE
Source: (Melisa Irene & Ferdinand, 2015).

In contrast, the car wash App utilises a large number of registered service providers to increase service facilities (Melisa Irene & Ferdinand, 2015). This approach enhances customer convenience, a crucial factor for business success. Studies have established a positive correlation between customer satisfaction

and service convenience (Colwell, Aung, Kanetkar, & Holden, 2008) (Kaura, 2013), and customer behaviour is influenced by the convenience provided by the company (Dai & Salam, 2014).

2.7 Conclusion

In conclusion, the literature review in Chapter 2 had highlighted the current business situation in the car wash market in South Africa, the core competencies of the car wash App, the market position and competitive landscape, the identified opportunity, and the value proposition of the App. The review emphasised the growing demand for convenient and on-demand car wash services in South Africa, driven by factors such as increasing vehicle ownership, urbanisation, and a busy lifestyle of car owners. Traditional car wash methods face challenges in terms of time constraints, inconvenience, and security concerns, creating an opportunity for a mobile App that connects car owners with service providers.

The core competencies of the car wash App, focusing on enhancing convenience in various dimensions of e-service, offer a comprehensive solution for car owners seeking convenience, personalised service options, and easy access to reliable car wash services. By integrating with independent operators, franchise chains, multi-service providers, and specialty car washes, the App creates a centralised platform that caters to a wide range of customer preferences while enhancing the competitive position of these businesses in the market.

The literature review also highlighted the value proposition of the car wash App, emphasising its ability to simplify the car wash process, save time, offer on-location services, and provide a user-friendly platform for ordering and receiving car wash services online. The App aligns with market trends such as increasing smartphone penetration, the demand for convenience, and technological advancements in the automotive industry, positioning it as a valuable proposition in the current market.

The business model of the car wash App venture follows the principles of the Lean Business Start-up methodology, focusing on cost reduction, waste

elimination, and iterative development. The Lean Canvas model was utilized to define the business hypotheses and design effective solutions.

Additionally, the Technology Adoption Model (TAM) was considered to understand the factors influencing users' adoption decisions. TAM provided insights into perceived usefulness, ease of use, attitudes, and behavioural intentions towards the App.

Overall, the literature review, coupled with the business models, guided the development and implementation of the car wash App, ensuring a customer-centric approach and paving the way for a disruptive business venture.

Chapter 3. Research Methodology

3.1 Introduction

This section covers the research method used for this project and supports the reasons behind the selected methods. It gives the research structure and tools used, including the data-collection method, sampling and a discussion of quality assurance.

3.2 Research Method: Quantitative Survey

In this study, a quantitative research method was adopted. Quantitative research involves the generation of numerical data through structured questionnaires and the use of statistical analysis techniques (Denscombe, 2017). This method was chosen because it allows for the collection of large-scale data and enables generalisation to a broader population. Additionally, it provided statistical indicators and facilitated the computation of various statistics.

3.3 Research Approach: Quantitative Exploratory and Descriptive Study

This research study adopted a quantitative exploratory and descriptive approach to assess the viability of a mobile Car Wash App in South African Urban Areas. The emphasis was on exploring and describing the characteristics, preferences, and willingness of potential users to join a mobile car wash App platform.

The study involved conducting a quantitative survey among potential users using an online survey distributed through various social media platforms. The survey data was utilised to develop the Lean Business Canvas model, gather insights into the target population's views, and test the Technology Adoption Model.

By employing a quantitative approach, this study aimed to collect large-scale data and enable generalisation to a broader population. The findings provided valuable descriptive information about the potential user base and their willingness to join the mobile car wash App platform in South African Urban Areas. Additionally, the data obtained from the survey served as input for testing the Technology Adoption Model.

3.4 Research Strategy: Survey

The survey strategy was employed in this study to collect data from car owners and gauge their willingness to join a mobile car wash App platform. Surveys involving questionnaires were used to gather opinions, attributes, or trends from a sample of the population (Creswell & Creswell, 2018). The online survey method was chosen for its ability to reach a large number of participants, ensure anonymity, facilitate ease of use, and allow for data collection from various digital platforms.

3.5 Time Horizon

The time horizon for this study was cross-sectional, focusing on a single point in time. A cross-sectional time horizon is suitable for both quantitative and qualitative methods and allows for the collection of data at a specific moment (Saunders, Lewis, & Thornhill, 2015). This time horizon was selected due to time constraints and the aim of capturing a snapshot of the target population's characteristics and behaviour.

3.6 Target Population: Car Owners in South Africa

The target population for this study was car owners in South Africa. The aim was to understand the willingness of car owners to join a mobile car wash App platform in South African urban areas. The study initially intended to focus on car owners in the Gauteng province. However, due to challenges in reaching the required sample size, the survey was distributed nationally through social media platforms.

According to the latest available data from Statistics South Africa (StatSA), there are approximately 5.4 million car owners in the country (StatsSA, 2021).

By including car owners from various regions in South Africa, the study captured a broader representation of potential future customers who may not currently own cars but could be responsible for washing company cars or their parents' cars.

3.7 Sampling Method and Size

Determining the appropriate sample size is crucial in quantitative research. For this study, a convenience sampling method was employed, where participants were selected based on their availability and willingness to participate (Denscombe, 2010). The survey was distributed online, utilizing the convenience and broader reach of the internet to allow participants to easily access and complete the questionnaire.

The planned sample size for this research was set at 128 respondents, calculated using the Green (1991) formula that considers the number of independent variables in the study. However, during the data collection phase, a total of 183 respondents completed the survey. Although this exceeded the planned sample size, the larger sample provides a broader pool of data for analysis, enhancing the reliability and generalizability of the findings.

Overall, the convenience sampling method and the sample size of 183 respondents contributed valuable insights for the analysis and interpretation of the study's findings.

3.8 Data Collection

The data collection process for this study involved the distribution of an online survey questionnaire. The survey questionnaire link was shared on various social media platforms, including Facebook, Instagram, WhatsApp, and LinkedIn. Additionally, the questionnaire was distributed among family members, work colleagues, friends, and MBA candidates.

The survey questionnaire consisted of questions specifically designed to gather information about participants' willingness to join a mobile car wash App platform, their car ownership status, and some demographic details.

The data collected from participants through the online survey was securely stored and accessible to the researcher on the Wits Qualtrics cloud system.

3.9 Quality assurance

Whenever a questionnaire or measuring device is used as part of the data collection process, the reliability and validity of that test/questionnaire are

essential (Heale & Twycross, 2015). In this study, quality assurance measures were implemented to ensure the validity and reliability of the survey.

3.9.1 Validity

Validity, in its broadest sense, refers to the degree to which the research conclusions are sound and accurately measure what they were intended to measure (Bhattacherjee, 2017). To assess the validity of the survey, Cronbach's Alpha coefficient was used, which measures the degree to which each item in the scale correlates with every other item. The obtained Cronbach's Alpha of 0.94 indicates excellent internal consistency, suggesting that the survey effectively measured the objectives of the study.

3.9.2 Reliability

Reliability refers to the degree to which the results are repeatable and consistent. It focuses on the consistency and stability of the measurement tool or questionnaire (Bhattacherjee, 2017). To ensure reliability, the survey questionnaire was designed to be objective and straightforward. The same questionnaire was administered to all participants, ensuring consistency in measurement. Additionally, the questionnaire underwent a pilot study with ten participants who provided feedback on clarity and understanding. The piloting process was repeated until all participant queries were addressed, contributing to the reliability of the questionnaire.

3.10 Ethical Issues

The researcher conducted the research within the University of the Witwatersrand's approved ethics guidelines for this study. Each participant signed an informed consent form before they were interviewed.

The questionnaire first gave participants the background to the study and the option to stop their participation at any point. The participants were given the contact details of the University's ethics committee should they wish to report any issues concerning the survey questionnaire. The participants were assured of anonymity and confidentiality. Their names were not required or captured by the system whilst they were answering the questionnaire.

There was no risk for the participants in taking part in this research. Other information that was used is public information.

Chapter 4: Research Findings

4.1 Introduction

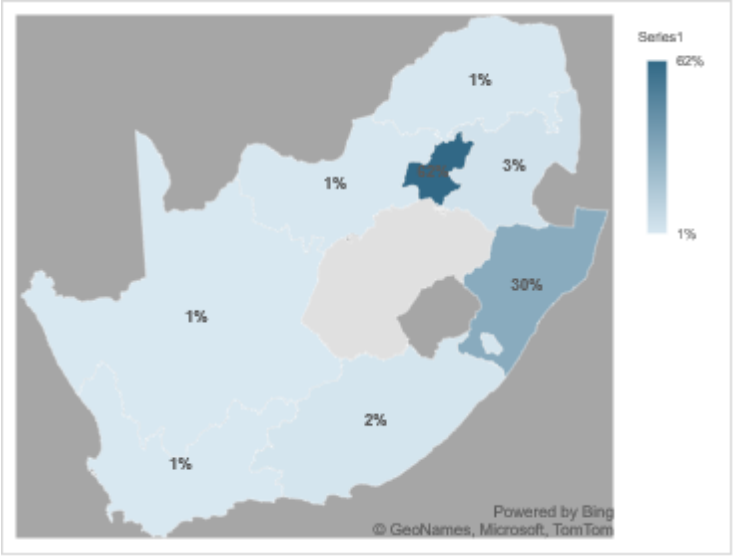
The chapter aims to provide insights into the market's perception of the mobile car wash App and its viability as a convenient and efficient solution in the car wash industry. By analysing the respondents' preferences and feedback, we gained a comprehensive understanding of the App's value proposition and its potential to meet the demands of customers in the market.

The primary focus of this chapter is to provide findings on the potential of the mobile car wash App in the market. The section begins with an analysis of the respondent's profiles, followed by an investigation into their car wash references and their profile in terms of car ownership and car wash usage. Furthermore, the researcher examined whether customers prefer a mobile car wash App, taking into consideration various car wash attributes, costs, preferred location, and personnel preference. Finally, a summary of the findings is provided.

4.2 Respondent Profiles

The respondents surveyed in this study were either car owners or had access to a car in South Africa. The geographical dispersion of the respondents is reflected in the table below:

Province	Number of completed Questionnaires
Gauteng	113 (62%)
KwaZulu-Natal	54 (30%)
Mpumalanga	6 (3%)
Eastern Cape	4 (2%)
Limpopo	2 (1%)
North-West	2 (1%)
Northern Cape	1 (1%)
Western Cape	1 (1%)



Total	**183 (100%)**

TABLE 4.1: RESPONDENTS' GEOGRAPHICAL DISTRIBUTION

FIGURE 4.1: RESPONDENTS' GEOGRAPHICAL DISTRIBUTION

Table 4.1 and Figure 4.1 reflect responses to the question about where respondents lived. Most of the respondents were in Gauteng and KwaZulu-Natal (62% and 30% respectively), whereas the Northern and Western Cape had the fewest respondents (1% each).

The gender breakdown of the respondents is illustrated in Figure 4.2 below as the result of Survey Question 1: "What gender do you identify as?" Males and females constituted 55% and 44% respectively; whilst 1% preferred not to mention their gender.

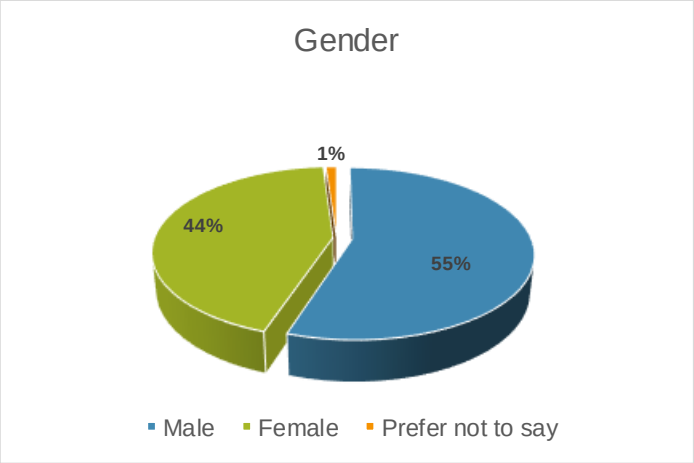


FIGURE 4.2: GENDER BREAKDOWN

Figure 4.3 illustrates the employment status of the respondents. This illustrates the data from the question, "Which of the following best describes your current employment status?" Most (61%) of the respondents were employed fulltime, whilst 1% was retired. The figure also shows that 7% of the respondents were unemployed; this group formed part of the sample because they might have had access to a car.

