Digital marketing for customer loyalty among price-conscious young consumers on mobile grocery apps

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Abstract

This study explores how digital marketing elements influence customer loyalty among young price-conscious consumers using mobile grocery applications. Grounded in the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB), the research examines key components such as perceived ease of use, personalization, information quality, and interactivity in shaping consumer attitudes and customer loyalty. A quantitative research approach was employed, gathering data through structured surveys from young South African consumers. Findings reveal a strong relationship between digital marketing elements and consumer loyalty, highlighting how targeted promotions, seamless app usability, and interactive engagement enhance brand commitment. This research provides valuable insights for FMCG companies seeking to refine their mobile grocery app strategies, improve user experience, and reduce cart abandonment.

Keywords: *digital marketing elements, customer loyalty, mobile grocery apps*

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CHAPTER 1: INTRODUCTION

1.1 Statement of purpose

The purpose of this quantitative study is to investigate effective digital marketing elements — specifically personalization, information quality, and interactivity — to maintain customer loyalty among young, price-conscious consumers in grocery mobile apps for FMCG brands, with the aim of improving conversion rates and reducing purchase abandonment rates in mobile grocery apps among young adult price-conscious individuals in South Africa.

1.2 Background of the study

South Africans are becoming increasingly mindful of prices due to several factors, including the rise of unemployment (Nduo, 2024). The number of unemployed individuals in South Africa has grown significantly over the past decade, from 4.8million in the fourth quarter of 2013 to 7.9 million in the fourth quarter of 2023 (Maluleke, 2023). Additionally, economic downturns and inflation have further strained household finances (Nduo, 2024). The ongoing energy crisis, coupled with the financial repercussions of the COVID-19 pandemic and high levels of consumer debt, have led to heightened financial caution (Abe & Mugobo, 2021,). Easier access to technology has enabled South African consumers to compare prices effortlessly, prompting them to prioritise essential and value-for-money purchases (Pillay & Struweg, 2023). This shift in consumer behaviour hassignificantly influenced business strategies (Nduo, 2024).

The main dimensions of this shift are digital marketing, customer loyalty, and mobile grocery apps. The adoption of grocery mobile apps in South Africa has added to this transformation and has seen substantial growth in recent years (Mkansi & Nsakanda, 2023). This growth is driven by several factors. The widespread use of smartphones in South Africa has facilitated the rise of mobileapps for various services, including grocery shopping. Affordable smartphones

and improved internet access have made it easier for a larger portion of the population to use these apps (Ligaraba et al., 2023).

Grocery mobile apps offer unparalleled convenience, allowing consumers to shopfor groceries from the comfort of their homes. Features such as home delivery, click-and-collect options, and digital payment methods have made these apps increasingly popular. One of the key attractions of grocery mobile apps is the ability to compare prices across different retailers quickly (Ligaraba et al., 2023). Apps often highlight promotions and discounts, making it easier for consumers to find the best deals. Additionally, the COVID-19 pandemic accelerated the adoption of digital solutions, including grocery mobile apps. With lockdowns and social distancing measures in place, many consumers turned to online shoppingto meet their grocery needs (Mkansi et al., 2020).

Grocery mobile apps are particularly popular among young adults in South Africa. This demographic is typically categorised as Generation Z and Generation Y. Generation Z are particularly born between 1995 and 2002. Furthermore, Generation Y are born between 1980 and 1994 (Ligaraba et al., 2023). They are more tech-savvy and inclined to use digital solutions for their everyday needs (Ligaraba et al., 2023). Having grown up with technology, young adults are morecomfortable using mobile apps for shopping and other services. They are more likely to explore and adopt new technologies quickly (Mehra et al., 2020).Furthermore, young adults often face financial constraints, making them more price-sensitive. Grocery mobile apps that offer price comparisons and loyalty rewards appeal to their need for cost-effective shopping solutions (Ligaraba et al., 2023). With many young adults balancing work, studies, and social activities,the convenience of grocery mobile apps fits well into their busy lifestyles. The ability to shop anytime and anywhere is a significant advantage (Nyrhinen et al.,2023).

Recognising the increasing popularity of grocery mobile apps, fast-moving consumer goods (FMCG) companies in South Africa are adapting their strategies accordingly (Mkansi & Nsakanda, 2023). FMCG products, characterised by high sales volumes, low profit margins, short shelf lives, and strong brand loyalty, areleveraging mobile apps to enhance their digital presence (Ligaraba et al., 2023).FMCG companies are partnering with popular grocery apps to ensure their products are prominently featured, optimising product listings, leveraging digital advertising, and offering exclusive online promotions (Mkansi & Nsakanda,2023).