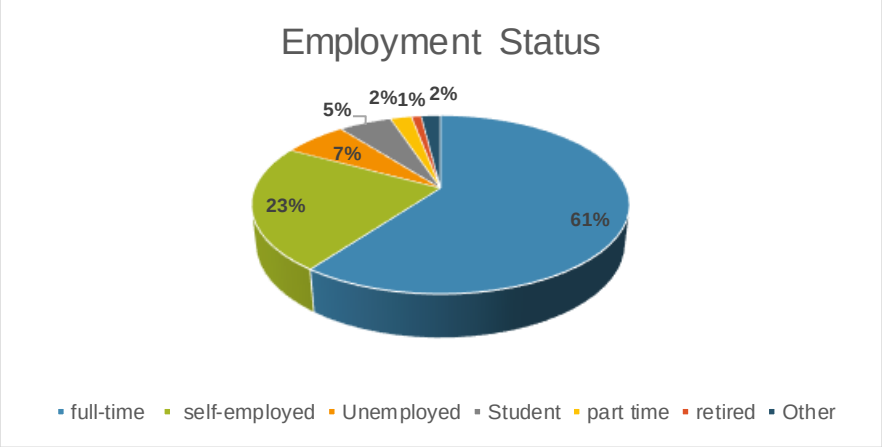


FIGURE 4.3: EMPLOYMENT STATUS BREAKDOWN

Table 4.2 depicts the age distribution of the respondents per area, in response to the question, "What is your age range?" The table shows that 81% of the respondents were between the ages of 25 and 44 years. The table also shows that 74% of the respondents lived in the suburbs, with only 1% residing in either farms or a central business district. The data that show where the respondents lived are from the question, "How would you describe the area where you live?"

Age group	Area					
	Suburb	**Township**	**Village**	**Central Business District**	**Farm**	**Grand Total**
18–24	9 (7%)	1 (3%)		1 (50%)		**11 (6%)**
25–34	51 (38%)	17 (46%)	5 (71%)	1 (50%)	2 (100%)	**76 (42%)**
35–44	56 (41%)	16 (43%)	1 (14%)			**73 (40%)**
45–54	16 (12%)	2 (5%)	1 (14%)			**19 (10%)**
55–64	3 (2%)					**3 (2%)**
65+		1 (3%)				**1 (1%)**
Grand Total	**135** 74%	**37** 20%	**7** 4%	**2** 1%	**2** 1%	**183**

TABLE 4.2: AGES OF RESPONDENTS & AREAS WHERE THEY LIVED

Ethnic Group	No/ Percent
African	172 (94%)
White	5 (3%)
Coloured	5 (3%)
Indian	1 (1%)
Grand Total	**183 (100)**

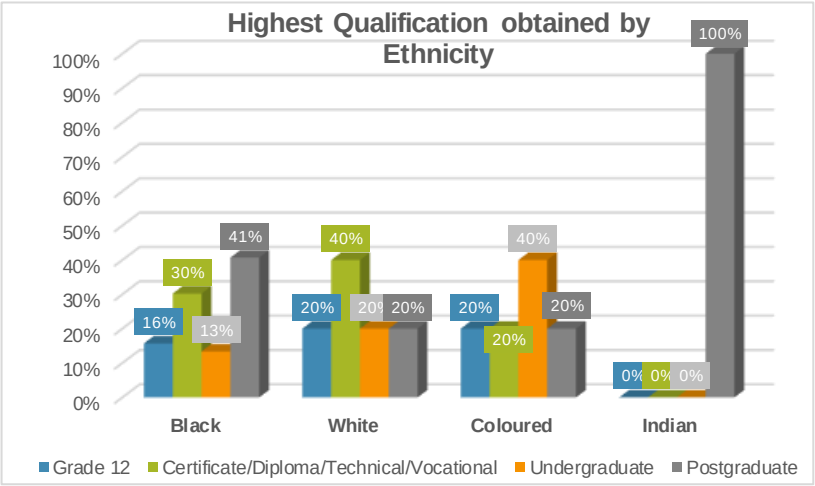


TABLE 4.3: RESPONDENTS' RACE

FIGURE 4.4: HIGHEST QUALIFICATION BY

Table 4.3 and Figure 4.4 represent the race and qualifications of the respondents in response to the questions, "What is your ethnic group?" and "Please indicate the highest level of education you completed".

4.3 Respondents' Car Wash Preferences and Profiles: Implication to the App

This section focuses on the car wash preferences and profiles of the respondents, highlighting key findings that are relevant to the development of the car wash app.

4.3.1 Access to a Car

The qualifying question for a respondent to continue with the study was whether they owned or had access to a car. This information was obtained through the question, "Do you own or have access to a car(s)?" Table 4.4 reflects that 93% of the respondents have access to or owned a car. All analysis in this chapter and later chapters focuses on respondents who had access to a car.

Number of cars owned	Grand Total
1 car	113 (66%)

Car Ownership/ Access	Grand Total
Yes	171 (93%)
No	12 (7%)
Grand Total	**183 (100%)**

TABLE 4.4: CAR OWNERSHIP/ACCESS TO A CAR

Number of cars owned	Grand Total
More than 1 car	58 (34%)
Grand Total	**171 (100%)**

TABLE 4.5: NUMBER OF CARS OWNED PER RESPONDENT

Table 4.5 shows that 34% of respondents owned more than one car. Figure 4.5 shows that most (63%) of the respondents owned a 4-door sedan, whilst 16% owned an SUV. This information is important because it assisted in determining the pricing, targeting, and fine-tuning of value-add services that would be offered.

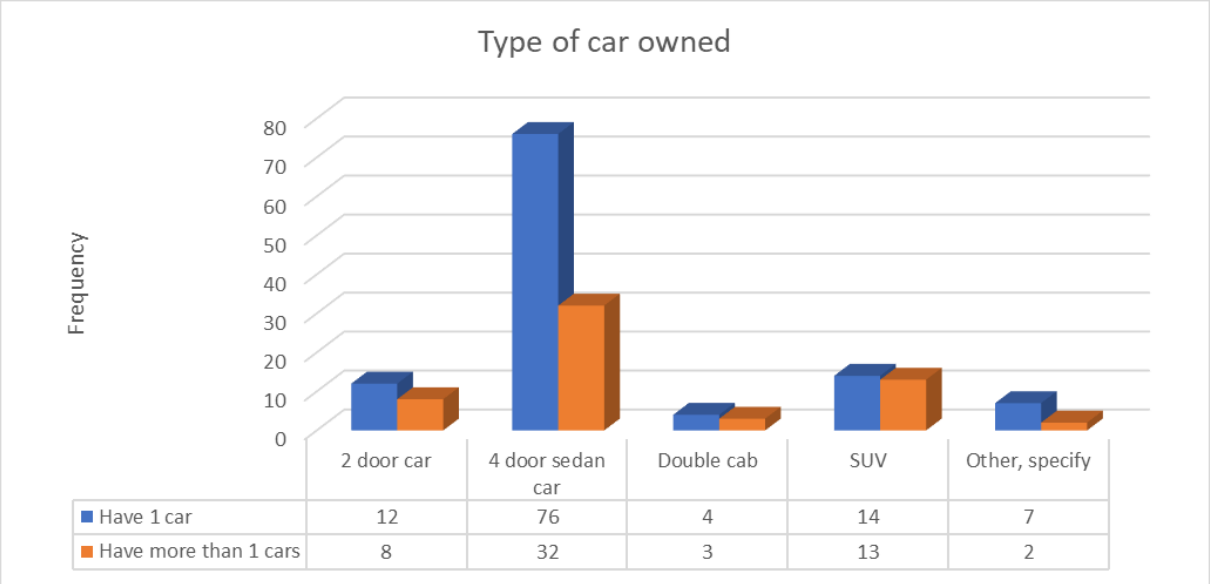


FIGURE 4.5: TYPE OF CAR OWNED

In response to the question, "What types of vehicle(s) do you drive*?"*?", respondents who selected 'Other' as an option drove the following cars:

1. 4-door hatchback: **6(67%)**
2. 5-door hatchback: **1 (11%)**
3. MPV, double cab and Kombi: **1 (11%)**

4. 4-door sedan and 2-door 1-ton truck: **1(11%**

4.3.2 Car Wash Usage

This section focuses on the respondents' car wash usage and preferences. Table 4.6 illustrates the data from the question, "How are you currently washing your car (s)?" Those who preferred to take their car to a car wash centre constituted 77% of the respondents.

The table also shows that 2% of those who took their car to a car wash centre also called someone to come and wash their car. A further 5% also washed their own cars.

Convenience can be offered at the car wash application for people who are accustomed to paying to have their cars washed at a centre. It might be something worth considering whether the service can be tailored to suit their needs and schedules.

Description	Female	Male	Prefer not to say	Grand Total
I drive to a car wash centre	54 (72%)	67 (71%)		121 (71%)
I personally wash my car(s) at my place	6 (8%)	12 (13%)	1 (100%)	19 (11%)
I call someone to come wash my car(s) at my place	11 (15%)	4 (4%)		15 (9%)
I drive to a car wash centre + I personally wash my car(s) at my place	3 (4%)	3 (3%)		6 (4%)
I drive to a car wash centre + I call someone to come wash my car(s) at my place		2 (2%)		2 (1%)
I drive to a car wash centre + I personally wash my car(s) at my		1 (1%)		1 (1)

Description	Female	Male	Prefer not to say	Grand Total
place + I call someone to come wash my car(s) at my place				
I drive to a car wash centre + I call someone to come wash my car(s) at my place + Other, specify		1 (1%)		1 (1)
Other, specify	1 (1%)	5 (5%)		6 (4%)
Grand Total	**75 (100%)**	**95 (100%)**	**1 (100%)**	**171 (100%)**

TABLE 4.6: CAR WASH PREFERENCES

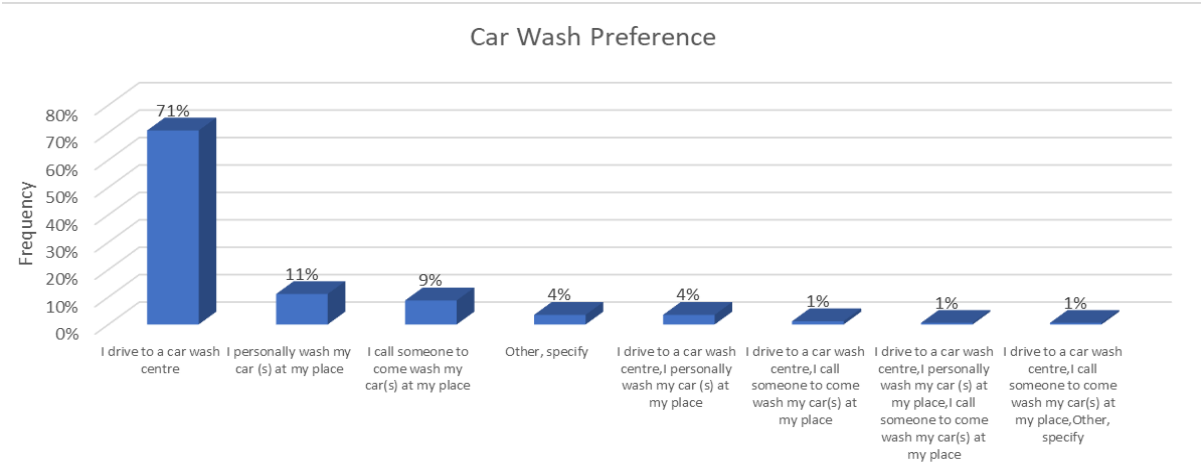


FIGURE 4.6: CAR WASH PREFERENCES

It is important to note that more females (15%) called someone to wash their cars at their places, whilst only 8% of males called someone to wash their cars at home.

The next question asked whether value-added services, such as braai facilities, music, and an opportunity to socialise, affected the respondents' choices.

The table below reflects the 'Other' choices specified by respondents:

Description	Female	Male	Grand Total
A mixture of all the options.		1,05%	0,58%
Depends how much time I have. If I have time, I wash it myself because this is what I prefer. If I don't have time, I take it to a car wash centre		1,05%	0,58%
I have mobile car wash as a side hustle		1,05%	0,58%
I personally wash my car at my place and, at times, drive to a car wash centre.		1,05%	0,58%
I sometimes go to car when I have time and socialise with friends but, if I am busy, I call someone to wash it at home		1,05%	0,58%
My husband handles that	1,33%	0,00%	0,58%
Own a car wash		1,05%	0,58%
Grand Total	**100,00%**	**100,00%**	**100,00%**

TABLE 4.7: 'OTHER' CAR WASH PREFERENCES

The results show that 71% of the respondents preferred a car wash method that used water with car shampoo, whilst only 1% preferred a waterless spray. The results are derived from analysing the responses to the question, "What car washing method do you prefer?" This is critical information for crafting the application preference options before a service is assigned.

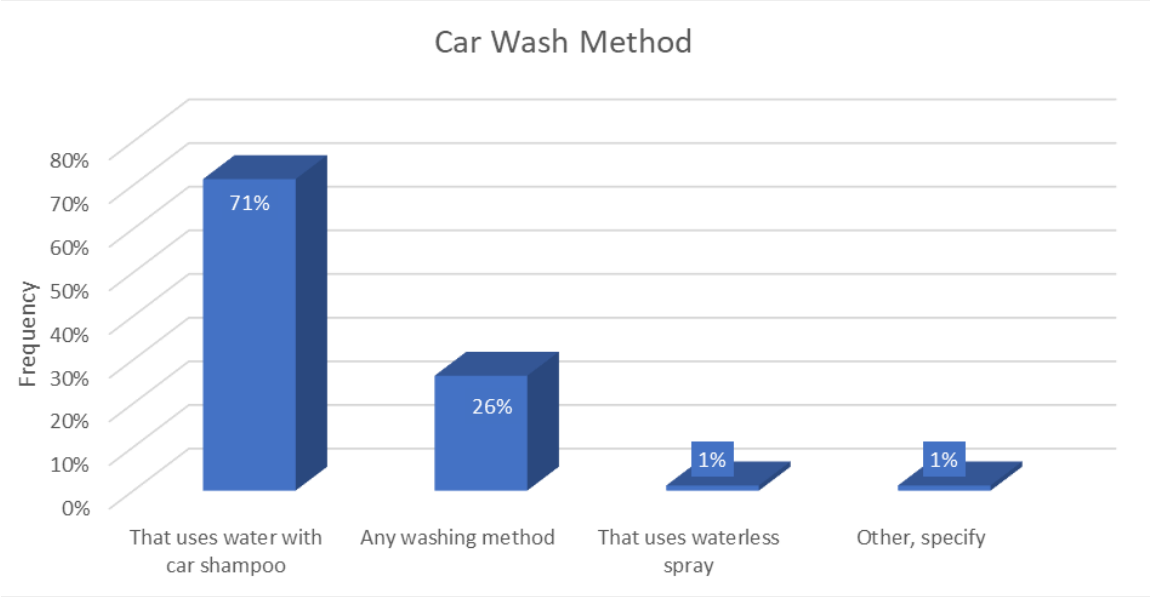


FIGURE 4.7: PREFERRED CAR WASH METHOD

Description	Female	Male	Prefer not to say	Grand Total
That uses water with car shampoo	**47 (39%)**	**74 (61%)**	**1 (1%)**	**122 (100%)**
2-door car	7 (47%)	8 (53%)		**15 (100%)**
4-door sedan car	28 (37%)	46 (61%)	1	**75 (100%)**
Double cab		4 (100%)		**4 (100%)**
Other, specify	3 (38%)	5 (63%)		**8 (100%)**
SUV	9 (45%)	11 (55%		**20 (100%)**
Any washing method	**25 (56%)**	**20 (44%)**		**45 (100%)**
2-door car	3 (60%)	2 (40%)		**5 (100%)**
4-door sedan	18 (60%)	12 (40%)		**30 (100%)**
Double cab		2 (100%)		**2 (100%)**
Other, specify		1 (100%)		**1 (100%)**
SUV	4 (57%)	3 (43%)		**7 (100%)**
That uses waterless spray	**2 (100%)**			**2 (100%)**
4-door sedan	2 (100%)			**2 (100%)**

Description	Female	Male	Prefer not to say	Grand Total
Other, specify	1 (50%	1 (50%)		2 (100%)
4-door sedan	1 (100%)			1 (100%)
Double cab		1 (100%)		1 (100%)
Grand Total	75 (44%)	95 (56%)	1	171 (100%)

TABLE 4.8: CAR WASH METHOD PREFERENCE

Table 4.8 portrays that 61% of the respondents who preferred car shampoo were male. Furthermore, a higher percentage of males (78%) were more specific about their preferred car wash method, with the majority preferring water and shampoo.

4.3.3 Car Wash Usage Frequency

Understanding the frequency at which respondents washed their cars is crucial for app development.

Description	Twice a week	Once a week	Once every two weeks	Once in two months	Other, specify	Grand Total
Less than 30 minutes	3 (10%)	13 (43 %)	13 (43%)	1 (3%)		30 (100%)
30–40 minutes	12 (13 %)	30 (34 %)	36 (40%)	8 (9%)	3 (3%)	89 (100%)
40–50 minutes	7 (26%)	6 (22%)	11 (41%)	1 (4%)	2 (7%)	27 (100%)
50–60 minutes	1 (4%)	13 (52 %)	7 (28%)	2 (8%)	2 (8%)	25 (100%)
Grand Total	**23 (13 %)**	**62 (36 %)**	**67 (39%)**	**12 (7%)**	**7 (4%)**	**171 (100 %)**

TABLE 4.9: CAR WASH USAGE AND WAITING TIMES

The results in Table 4.9 show that 36% and 39% of respondents wash their cars once a week or once every two weeks, respectively. The results are taken from analysis of responses to the question How often do you currently wash your car(s*?"*)? Based on the question What is the average time you prefer to spend while waiting for your car to be washed?, most (52%) of the respondents were willing to wait 30-40 minutes for their car to be washed. These findings suggest that users may require frequent access to the app for scheduling regular car washes. Proper planning and scheduling with partners can be done based on predictive analysis or demand forecasting.

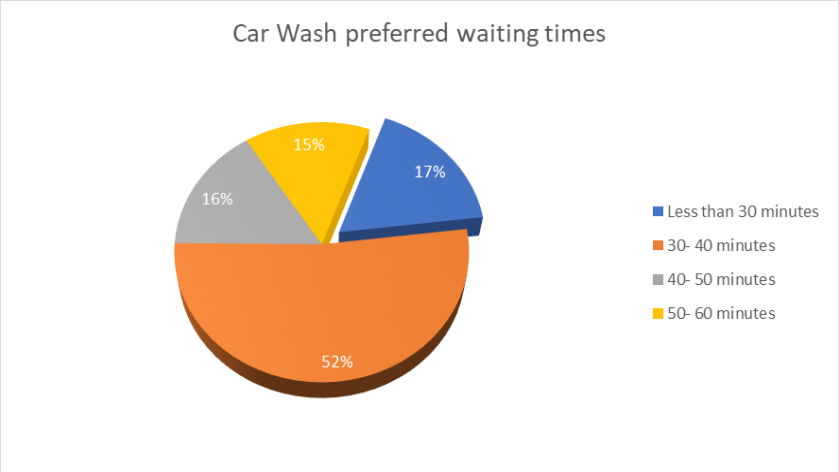


FIGURE 4.8: PREFERRED WAITING TIMES

Figure 4.8 shows that a further 31% were willing to wait 40-60 minutes. This is a positive point that shows the willingness of respondents to wait for longer periods to receive services. This also illustrates that this market segment understands the waiting times that are needed before service is delivered. Whilst this is another positive point, the importance of managing waiting time and the associated risks cannot be forgotten.

Strategies need to be formulated to manage waiting time risks for groups that do not want to wait for more than 30 minutes. This insight indicates the potential for incorporating a feature in the app that allows users to schedule their car washes, optimizing waiting times and minimizing inconvenience?

4.4 Mobile Car Wash App preferences

4.4.1 Car Wash Attributes

To better understand the requirements of potential clients, respondents were asked to rank the likeliness that they would use a car wash application, the convenience they felt in using the application, and how comfortable they would feel with allowing car wash personnel into their homes or workplaces.

Figure 4.9 shows the scores of the different attributes. Respondents ranked the convenience of using the application the highest at 3.84, in response to the question “Would the Mobile Car Wash App be convenient for you?” Comfortableness with using electricity and water both ranked lower than the other attributes, at 3,35 and 3,56 respectively. This derives from analysis of responses to the following questions “Would you allow/be comfortable for the Mobile Car Wash Service to use your water? And “Would you allow/be comfortable for the Mobile Car Wash Service to use your electricity?” These attributes show that the mobile car wash application must make sure that all service providers put strategies in place to ensure that customers are not inconvenienced with electricity or water needs.

Figure 4.9 also suggests that respondents would be highly likely to utilise the application, particularly with screened service providers. The results derive from analysis of responses to the question, “How likely are you to use a Mobile Car Wash App Service that would have screened (security, experience, etc) the service providers send to your place to wash your car(s)?”

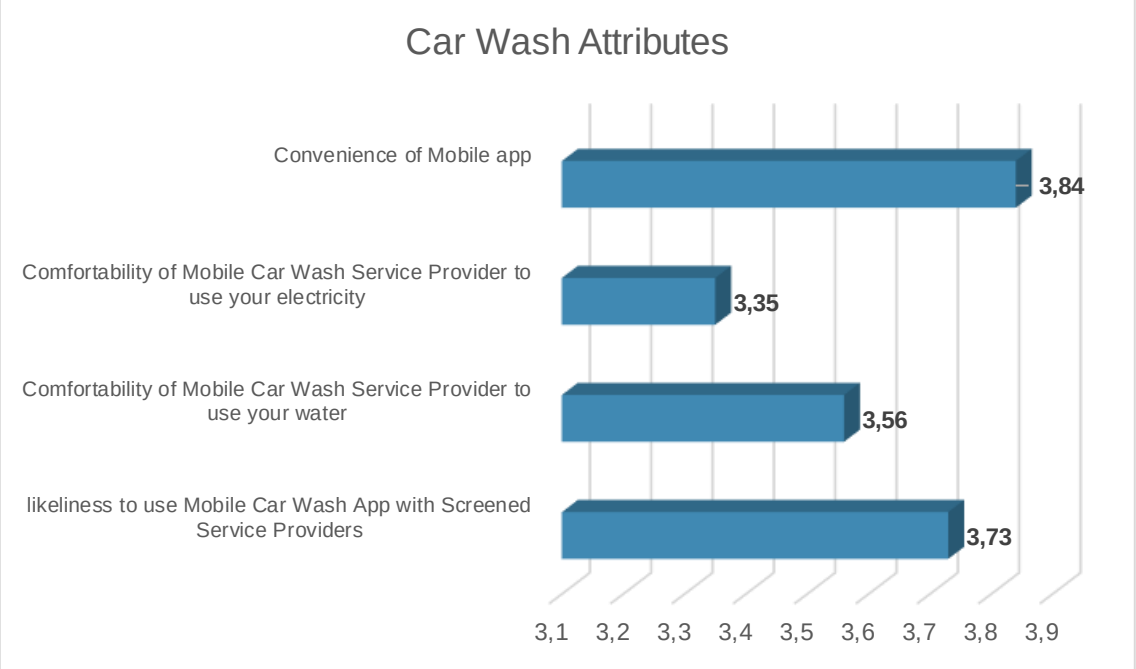


FIGURE 4.9: CAR WASH ATTRIBUTES

Further analysis of the results reveals:

- 68% of the respondents found the application to be convenient
- 75% of the respondents were likely to use the application
- 65% and 57% of the respondents were comfortable with the mobile application service providers utilising their water and electricity respectively

The high electricity rates should be considered when measures and strategies are put in place because failure to take this into consideration can negatively affect the image, brand, and profitability of the business. The results show that there is a high likelihood that the application would be utilised by a large number of people if the results are generalised to the general population.

Time is a very valuable commodity and cannot be wasted. Offering a necessary service when it is needed can be very profitable. To assess this, respondents were asked to state when they would be likely to utilise the application. Figure 4.10 portrays responses to the question, “Which days of the week would you possibly request for a Mobile Car Wash service?” It illustrates that weekends

might be peak time for application utilisation, showing 57% of respondents stating that they might use the application over the weekends.

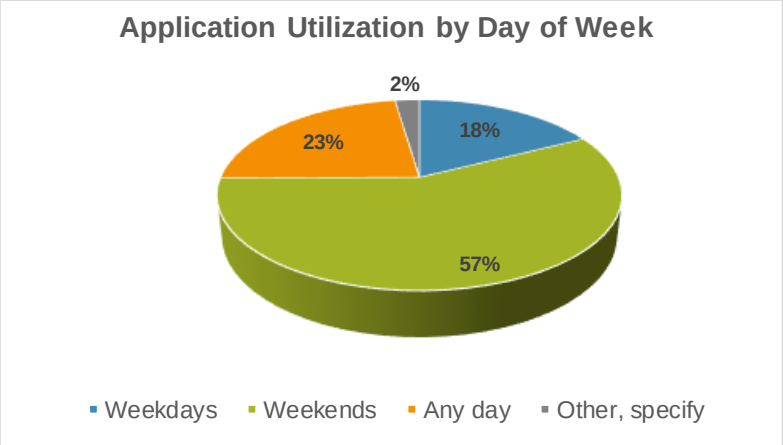


FIGURE 4.10: APPLICATION UTILIZATION BY DAY OF WEEK

The 23% of respondents who stated that they might utilise the application at any time can be targeted during the week with specials and promotions to retain and grow this group. The same strategy can be utilised for the respondents that stated that they might utilise the service during the week.

Description	% of Respondents
Weekdays	**17,54%**
08:00 am–12:00 pm	11,11%
12:00 pm–17:00 pm	5,85%
After 17:00 pm	0,58%
Weekends	**57,31%**
Before 08:00 am	2,92%
08:00 am–12:00 pm	30,99%
12:00 pm–17:00 pm	22,22%
After 17:00 pm	0,58%
Other, specify	0,58%
Any day	**22,81%**

Before 08:00 am	1,75%
08:00 am–12:00 pm	6,43%
12:00 pm–17:00 pm	9,94%
After 17:00 pm	3,51%
Other, specify	1,17%
Other, specify	**2,34%**
08:00 am–12:00 pm	1,75%
Other, specify	0,58%
Grand Total	**100,00%**

TABLE 4.10: TIME & WEEKDAY PREFERENCES

Table 4.10 illustrates the data collected from responses to the question, "What time of the day would you possibly request for the Mobile Car Wash service?" The result shows a preference by respondents for 08:00–12:00 on weekdays and weekends for the morning sessions. This information opens the possibility of implementing demand-based pricing depending on the exact hour and day of the week.