By integrating their loyalty programs with mobile apps, FMCG brands are fostering customer retention through digital coupons, points systems, and personalized offers to encourage repeat purchases (Cham et al., 2022). The datagenerated from mobile grocery app usage provides FMCG brands with valuableinsights into consumer behaviour and preferences, helping create targeted marketing campaigns and personalised experiences (Yuhao et al., 2023). To meet the demand generated by online shopping, FMCG companies are optimising their supply chains, improving inventory management, enhancing logistics, and ensuring timely delivery to maintain customer satisfaction (Cham etal., 2022).

1.3 Research problem

Young adults in South Africa are increasingly focused on price due to socio-economic pressures. High unemployment rates have led to financial instability among this demographic, making them more cautious with their spending (Ligaraba et al., 2023). Economic challenges such as inflation and the ongoing energy crisis further strain their finances, pushing them to seek cost-effective solutions (Abe & Mugobo, 2021). The accessibility of technology enables these consumers to compare prices easily and find better deals, fostering a more price-sensitive shopping behaviour (Rahmani & Kordrostami, 2023).

In this context, grocery mobile apps become crucial as they offer functionalities that cater to this price-conscious behaviour. These apps facilitate price comparisons and integrate loyalty programs that reward frequent purchases, aligning well with the needs of young, budget-conscious consumers (Mkansi & Nsakanda, 2023). Despite their potential, there is limited research on the effectiveness of these app-based loyalty programs in the South African market (Mkansi et al., 2020).

While digital marketing elements such as personalization, perceived usefulness, and interactivity are recognised as key drivers of online consumer engagement, there is a lack of empirical evidence on how these constructs specifically influence young, price-sensitive consumers' attitudes and loyalty intentions in mobile grocery apps in South Africa. Previous studies have treated personalization primarily as a tool for engagement, without examining its role in shaping attitudes or perceived value among financially constrained consumers

(Rahmani & Kordrostami, 2023). Similarly, although perceived usefulness—a core dimension of the Technology Acceptance Model (TAM)—is known to impact technology adoption, its effect on continued use and loyalty within the context of mobile grocery apps for young, price-conscious South Africans remains underexplored (Abe & Mugobo, 2021). Interactivity has often been examined in broader e-commerce environments, but its specific contribution to fostering positive attitudes toward purchase and reducing cart abandonment in mobile grocery apps is not well understood (Nyrhinen et al., 2023).

Moreover, despite widespread cart abandonment in favour of cheaper options, existing literature provides insufficient insight into how these digital marketing elements can effectively convert online interest into actual purchases among this demographic. This highlights a critical gap in understanding how mobile grocery apps can leverage these constructs to enhance consumer attitudes, build loyalty, and address the challenges of price sensitivity more effectively.

Therefore, this study contributes to the existing literature by investigating how personalization, perceived usefulness, and interactivity—key digital marketing elements grounded in TAM—can be optimized to better meet the needs of young, price-conscious consumers in South Africa. By addressing these gaps, the research aims to provide actionable insights for FMCG brands seeking to enhance customer loyalty and reduce cart abandonment in grocery mobile apps, offering practical recommendations for retaining customers and driving sales in the South African FMCG sector.

1.4 Research objectives

Research objectives:

To investigate the relationship between perceived ease of use and attitude

To investigate the relationship between perceived ease of usefulness and attitude

To investigate the relationship between personalisation and attitude

To investigate the relationship between information quality and attitude

To investigate the relationship between interactivity marketing and attitude

To investigate the relationship between attitude and customer loyalty

1.5 Rationale

The research aimed to address the pressing need to understand and effectively cater to the increasing price-consciousness among young adults in South Africa,driven by various socio-economic factors. Interest in this topic was informed by thehigh unemployment rates, economic downturns, inflation, and energy crises thathave significantly impacted household finances. These conditions have led young adults to prioritise essential and cost-effective products, prompting a necessary shift in marketing elements within the fast-moving consumer goods (FMCG) sector (Ligaraba et al., 2023). While FMCG brands are responding with value oriented products and digital marketing innovations, such as mobile groceryapps, there remained a gap in understanding the effectiveness of these elementsin the South African context, specifically in the dimensions of digital marketing, customer loyalty, and grocery mobile apps (Cham et al., 2022).