4.4.2 Car Wash Costs

Price is important to any business because it defines the value that makes it worthwhile for the business to make the product; it affects demand, deals with competition and influences revenue and profits.

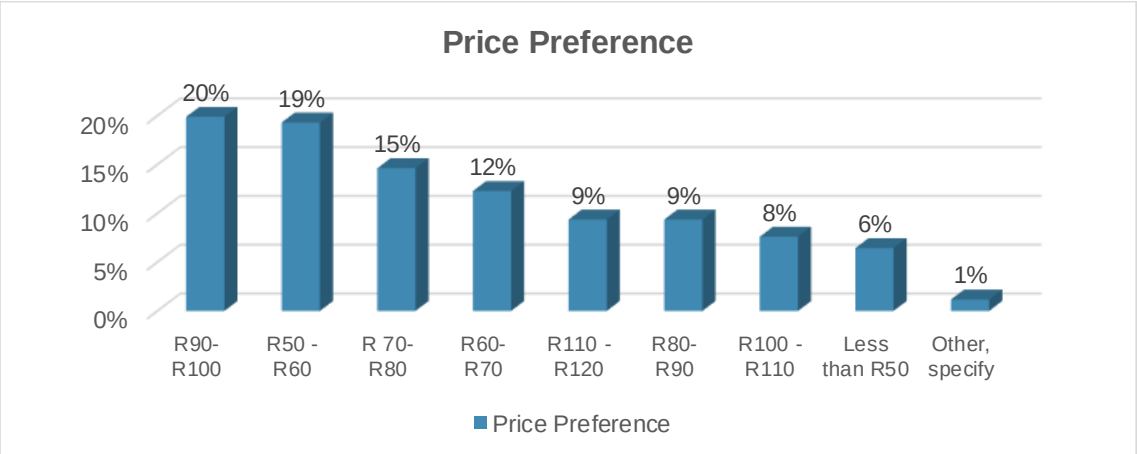


FIGURE 4.11: PRICE PREFERENCE

An analysis of responses shows in Figure 4.11 that 25% of respondents who owned or had access to 2-door cars were willing to pay R90–100 or R50–60 for car wash services. This information is from the question, “What is the amount that you would be willing to pay for washing your car (interior & exterior) at your place through the Car Wash Mobile App?” A similar pattern can be seen with respondents with access to double cabs: 29% were willing to pay R90–100. Figure 4.12 suggests that competitive pricing might be possible when offering the service through an application. Convenience and savings would be very strong selling points.

4.4.3 Ideal Location for Mobile Car Wash

Convenience is one of the critical factors that customers consider when making decisions. According to the framework by Yale and Venkatesh, convenience is based on time, space and effort. Stakeholder engagement also describes convenience as the ratio of pleasure and pain in the users’ experience.

When asked when the most ideal location for the respondent’s car to be washed, an over whelming majority (83%) stated that they wanted their cars to be washed whilst they were relaxing at home. The direct question that received this response was, “Where would it appeal the most for your car to be washed?” The second most convenient place for respondents was where they did their shopping (8%). Both locations prioritise convenience and safety for the respondents.

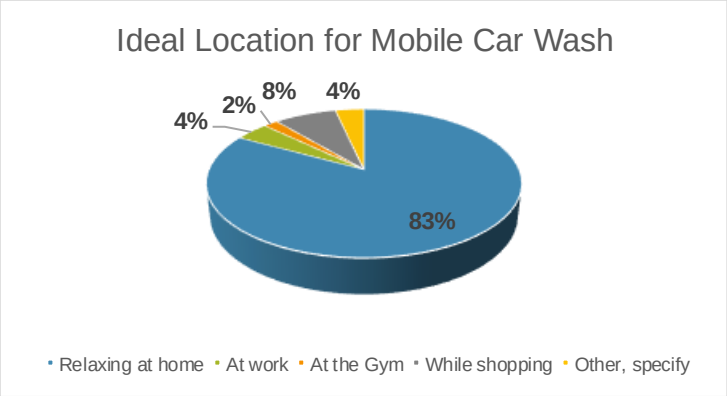


FIGURE 4.12: IDEAL LOCATION FOR MOBILE CAR WASH

4.4.4 Personnel Preference

Given the high crime rate in the region, it is possible that some women car owners may prefer female personnel to come and wash their cars at their place as a measure of security. Although this aspect was not directly addressed in the questionnaire, it is important to acknowledge this potential concern and consider it in the development of our mobile car wash app.

The results do not show any specific personnel preferences. Table 4.11 illustrates that the majority (63%) of respondents did not have any gender preferences regarding staff placements. This was tested by the question, “Would you prefer the personnel send through the Mobile Car Wash App to come wash your car to be male or female?” Whilst most of the respondents did not have any staff placement preferences, 28% preferred the staff placed to be male. The application needs to provide prospective clients with the option to state whether they prefer a specific gender. This must be done very carefully, though, as it could lead to discrimination.

Description	% of responses
Any	63%
Female	9%
Male	28%
Grand Total	**100%**

TABLE 4.11: PERSONNEL PREFERENCE

4.5 Conclusions

In this chapter, the research findings were presented, providing valuable insights into the preferences and requirements of potential users for the development of our mobile car wash app. The questionnaire consisted of 25 scale items, strategically designed to gather demographic information and address the research questions.

Through the analysis of the data collected, several key findings emerged. The results revealed that there is a significant demand for a mobile car wash app, with a majority of respondents expressing their willingness to utilise such a service.

Convenience was identified as a crucial attribute, ranking highest among the respondents. This underscores the importance of developing an app that offers a seamless and user-friendly experience to meet the customers' convenience needs.

Additionally, the data highlighted the significance of addressing concerns related to the usage of water and electricity. It is essential for the App to ensure that the service providers implement strategies to minimise any inconvenience or disruption caused to the customers in these aspects.

Furthermore, the research findings shed light on the preferred time and day for utilising the mobile car wash service. Weekends emerged as a peak time for App utilisation, suggesting the potential for demand-based pricing strategies to optimise revenue and customer satisfaction.

Price preferences were also identified, with competitive pricing, convenience, and cost savings being significant factors influencing the users' decisions. This highlights the importance of considering pricing strategies that align with the perceived value and affordability of the customers.

The ideal location for car washing was predominantly identified as the respondents' homes, followed by places where they frequently shop. This reinforces the need to provide a service that brings convenience and safety directly to the customers' preferred locations.

In summary, the findings from Chapter 4 have significantly informed the development of the car wash App business model. The insights gained from the research will be instrumental in shaping the key features, pricing strategies, and operational aspects of the mobile car wash App, as discussed in Chapter 5.

Chapter 5. Business Model

5.1 Introduction

In this chapter, the Lean Canvas model was utilised to summarize the business model and address each of the nine areas, based on the literature reviewed and the analysed data. The detailed customer segment of the Lean Canvas encompasses the customer discovery and customer convenience strategy. The Lean Canvas channels include the marketing strategy for the new business venture. Additionally, the Lean Canvas cost structure and revenue streams outlines the financial requirements of the project to assess the feasibility of the Digital Platform Car wash Business.

Furthermore, this chapter presents the results of investigating the main problem and two sub-problems highlighted in Chapter 1. The findings provided valuable insights into the market potential and viability of the proposed car wash mobile app. Based on these findings, recommendations for the next steps to be taken by the project are listed at the end of this chapter.

5.2 Lean Canvas Model

Appendix C shows the Lean Canvas (LC) model that was designed for this project proposal, taking into consideration the inputs from the surveyed data analyses and the literature review.

5.2.1 Problem

Customer perspective: The increasing popularity of online services, accessed mainly through mobile applications (mobile Apps), has significantly enhanced service convenience for customers in various sectors. Examples include booking accommodation (Airbnb), requesting transportation (Uber), ordering food (Mr. Delivery), and purchasing clothes (Shein). However, the car washing sector still relies heavily on traditional car washing centres found in fixed locations and requiring customers to personally visit for a car wash. This compromises the convenience experienced in other sectors offering online services.

Service Provider perspective: Car washing service providers do not have a centralised digital platform that can link them with available customers in their areas. The non-availability of a mobile car wash App for service providers is a

missed marketing opportunity that affects the market share accessible to the available service providers. Currently, in South Africa, there are fewer than five companies that have developed a closed-loop App, where only the App company owner can provide services exclusively to their registered customers. Consequently, the restricted accessibility of the closed-loop App hinders the availability of service providers for the registered customers, limits the geographical coverage of the service providers, and ultimately leads to extended turnaround times for service delivery by these companies.

5.2.2 Solution

One solution to the problems mentioned above is a Digital Mobile Application that uses a business-to-customer model (B2C) to link the two parties.

What is the unique value of this App to the existing car wash Apps in South Africa? This App will be accessible to all willing existing service providers as compared to the few existing car wash Apps (closed-loop App) that only allow the owner of the App to be the service provider. The new App will have the authority to regulate the key expected outcomes from both the customers and service providers by putting certain rules in place and monitoring measurements. The rules will include a minimum level of service and safety. The feedback from ratings of the service provider by the customer will be one of the monitoring tools that will be used to evaluate performance.

The nature of this App, open as it is to all players, will motivate new service providers to join this sector by starting up businesses. These are people with an interest in having their own car wash business but who are challenged by the difficulties of raising the capital required for all the infrastructure related costs to start such a business. They cannot afford to start a fixed car wash centre and they also cannot afford to build a digital platform to assist them to access the market in the mobile car wash space. However, this App is a tool that is available for them to use to access the market at a fraction of the price.

The survey carried out for this study displayed positive results (Figure 4.9), in that 75% of respondents were likely to use this App.

On service convenience, Figure 4.9 shows that 68% of the respondents found the car wash mobile App to be convenient.

Customers stand to benefit from the App in several ways, including the ability to request car wash services delivered to their preferred location within a reasonable time, eliminating the need to drive to a car wash centre and to wait in queues. They can have peace of mind knowing that screened and qualified service providers will perform the work, as evidenced by previous customer reviews. Additionally, customers can raise concerns or queries through the App's digital platform, with the assurance that necessary actions will be taken. The App also provides a solution for washing multiple cars simultaneously, allowing customers to request two service providers or one service provider capable of washing all their cars within the required timeframe. Moreover, customers can request car washes outside of regular working hours, providing flexibility as long as there are available service providers in their area willing to provide the service at the times requested.

5.2.3 Unique Value Proposition

The mobile App will be a digital platform that links customers (car owners) with car washing service providers. It will provide a service convenience to customers and highly improve the time between starting and finishing the washing of their cars. On the other hand, it will increase the service providers' client base by giving them access to customers that they would not otherwise have had access to whilst maintaining their regular clients.

The safety aspect plays a significant role in minimising the risk to the customers and service providers alike, especially for women customers. The App will include features that evaluate the security risk for both the customer and the service provider.

The digital service convenience for the App will be guided by the Table 2.1 framework, which has six dimensions:

1. **Access Convenience**: The App will be accessible at anytime and anywhere through a smart mobile phone.

2. **Search Convenience**: The App layout and its navigation will be designed to be user-friendly using a high-speed engine, and will have only a key product menu list to keep it simple.
3. **Evaluation Convenience**: The available services will be clearly defined with their relevant prices. The information about the service provider and the customer will be presented with reviews from previous engagements.
4. **Transaction Convenience**: The App will allow cash and card payments. The customer will be informed of the total price for the requested wash before they confirm the order. The system will also be able to confirm the payment to the service provider after the customer has paid, upon which the car(s) will be washed.
5. **Possession Convenience**: The App will use GPSs for accurate estimates of the arrival time at the customer's site, and will estimate the time it will take to wash the car/s. This will be included in the system's accuracy in ensuring that the price given to the customer before confirming the order matches the needs of the customer as specified in the order.
6. **Post-service Convenience**: The customer and service provider information will be kept confidential as per the Protection of Personal Information Act, 2013. The service providers' registration will be subject to them taking out insurance that will cover damage to the customers' property. The Digital Platform Car wash Business will be responsible for handling and resolving queries from both service providers and customers.

5.2.4 Channels

The proposed Digital Platform Car wash Business App for this project is aimed at recruiting many qualifying service providers, in that way creating a healthy capacity that can reach as many customers as possible within a reasonable time. The long-term plan is to service the car wash businesses throughout the country's metropolitan areas but the short-term plan is to start in the Johannesburg area.

The main communication channels with the customers (car owners) and car wash service providers will be through the car wash mobile App designed for and by the Digital Platform Car wash Business. The company communications

with its customers are part of the key elements of the channels as shown in Appendix C Lean Canvas. The market mix as one of the communication strategies to the customers is covered next.

5.2.4.1 Marketing Mix

Start-up Market: The survey data indicated that none of the respondents was using any digital App to ask a service provider to come to their place and wash their car/s. This supports the new-product-to-new-market hypothesised for this venture. The two main characteristics for a new product to a new market are simplicity and convenience (Steve Blank & Dorf, 2012), which are already addressed is section 5.2.2 (Solution), above.

The marketing strategy will incorporate the 4Ps.

Product: The different types of car wash service available from different car wash dealers is summarised in Table 5.2 below:

No	Service Type	Description
1	Wash & go	Only the exterior of the car is washed and the car is not dried.
2	Wash & dry	The exterior of the car is washed and dried.
3	Wash & dry, plus tyres	The exterior is washed, dried, and the tyres are polished.
4	Basic wash	The exterior is washed, dried, the tyres are polished, and the interior is vacuumed.
5	Wash & wax	The exterior is washed, dried and waxed. The tyres are polished, and the interior is vacuumed.
6	Custom wash	The exterior is washed, dried and waxed. The tyres are polished, the interior is vacuumed, and the engine is washed.
7	Polish	The exterior is washed and dried, the tyres are polished, the interior is vacuumed, and the exterior is hand polished.

No	Service Type	Description
8	Mini valet	Shampoo cleaning of all carpets, loose floor mats, roof lining, and seats.
9	Full valet	This is the mini valet plus engine washing and hand polishing of the exterior.

TABLE 5.1: CAR WASH SERVICE OPTIONS

The service providers that will be available on the proposed mobile App will provide all the above-mentioned services except for the Custom wash (6), Mini valet (8), and Full valet (9). The exclusion of the mini and full valet services is due to the challenges of transporting the heavy equipment that must be used to provide the service. The custom wash service option (6) will be excluded because the washing of the car engine needs a specialised drainage system to capture the oils that may be removed from the engine and cause harm to the environment.

The exterior washing of the car will be water-based, with the water supplied by the customer. This approach is preferred by the majority of respondents, as indicated in Figure 4.9. Additionally, the service provider will supply the electricity for the vacuum cleaner and water pressure by plugging the equipment into their vehicle.

Price: For this section, we examined the market-related prices by evaluating the prices of two car washing companies, namely Autowash and Mobee Wash. The car wash prices varied depending on the make of the car. We have shown the different prices for different makes of cars under Appendix A7.6. Most customers request the Basic Wash service option, therefore we have presented the business proposal's cash flows based on the Basic Wash option rates.

We developed the following table with the average and minimum prices drawn from Autowash and Mobee Wash ("Autowash," ; "Mobee Wash,"):

No	Service Type	Average price			Minimum price		
		Sedan	SUV & DBL Cab	Minibus	Sedan	SUV & DBL Cab	Minibus
4	Basic Wash	R130,00	R145,00	R170.00	R100,00	R110,00	R120,00

TABLE 5.2: CAR WASHING PRICES FROM EXISTING SUPPLIERS

Source: ("Autowash," ; "Mobee Wash,")

The survey indicated the average prices that customers preferred to pay as in Table 5.4:

		Customers' Preferred Amounts		
No	Service Type	Sedan	SUV & DBL Cab	Minibus
4	Basic Wash	R79,70	R82,20	R85,70

TABLE 5.3: AVERAGE CAR WASHING PRICES FROM RESPONDENTS

However, the Basic Wash service prices for the proposed business venture will be pegged at the same price as the minimum price in Table 5.3 which is:

	Final Prices for Basic Wash Service		
Service Type	Sedan	SUV & DBL Cab	Minibus
Basic Wash	R100.00	R110.00	R120.00

TABLE 5.4: PRICES USED FOR THE PROJECT (BASIC WASH OPTION)

Place: The long term plan of the Digital Platform Car wash Business is to grow and supply its services as a national service provider in all the country's big metropolitan cities. The Digital Platform Car wash Business will rent suitable office premises that will cater for its staff, visitors, and have sufficient parking.

Promotion: The promotion will be done with the understanding that the customers may not know that they need such a service until they enjoy it

because it is identified as a patent need. Part of the promotion will therefore be to provide a free first service and another free car wash service for every customer that is successfully recommended by an existing customer.

The service will be more attractive to people who are already using online services. Therefore, it will be advertised on other digital platforms like Uber and Mr Delivery. We will also use social media platforms like YouTube, Facebook, WhatsApp and Instagram to advertise our services. The malls will be used, together with the traditional old school advertising, with billboards and posters mounted in car parking areas.

The advertising strategy for the service encompasses both above-the-line and below-the-line activities as outlined in Table 5.6 (Above the Line Advertising Activity) and Table 5.7 (Below the Line Advertising Activity) below.

Activity	Type	Description
Above the Line	Radio adverts	Radio stations and time slots that are mostly listened to by our targeted market. e.g., morning breakfast shows and late rush hours.
	Television commercials	That will appeal to the targeted market and highlight the solutions to the problems that the customers and service providers are facing.
	Billboards	Which will be strategically positioned in high traffic areas: freeways, cities & shopping malls. This will create high visibility to a large volume of car owners
	Vehicle Branding	Creating a campaign on wheel by advertising the branding to the public transport vehicles.
	Electronic Posters	Placing electronic posters in high traffic areas like malls.

TABLE 5.5: ABOVE THE LINE ADVERTISING ACTIVITY

Activity	Type	Description
Below the Line	Targeted leaflet drops	Cost-effective advertising to reach more audiences.
	Shopping Centre Stands	Deployed advertising teams that will brief people and hand-out leaflets.
	Social Media and PPC	Designing user search terms to target potential customers on Facebook, YouTube, Twitter, and Instagram.

TABLE 5.6: BELOW THE LINE ADVERTISING ACTIVITY

Porters five forces as part of the marketing mix are discussed below.

Bargaining power of buyers: The bargaining power of buyers can negatively impact the service provider if there are few buyers or if they represent a large company, allowing them to negotiate better prices from numerous suppliers (Dälken, 2014). However, in the case of the Digital Platform Car wash Business, the significant number of car owners seeking car wash services counterbalances the buyers' bargaining power. To maintain customer loyalty, the business must prioritize its comparative advantage of simplicity and convenience.

Bargaining power of suppliers: To enhance the bargaining power of suppliers in the Car wash Mobile App ecosystem, it is essential to focus on increasing the number of customers (car owners) using the platform. By expanding the customer base, the App will attract more car wash suppliers, creating a larger scale of demand and enabling suppliers to benefit from economies of scale (Hofmann & Osterwalder, 2017). Standardizing the service provided by car washing suppliers will facilitate the easy registration of new suppliers to meet the growing demand.

Additionally, due to the substantial volume of business it generates, the mobile app holds significant value as a customer to the service providers, who, in turn, act as suppliers to the app. This dynamic positions the app as a crucial source

of revenue for the service providers, highlighting the importance of establishing fair and transparent pricing policies to maintain their trust and foster ongoing participation within the platform.

Threat of new entrants: Success for any digital platform is found in having as many members as possible to improve the economies of scale. This is not easy to achieve for new entrants, and it becomes a barrier for them. Customers of digital platforms demand a differential product with a strong emphasis on service quality, which takes time for the new entrants to master.

The high costs of capital, maintenance, and continuous research and development are a challenge for new players. New companies will also have access to the same network channels because of technology, which will create a threat. The Car wash Mobile App will have to have strong customer loyalty and a good relationship with partners, and this will add barriers to the entry of new companies.

However, the Car wash Mobile App will be one step ahead of new entrants because of the experience it will have gained.

Threat of substitute products or services: Substitute within this industry will not be easily created. Other companies will struggle to match the service and quality provided by this Car wash Mobile App. The prices provided by the Car wash Mobile App will make it difficult for substitute/s to make counter-offers. The feedback from the customers and service providers will be used to constantly improve the services of the Car Wash Mobile App, in that way differentiating the services offered from the substitute.

Rivalry among existing competitors: The existing competitors are not providing a mobile car wash application and those few that do are using a different business model (closed app) than the proposed Car Wash Mobile App.

The existing competitors do not pose any direct threat to the business model proposed for the Car Wash Mobile App. Instead, the competitors will become partners in the business value chain. The Mobile Car wash App is bringing a unique and new benefit to customers, which will make it more attractive to the

market. This new business venture will focus on finding new customers who will require its differentiated service.

5.2.5 Unfair Advantage

The unfair advantage of the proposed App is the service convenience it will provide to the customer. The Car wash Mobile App will have a large pool of car wash service providers through the registration of existing and new service providers that the car owners may have been unaware of.

5.2.6 Key Metrics

The key metrics are the revenue driving variables that will be used to measure the performance of the company.

- The first metric will be the number of car wash mobile App downloads by both the car owners and car wash service providers. This will give the number of people and businesses that have an interest in the Car wash Mobile App.
- The second variable is the number of requests for service from the car owners. This variable will have a direct positive or negative effect on the company revenue.
- The third key variable is the number of order cancellations by the car owner or by the car wash service provider. This is an important variable because it provides feedback from both the car owner and the service provider, which will contribute to identifying problems and give direction to the possible solutions.
- The fourth item is identifying areas of high service demand and low service demand. This is going to help with mobilising sufficient resources for each targeted area and for the business to know where to improve its marketing in low demand areas.
- The last key item is the monitoring of the ratings by both the car owners and car wash service providers. This will assist in identifying areas of improvement through engagement with the relevant affected parties.

5.2.7 Customer segment

The Car Wash Mobile App provides a service similar to the likes of online services like Uber (all e-hailing services), Mr Delivery, Take-a-lot, and so on.

The targeted customers are the people who are already using these Mobile Apps and other similar Apps. The above Mobile Apps are mostly available in the South African metropolitan areas like Johannesburg, Pretoria, Bloemfontein, Nelspruit, Polokwane, Durban, and Cape Town. Since the survey (Appendix A7.1) indicated that the customers will prefer to receive the car wash at their homes, the targeted areas will be the residential areas within the metropolitan areas.

The *customer patent need* we conducted asked if the respondents would be interested in using the proposed App: Three quarters of suburban respondents indicated that they would likely use the car wash mobile App (see Appendix A7.2.1).

The second customer patent need test was to check whether the proposed App would bring a convenient service to the respondent: Most suburban respondents indicated that the Car wash Mobile App would be convenient (see Appendix A7.3.2); Nearly all township respondents indicated that the Car wash Mobile App will be convenient (see Appendix 7.3.1).

The targeted areas will be narrowed down to the suburban areas only, due to the security challenges and concerns that the e-hailing services have experienced in the township areas countrywide.

It is also evident that these people are mostly employed, with a majority working on a full-time basis and a significant portion being self-employed.

The fee for the mobile car wash will be the same for all customers of the same make of car. The only difference will be the additional travelling cost from the point of the service provider to the customer, which will vary depending on the distance.

The targeted customer segment is defined as the working class and self-employed individuals between the age of 25-54 that resides in suburban areas.

5.2.8 Financial Analyses (Cost Structure & Revenue Streams)

5.2.8.1 Introduction

The revenue of the new business venture will be based on the 20% commission that will be deducted from the payments by the end-user customer to the service providers. The cash flow projections are based on the rates for the basic car wash service option only for sedans, 4x4/SUVs, and Minibus vehicles. The rates for washing these cars are R100,00, R110,00, and R120,00, respectively.

Our strategy is to provide a differentiated service with a more affordable price than other traditional service providers, in that way enticing the customers to adapt to our services and prefer them.

The business will introduce a loyalty programme as the business matures. This programme will be shaped by the feedback received from the customers so that we offer them something that will benefit them and addresses their needs.

Other future income will be from other parties/companies that will ask to advertise on our digital platform. These will be suppliers of products and equipment that are used by the service providers and any other company/person. This income stream is not included in the cash flows below because it will be difficult to make assumptions at this stage. The financial analyses have followed the following logic:

Step 1: **Customer discovery**. This study and the survey have verified the customer discovery, allowing the business to move to the next step.

5.2.8.2 Cost Structure

The cost implication to the Digital Platform Car wash Business is minimal at this stage and will include the costs related to the design, development and launch of the Car Wash App.

Step 2: **Minimum viable product**. The company will create a minimum viable product (prototype) that will be designed to address the needs of the customers as learned through Step 1 (customer discovery). The cost implication will be sourced through bootstrap by the shareholder/s to raise the money to build the prototype.

Step 3: The minimum viable product will be deployed to a minimum number of users (customers and service providers) in the suburban area of Midrand in Johannesburg. The company will have a minimum team at this stage to reduce the company running costs and will operate from the premises of the owner or one of the owners. This process will be done to confirm the customer validation by testing the Car wash Mobile App system (MVP) to see if it meets the customers' expectations. The minimum viable product will be improved through constant engagement with the customers and using their feedback to improve the system. This process will run for six months and the plan is to have a final Mobile Car wash App from being an MVP within those six months. The cost implication for this process will be funded by the company shareholders.

Step 3: The company will present its proposed venture to interested funders to launch its business and expand its operations throughout the country. The company head offices will be in Johannesburg with regional offices in all targeted regions. The targeted regions will be Johannesburg, Tshwane, Mbombela, Ekurhuleni, Ethekwini, and Cape Town. This is because the highest percentage of household vehicle ownership is in the Metropolitan areas followed by Urban areas.

The company cost structure is therefore based on the company's Step 3 which is the stage where the company will need funding.

5.2.8.3 Revenue Streams

Projected Sales: Statistics South Africa indicates that 40,3% of Johannesburg household own a car and 32,5% of the rest of South African household has a car (StatsSA, 2016a). The households and number of cars for the targeted regions are as follows:

Region	No of Households	Rate of Car Ownership	Total No of Cars	Targeted No of Cars
Mbombela	206 136	0,299	61 635	616
Ethekwini	1 125 767	0,278	312 963	3130
Johannesburg	1 853 371	0,403	746 909	7469

Ekurhuleni	1 299 490	0,403	523 694	5237
Tshwane	1 136 877	0,403	458 161	4582
Cape Town	1 264 949	0,446	564 167	5642
Total	**6 886 590**		**2 667 530**	**26675**

TABLE 5.7: NO OF CARS PER HOUSEHOLD

Source: (StatsSA, 2016b)

The total number of cars within the metropolitan that we have selected is 2 667 530. Figure 4.9 indicates a high level of interest among respondents are interested in the mobile car wash, whilst Figure 4.6 highlights that a smaller proportion of respondents call someone to come was their cars at their homes. This business venture aims at the 10% early adopters of the respondents who are respondents that are already calling someone to wash their cars at their place. This is almost 1% market share which amounts to 26 675. Figure 5.1 shows the sensitivity analyses of the market share from 0,5% to 3% but we have done all the calculations based on a conservative 1%.

The company will estimate to wash 17 288 cars per month in 2023 which is the first year of operation. The first year (2023) will only accommodate Johannesburg, Ekurhuleni, and Tshwane metropolitans. The second year (2024) will include the metropolitans covered in 2023 but also add the Ethekwini region creating a total car of 20 417 per month. The third year (2025) will add Cape Town metropolitan to the 2024 areas increasing the total cars to 26 059. The fourth year will add Mbombela to the 2025 targeted metropolitan areas getting a new total of 26 675, Table 5.9 show the incrementing numbers of projected volumes of cars.

		Mbombela	Durban	Johannesburg	Ekurhuleni	Pretoria	Cape Town	Total
	2023	0	0	7469	5237	4582	0	17 288

Sedan, SUV, MiniBus	2024	0	3130	7469	5237	4582	0	20 417
	2025	0	3130	7469	5237	4582	5642	26 059
	2026	616	3130	7469	5237	4582	5642	26675

TABLE 5.8: ACCUMULATIVE VOLUMES OF PROJECTED CARS PER YEAR

Ratios: The net profit margin, specifically for the traditional car wash industry, has been employed to demonstrate the profitability of the proposed venture. The average net profit margin for this industry is estimated at 42% (Chappal, 2020). To assess the impact on profitability, a sensitivity analysis was conducted on the net profit margin, considering sales ranging from 0.5% to 3% of the cars in the selected metropolitan areas, see Figure 5.1.

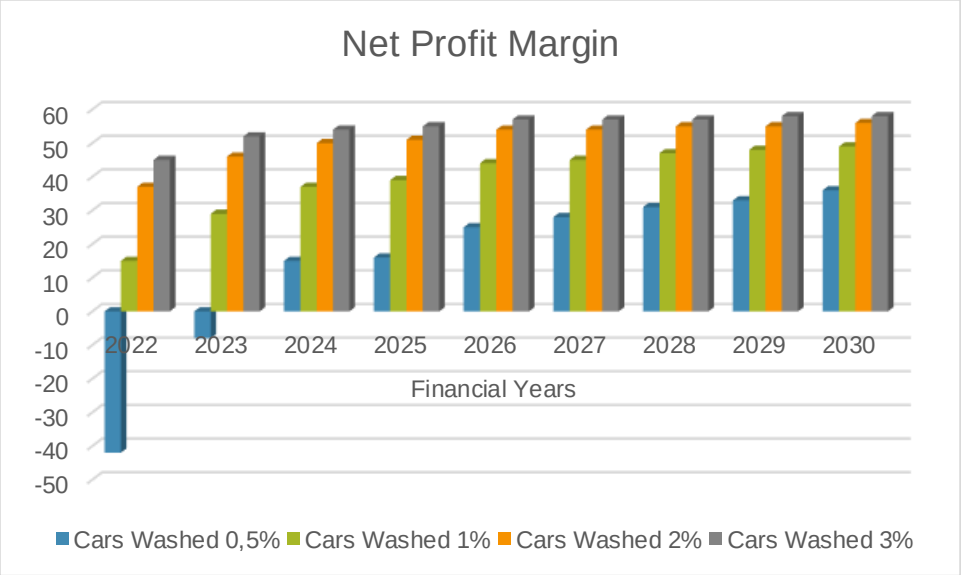


FIGURE: 5.1: NET PROFIT MARGIN SENSITIVITY ANALYSES

The result shows that the business proposal will reach a 40% average net profit margin in 2026 if the car wash sales are 1% of the selected metropolitan household cars.

The new venture will require a capital injection of R1 998 500,00 and a working capital of R2 000 000,00, amounting to a total of R3 998 500,00 in the first year of operations. Loan funding will be sourced from interested financing

organisations with a payback period scheduled for five years. The average break-even units are R11 977 per month, see Appendix B7.4.

Other project financial documents are in the appendices: Company Balance sheet is Appendix B7.1, Company Income Statement is Appendix B7.2, Company cashflow is Appendix B7.3, Break-even analyses is Appendix B7.4

5.3 Project Outcomes

This project has shown positive potential for the Digital Platform Car wash Business to be a viable new venture. The proposed business can be profitable within the profit margins of its industry. The data analyses have indicated a positive interest in the services of the digital mobile car wash application from the respondents. One of the key factors for the success of the Digital Mobile Car wash App is the utilisation of the customers' water by the car wash service provider. This is important because a significant majority of the respondents expressed a preference for using a water-based method to wash their cars. Additionally, a substantial number of respondents indicated their willingness to allow the car wash service providers to utilize their own water.

The following recommendations are necessary to guide the new business venture going forward:

- It is necessary to also conduct a customer discovery for the service providers as they also become the customers of the App. The customer discovery of the service providers must be done before the conclusion of the Minimum Viable product so that it accommodates the needs of the suppliers.
- The Lean Business Canvas model is designed to always analyse the feedback from the customers and adjust where necessary. This process will be ongoing for the running of the project or company.
- The customer validation process that will be using the minimum viable product is critical to improving the interest of the customers from both the car wash service providers and car owners. The MVP will have to work to

the satisfaction of the customers before the shareholders can go out to seek the project funding.

5.4 Future Considerations

The customer discovery of the car wash service providers is one of the important future considerations. The environmental impact analyses and government regulation towards the washing of cars at people's homes is another area of interest for future considerations, in addition to the restrictions that may be imposed by body corporates for those customers who reside in complex settings.

Chapter 6: Business Venture Plan

Chapter 6 provides a summary of the key components of the business plan for Wisewash, a fictitious car wash App that we have created. The chapter covers the following main aspects of the business venture:

6.1 Executive Summary:

The Wisewash aims to revolutionise the Car Wash App industry by providing convenient and on-demand car wash services through a user-friendly digital platform. Extensive research supports the viability and potential success of Wisewash, emphasising its competitive advantage in convenience, technology, and automation.

6.2 Basic Business Information:

WashWise operates as a Pty Ltd entity with the support of professional advisers. The business is currently in the development and launch phase as a mobile car wash App

6.3 Current Business Situation:

WashWise operates in the growing mobile car wash App industry, targeting the increasing demand for convenient services. The venture aims to establish itself as a leading player by providing on-demand car wash services

6.4 Strategic Analysis:

The strategic analysis validates the viability of WashWise, highlighting its unique selling points and key differentiators. The VRIO analysis identifies valuable resources and capabilities that contribute to WashWise's competitive advantage

6.5 Strategic Plan:

WashWise envisions revolutionising the car wash industry through technological innovation, convenience, and a focus on quality customer experience. The venture aims to secure a strong market position by emphasising trust, reliability, and professionalism.

6.6 Marketing Plan:

The marketing plan targets car owners who value convenience and time efficiency. WashWise positions itself as the premier provider of on-demand car wash services, emphasising quality and environmental sustainability. The marketing mix encompasses product, price, advertising, distribution strategy, and customer care

6.7 Operations/Production:

WashWise operates through a mobile App and partners with professional car wash service providers. The service delivery process involves coordination with providers and dispatching trained professionals to customers. Quality control measures, staff requirements, and a scalable operational plan ensure high-quality service delivery

6.8 Research and Development (R&D):

R&D plays a crucial role in driving innovation, improving operations, and enhancing the customer experience. An internal R&D team focuses on service delivery enhancements, customer experience improvements, and staying ahead of the industry. Strategic partnerships are established to leverage external expertise.

6.9 Management and Organisation:

WashWise has a robust management and organisational structure. The top management team brings diverse experiences and skills to lead the venture. The organisation chart illustrates the hierarchical structure and key positions within the organisation.

6.10 Forecasts and Financial Data:

Financial analyses indicate promising growth and efficient cost management. Key performance ratios and forecasts provide insights into profitability and revenue projections. The financial analysis includes profit or loss accounts, balance sheets, and cash flow statements.

6.11 Financing:

WashWise requires a capital injection and working capital to support business operations and growth. The funds will be strategically allocated to marketing, technology infrastructure, talent acquisition, operational expenses, and expansion

6.12 Risk Analysis:

Risks associated with market competition, technological challenges, regulatory compliance, and economic factors are identified. Strategic responses and risk reduction strategies have been developed to mitigate potential risks.

In conclusion, the comprehensive business plan for WashWise covers strategic analysis, marketing and operational plans, R&D, financial projections, risk analysis, and control measures. By implementing these strategies, WashWise aims to revolutionise the car wash industry, deliver exceptional service, and establish itself as a leading player in the market. Appendix D provides a detailed version of the WashWise Business Venture plan.

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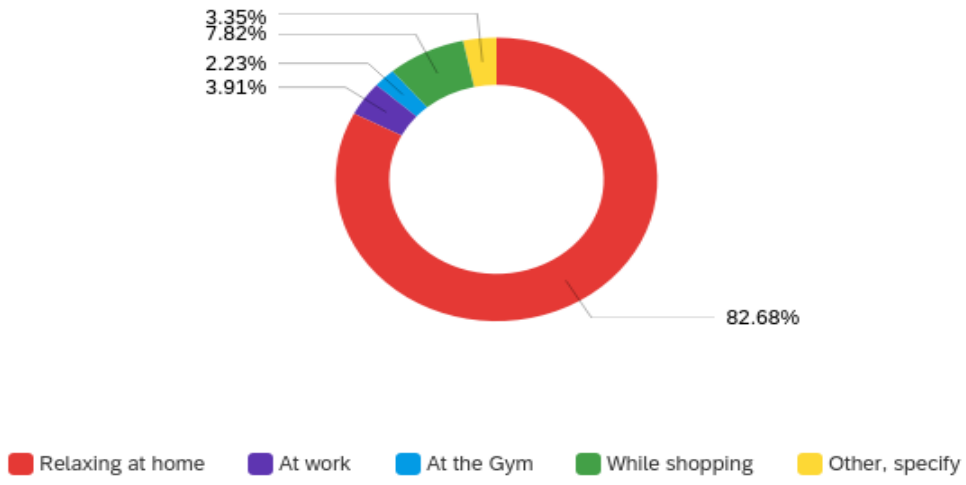
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Appendix A

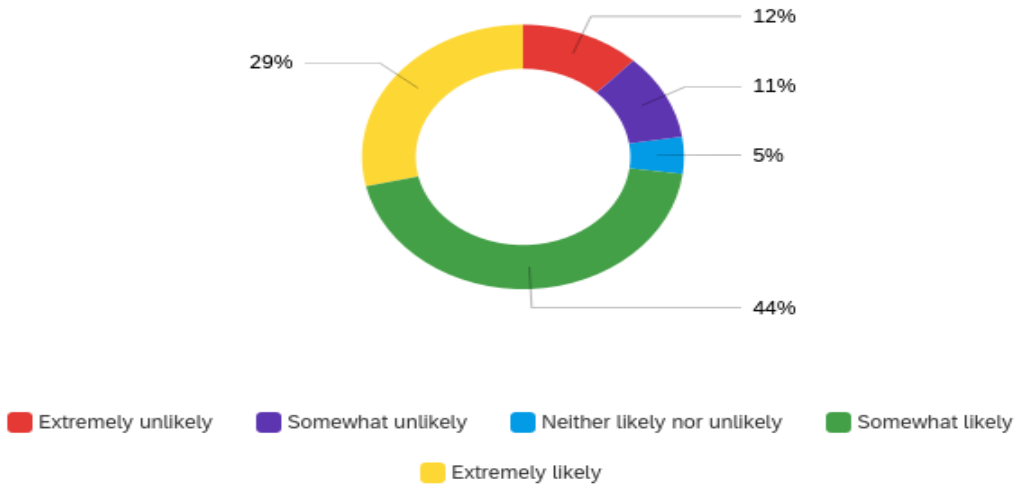
A7.1 Where would it appeal the most for your car to be washed?



A7.2

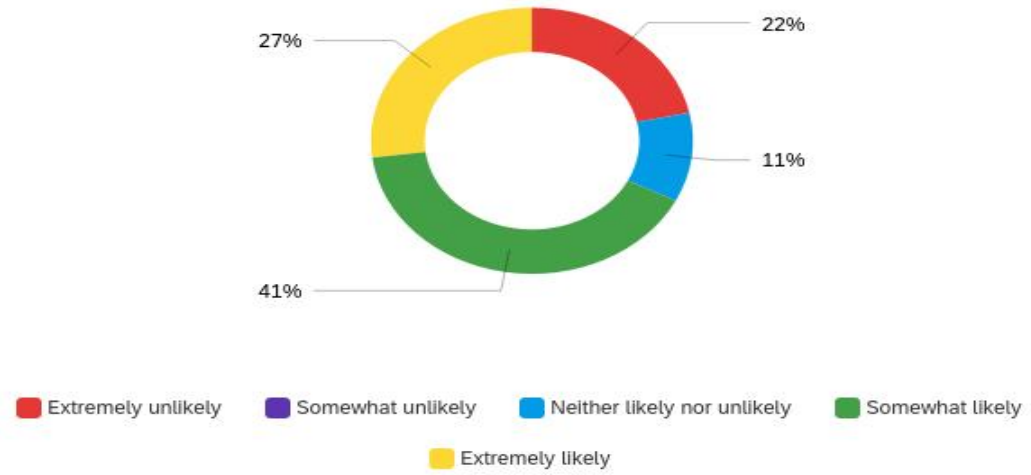
7.2.1 How likely are you to use a Mobile Car Wash App service that would have screened (security, experience, etc.) the service providers send to your place to wash your car(s)?

Surbub Respondent



A7.2.2

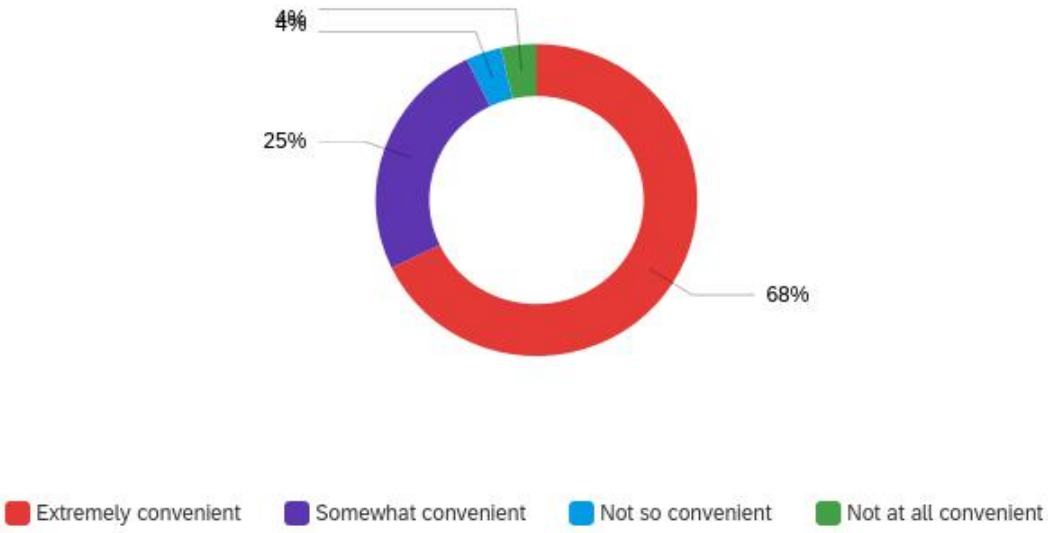
Township Respondent



A7.3

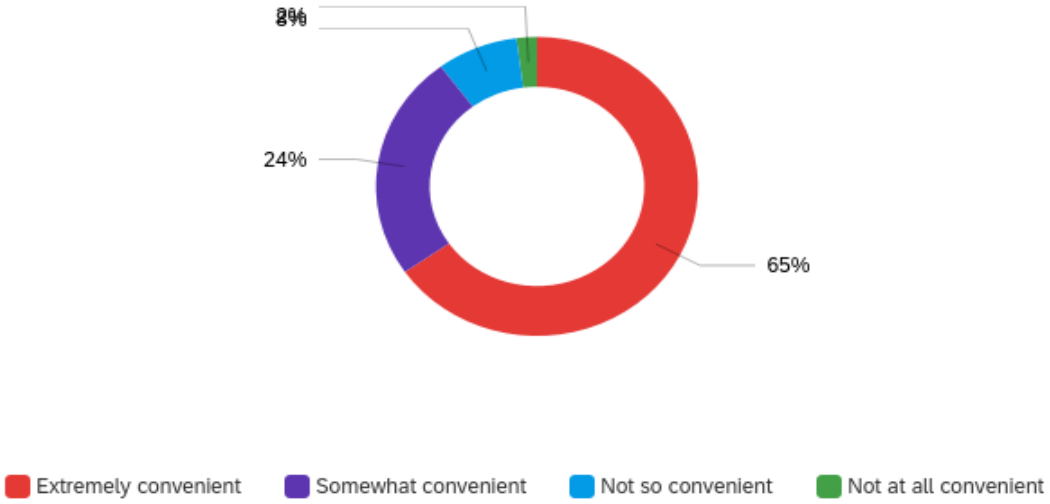
A7.3.1 Would the Mobile Car Wash App be convenient for you?

Township Respondent



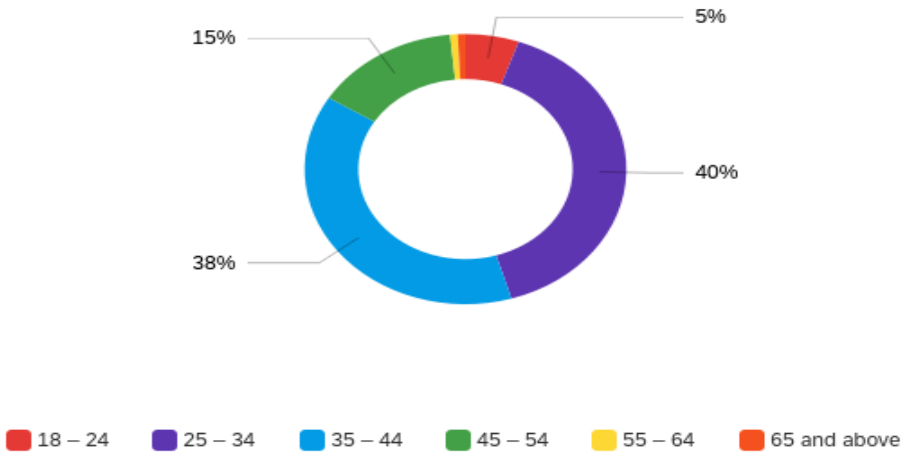
A7.3.2

Surbub Respondent

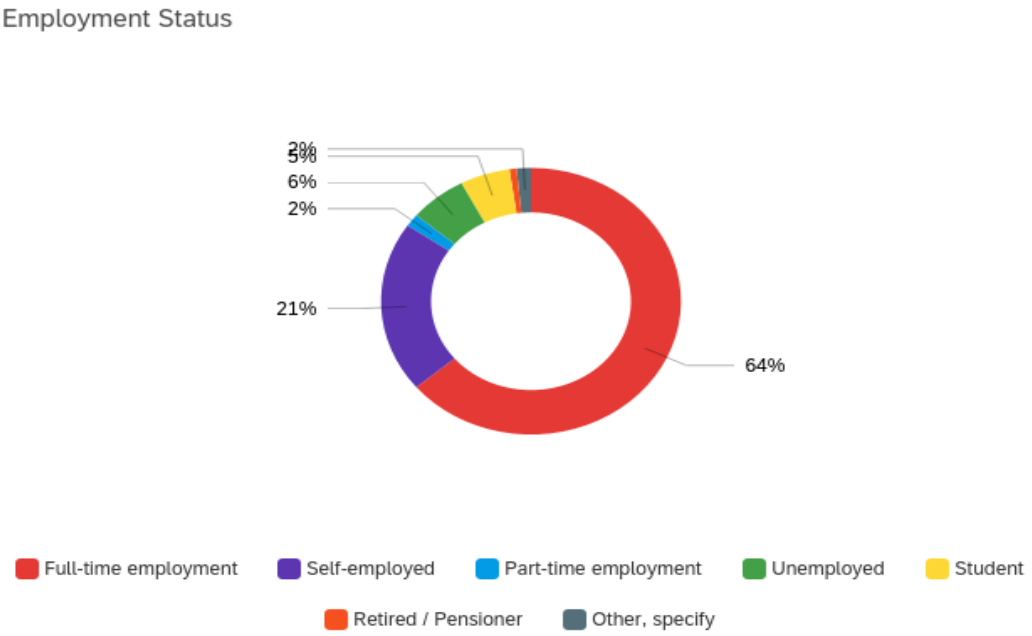


A7.4 Age groups that are interested in the App

Interested on the App



A7.5 Employment status of respondents interested in the App



A7.6 Car wash prices

No	Service Type	Autowash			Mobee Wash		
		Sedan	SUV & DBL Cab	Minibus	Sedan	SUV & DBL Cab	Minibus
1	Wash & go	R 60,00	R 70,00	R 80,00	not available	not available	not available
2	Wash & Dry	R 70,00	R 80.00	R 90,00	R 110,00	R 120,00	R 130,00
3	Wash, dry, & tyres	R 80,00	R 90,00	R 100,00	not available	not available	not available
4	Basic wash	R 100,00	R 110,00	R 120,00	R 160,00	R 180,00	R 220,00
5	Wash & wax	R 140,00	R 150,00	R 160,00	not available	not available	not available
6	Custom Wash	R 230,00	R 250,00	R 270,00	not available	not available	not available
7	Polish	R 300,00	R 350,00	R 400,00	R 320,00	R 350,00	R 370,00
8	Mini valet	R 700,00	R 800,00	R 900,00	not available	not available	not available
9	Full valet	R 900,00	R 1 000,00	R 100,00	R 950,00	R 1 100,00	R 1 450,00

Source: ("Autowash," ; "Mobee Wash,")

Appendix B

B7.1 Balance Sheet based on 1% of household car ownership.

Items	BUDGETS					
	APR 1	APR 2	APR 3	APR 4	APR 5	APR 6
Land and Buildings	-	-	-	-	-	-
Motor Vehicles	R 1 400 000	R 1 400 000	R 1 400 000	R 1 400 000	R 1 400 000	R 1 400 000
Computer Equipment	R 463 000	R 463 000	R 463 000	R 463 000	R 463 000	R 463 000
Office Fittings & Furniture	R 135 500	R 135 500	R 135 500	R 135 500	R 135 500	R 135 500
Fixed assets at cost	R 1 998 500	R 1 998 500	R 1 998 500	R 1 998 500	R 1 998 500	R 1 998 500
Accumulated depreciation	R (344 000)	R (860 000)	R (1 376 000)	R (1 845 700)	R (1 989 467)	R (1 998 500)
NET FIXED ASSETS	**R 1 654 500**	**R 1 138 500**	**R 622 500**	**R 152 800**	**R 9 033**	**-**
Stock						
Debtors						
Cash	R 3 666 775	R 5 195 543	R 8 080 638	R 11 353 716	R 15 452 850	R 20 508 445
CURRENT ASSETS	**R 3 666 775**	**R 5 195 543**	**R 8 080 638**	**R 11 353 716**	**R 15 452 850**	**R 20 508 445**
TOTAL ASSETS	**R 5 321 275**	**R 6 334 043**	**R 8 703 138**	**R 11 506 516**	**R 15 461 884**	**R 20 508 445**
Creditors	R 154 511	R 157 762	R 176 306	R 187 936	R 204 035	R 232 210
Bank overdraft	-	-	-	-	-	-
Current portion of long-term liabilities	(300)	(300)	(300)	(300)	(250)	-
CURRENT LIABILITIES	**R 154 211**	**R 157 462**	**R 176 006**	**R 187 636**	**R 203 785**	**R 232 210**
Loans - Capex	R 1 931 883	R 1 532 183	R 1 132 483	R 732 783	R 333 083	0
Loans - Working Capital	R 1 933 333	R 1 533 333	R 1 133 333	R 733 333	R 333 333	0
Current portion of long-term liabilities	300	300	300	300	250	-
LONG-TERM LOANS	**R 3 865 517**	**R 3 065 817**	**R 2 266 117**	**R 1 466 417**	**R 666 667**	**0**
OUTSIDE FUNDS	**R 4 019 728**	**R 3 223 279**	**R 2 442 123**	**R 1 654 053**	**R 870 452**	**R 232 210**
Share Capital and Premium	1 000	1 000	1 000	1 000	1 000	1 000

Items	BUDGETS					
	APR 1	APR 2	APR 3	APR 4	APR 5	APR 6
Preference Shares	-	-	-	-	-	-
Shareholders' loans	R 250 000	R 250 000	R 250 000	R 250 000	R 250 000	R 250 000
Retained income / (loss)	R 1 050 547	R 2 859 764	R 6 010 015	R 9 601 464	R 14 340 432	R 20 025 235
SHAREHOLDERS' FUNDS	**R 1 301 547**	**R 3 110 764**	**R 6 261 015**	**R 9 852 464**	**R 14 591 432**	**R 20 276 235**
TOTAL FUNDS	**R 5 321 275**	**R 6 334 043**	**R 8 703 138**	**R 11 506 516**	**R 15 461 884**	**R 20 508 445**

B7.2 Income Statement based on 1% of household car ownership.

Items		BUDGETS					
		APR 1	APR 2	APR 3	APR 4	APR 5	APR 6
Turnover		**R 4 563 938**	**R 6 284 927**	**R 8 502 864**	**R 9 226 212**	**R 10 757 763**	**R 12 543 552**
Revenue	Car Wash	R 4 563 938	R 6 284 927	R 8 502 864	R 9 226 212	R 10 757 763	R 12 543 552
	Advert	R 0,00	R 0,00	R 0,00	R 0,00	R 0,00	R 0,00
	Other Services	R -	R -	R	R -	R -	R -
Cost of Sales		**R 228 196**	**R 314 246**	**R 425 143**	**R 461 310**	**R 537 888**	**R 627 177**
Variable Expenses	Car Wash	R 228 196	R 314 246	R 425 143	R 461 310	R 537 888	R 627 177,
	Advert	R 0,00	R 0,00	R 0,00	R 0,00	R 0,00	R 0,00
GROSS PROFIT		**R 4 335 741**	**R 5 970 681**	**R 8 077 720**	**R 8 764 901**	**R 10 219 875**	**R 11 916 374**
Salaries and Wages		R 559 520	R 602 191	R 682 799	R 741 348	R 798 125	R 1 041 752
Operating Expenses		R 608 049	R 726 358	R 769 939	R 816 136	R 865 104	R 917 010
Selling Expenses		R 721 633	R 609 871	R 756 914	R 815 119	R 922 705	R 1 171 923
Administration Expenses		R 550 200	R 583 212	R 618 204	R 655 297	R 694 614	R 736 291
Depreciation		R 344 000	R 516 000	R 516 000	R 469 700	R 143 766	R 9 033
OVERHEADS		**R 2 783 402**	**R 3 037 633**	**R 3 343 85**	**R 3 497 601**	**R 3 424 317**	**R 3 876 011**
PROFIT / (LOSS) BEFORE INTEREST AND TAX		**R 1 552 338**	**R 2 933 048**	**R 4 733 862**	**R 5 267 299**	**R 6 795 558**	**R 8 040 363**
Sundry Income		R -	R -	R -	R -	R -	R -
Interest Paid		R 72 694	R 384 855	R 296 888	R 208 921	R 120 954	R 33 598

Items		BUDGETS					
		APR 1	APR 2	APR 3	APR 4	APR 5	APR 6
Tax		R 429 096	R 738 975	R 1 286 722	R 1 466 929	R 1 935 634	R 2 321 961
PROFIT / (LOSS) AFTER INTEREST AND TAX		**R 1 050 547**	**R 1 809 216**	**R 3 150 251**	**R 3 591 448**	**R 4 738 968**	**R 5 684 802**
RETAINED INCOME / (LOSS) - beginning of year		R -	R 1 050 547	R 2 859 763	R 6 010 015	R 9 601 463	R 14 340 432
RETAINED INCOME / (LOSS) - end of year		**R 1 050 547**	**R 2 859 763**	**R 6 010 015**	**R 9 601 463**	**R 14 340 432**	**R 20 025 235**

Note 1: The Sales are based on an average cost of R110.00 per wash, The App will charge a 20% commission from each transaction. The car wash App should be able to acquire 1% of the 2 667 530 household cars in the targeted metropolitans.

Note 2: The salary annual increase is based on 5% for management and 7% for the supporting staff.

Note 3: The biggest item on the administration expense is rental at 54%, followed by Legal fees (9%), Accounting fees (7%), Auditing fees (5%).

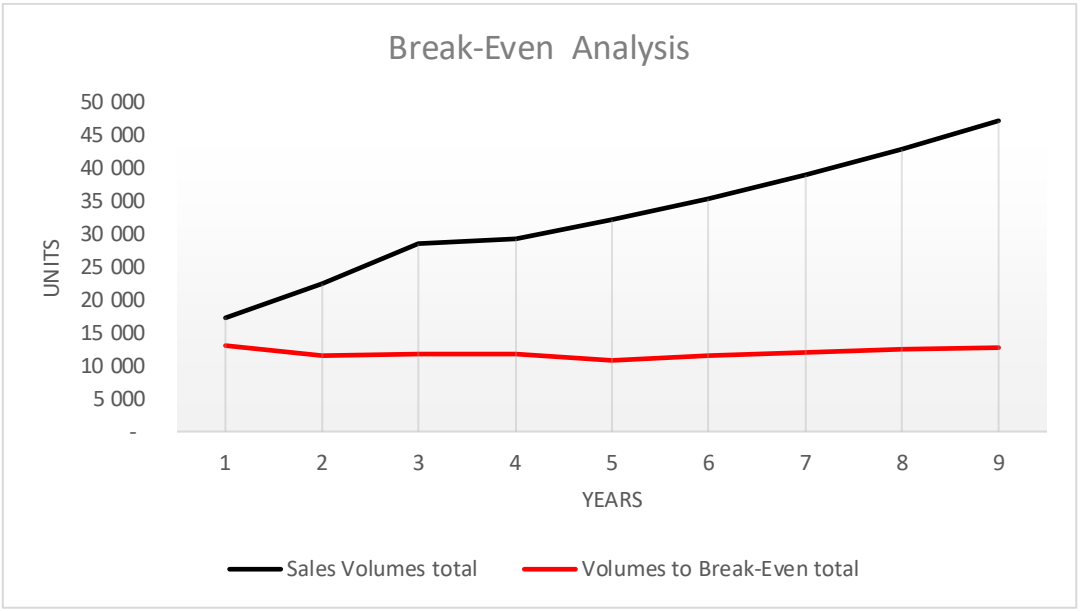
B 7.3 Cash Flow Statement

Items	BUDGETS					
	APR 1	APR 2	APR 3	APR 4	APR 5	APR 6
CASH FLOW FROM OPERATING ACTIVITIES						
Profit (loss) before taxation	R 1 479 644	R 2 548 193	R 4 436 974	R 5 058 378	R 6 674 603	R 8 006 765
Adjustments for:						
Plus: depreciation	R 344 000	R 516 000	R 516 000	R 469 700	R143 767	R 9 033
Plus: interest paid	R 72 695	R 384 856	R 296 889	R 208 922	R 120 955	R 33 599
Changes in Working Capital						
Inventory (increase)/decrease	-	-	-	-	-	-
Trade receivables (increase) / decrease	-	-	-	-	-	-
Trade payables increase/(decrease)	R 154 511	R 3 251	R 18 544	R 11 630	R 16 099	R 28 175
Cash Flow from Operating Activities	**R 2 050 850**	**R 3 452 300**	**R 5 268 406**	**R 5 748 629**	**R 6 955 424**	**R 8 077 572**
Interest Paid	R (72 695)	R (384 856)	R (296 889)	R (208 922)	R (120 955)	R (33 599)
Tax Paid	R (429 097)	R (738 976)	R (1 286 722)	R (1 466 930)	R (1 935 635)	R (2 321 962)
Net cash flow from operating activities	**R 1 549 058**	**R 2 328 468**	**R 3 684 795**	**R 4 072 778**	**R 4 898 834**	**R 5 722 012**

Items	BUDGETS					
	APR 1	APR 2	APR 3	APR 4	APR 5	APR 6
CASH FLOW FROM INVESTING ACTIVITIES						
Acquisition of fixed assets	R (1 998 500)	-	-	-	-	-
Net Cash Flow from Investing Activities	R (1 998 500)	-	-	-	-	-
CASH FLOW FROM FINANCING ACTIVITIES						
Loans - Capex	R 1 931 883	R (399 700)	R (399 700)	R (399 700)	R (399 700)	R (333 083)
Loans - Working Capital	R 1 933 333	R (400 000)	R (400 000)	R (400 000)	R (400 000)	R (333 333)
Share Capital and Premium	R 1 000	-	-	-	-	-
Preference Shares	-	-	-	-	-	-
Shareholders' loans	R 250 000	-	-	-	-	-
Net Cash Flow from Financing Activities	**R 4 116 217**	**R (799 700)**	**R (799 700)**	**R (799 700)**	**R (799 700)**	**R (666 417)**
CHANGES IN CASH AND BANK	R 3 666 775	R 1 528 768	R 2 885 095	R 3 273 078	R 4 099 134	R 5 055 595
Cash and Bank at the beginning of the year	-	R 3 666 775	R 5 195 543	R 8 080 638	R 11 353 716	R 15 452 850
Cash and Bank at the Beginning of the Year	**R 3 666 775**	**R 5 195 543**	**R 8 080 638**	**R 11 353 716**	**R 15 452 850**	**R 20 508 445**

B 7.4 Break Even Analyses

Break-Even Point								
		Year 1	Year 2	Year 3	Year 4	Year 4	Year 5	Year 6
Units sold	Car Wash	17 288	22 459	28 665	29 343	32 277	35 505	39 055
	Advert	0	0	0	0	0	0	0
weighting	Car Wash	100%	100%	100%	100%	100%	100%	100%
	Advert	0%	0%	0%	0%	0%	0%	0%
contribution (CM) per unit	Car Wash	250,80	265,85	281,80	298,71	316,63	335,63	355,76
	Advert	0,00	0,00	0,00	0,00	0,00	0,00	0,00
weighted ave CM per unit	Car Wash	250,80	265,85	281,80	298,71	316,63	335,63	355,76
	Advert	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Break-Even Units		**11 098**	**11 426**	**11 866**	**11 709**	**10 815**	**11 549**	**12 110**
split (B/E)	Car Wash	11 098	11 426	11 866	11 709	10 815	11 549	12 110
	Advert	0	0	0	0	0	0	0


Break-Even Analysis
50 000
45 000
40 000
35 000
30 000
25 000
20 000
15 000
10 000
5 000
-
UNITS
1
2
3
4
5
6
7
8
9
YEARS
Sales Volumes total
Volumes to Break-Even total

Appendix C: Lean Canvas

Problem	Solution	Unique Value Proposition	Unfair Advantage
-Inconvenience of driving to the car washing centre. -The customer can not take more than one car to the car wash centre because he/she can only drive one car at a time. -Not being able to get the washing service at your preferred location. -Difficulty in getting the service after working hours, especially during the week. -Time wasted while querying at the washing centre.	- A convenient digital platform service available at the customer's fingertips to request the car washing service within seconds. -A user-friendly App capable of bringing the service to the customer's location. -An App that will reduce the waiting time to get the car washing service. -An App that has flexible working hours and can provide its service after hours and allow for bookings of service.	A car washing digital platform that links several car washing service providers with customers in that way enables customers to request the services of available service providers and have the autonomy to have the estimated start to completion of the service before confirming the order.	The App will have a large pool of service providers through the registration of existing and new service providers that the customer may not have been aware of them.
Existing Alternatives	**Key Metrics**	**High-Level Concept**	**Channels**
-Customers drive their cars to the car wash centre. -Customers wash their cars them selfs. -Customers calling someone to come was their cars at their place.	**Customer**: -Number of App downloads. -Number of service requests. -Positive & negative reviews. -Cancellation of orders. -Areas of demand for the service. -Rating of service providers. **Service Provider**: -Number of App downloads. -Ratings of customers. -Average turnaround time to deliver the service. **NBV Performance**: -Revenue growth. -Peaked times of service demands. -Complains reported. -A good number of service providers spread around targeted areas.	-Any person can become a ser provider as long as they meet minimum requirements.	- Social media platforms. - Billboards. - Marketing at the Malls. - Word of mouth. - Company website. - E-mails

Cost Structure	Revenue Structure
-App development cost. -Insurance cost (damages to customer and service provider's assets, items & equipment) -Marketing cost (TV adverts, Billboards, street adverts, leasing of marketing space at the malls, advert on logistic vehicles) -Operations cost (administration, software maintenance, internet connections, leased build cost, etc) -Salaries and consultation cost - Research & development (safety features, improved search engine software, tracking systems)	List your sources of revenue. Revenue Model Life Time Value Revenue Gross Margin

Appendix D: WashWise Business Venture Plan, Accompanying Document.

Appendix E: Consent Form & Participant Information Sheet, Accompanying Document.

Appendix F: Ethics Certificate, Accompanying Document

Appendix G: Data Collection Instrument, Accompanying Document