The empirical rationale for this study was based on existing literature that highlights the effectiveness of digital marketing campaigns in drawing consumer interest. However, there is a persistent challenge in converting this interest into actual sales, particularly among price-sensitive consumers (Abe & Mugobo, 2021).Additionally, while mobile grocery apps offer price comparisons and loyalty programs, their effectiveness in fostering consumer loyalty among young adults in South Africa remained underexplored (Nyrhinen et al., 2023). This research was crucial to bridge this knowledge gap and provide insights into optimising digital marketing elements to meet the needs of price-conscious young adults.

Conducting this research was valuable as it contributes to the academic literature on digital marketing and consumer behaviour specific to the South African FMCG sector. It offered valuable insights and practical recommendations for FMCG companies to leverage mobile grocery app features and digital marketing elements effectively. These insights help FMCG brands engage young adultconsumers, enhance brand loyalty, and ultimately drive sales. Thus, this researchnot only addresses a significant gap in the literature but also offers actionable insights to inform marketing elements and improve business outcomes in the dynamic South

African market landscape.

1.6 Delimitations of the study

The study focused specifically on the South African context, examining thebehaviour and preferences of young adult consumers within this geographic region without extending its findings to other countries or regions. It was concentrated on young adults, particularly those categorised as Gen Z (18 to 28age range), making this specific demographic the primary focus. Consequently, the findings may not be applicable to other age groups. The study was limited to thecurrent socio-economic conditions in South Africa, such as high unemployment rates, economic downturns, inflation, and energy crises. Changes in these conditions had the ability to affect the applicability of the findings.

The research emphasised the role of digital marketing, customer loyalty programs, and grocery mobile apps, without covering other marketing strategiesor technologies that may also impact consumer behaviour in the FMCG sector. The study was confined to the fast-moving consumer goods (FMCG) sector, including items like packaged foods, beverages, toiletries, and over-the-counter drugs, and does not consider other product categories or industries. The findingswas based on current market conditions and consumer behaviours, and changes over time in technology, market dynamics, or socio-economic factors may influence the relevance of the study's conclusions.

1.7 Definition of terms

Factors	Authors	Meaning

Digital marketing elements	Kannan & Li (2017)	Used to engage customers and enhance brand presence through digital platforms. These elements typically include **i**nteractivity**,** informativeness**,** credibility**,** personalisation, and entertainment**,** among others, which directly impact customer engagement and loyalty
Mobile grocery apps	Wang & Tan (2017)	These are mobile applications designed to facilitate the grocery shopping experience. They allow consumers to browse, compare, and purchase grocery items from their smartphones or tablets. These apps aim to provide convenience and efficiency in groceryshopping.
Customer loyalty	Clark & Scott (2018)	Customer's willingness to repeatedly return toa company to conduct business. Loyalty is often fostered through positive customer experiences, satisfaction with products or services, and the perceived value of the relationship.

Table 1: Definition of Terms

1.8 Assumptions

The research assumed that the current socio-economic factors, such as high unemployment rates, economic downturns, inflation, and energy crises, willremain relatively stable throughout the study period. Significant changes in thesefactors could impact consumer behaviour and the effectiveness of marketing elements. It is also assumed that the adoption rate of smartphones

and internetaccess in South Africa will continue to grow or remain steady, ensuring that mobile grocery apps remain accessible and relevant to the target demographic.

The study assumed that young adults in South Africa will continue to exhibit priceconscious behaviour due to their financial constraints and socio-economic conditions. Any shifts in economic stability or disposable income levels could alterthese behaviour patterns. There was an underlying assumption that digital marketing strategies, such as targeted advertising, loyalty programs, and personalised promotions, continued to be effective in engaging consumers and influencing their purchasing decisions.

The research assumed that mobile grocery apps would remain a popular and preferred method for grocery shopping among young adults in South Africa. Anysignificant changes in consumer preferences for shopping methods could impactthe study's outcomes. The study assumed that the data collected from mobile grocery apps and digital marketing campaigns would be accurate and reliable. Inaccuracies or inconsistencies in data could affect the validity of the research findings.

The research assumed that FMCG companies would continue to invest in digital marketing and partnerships with mobile grocery apps. Furthermore, any major shifts in industry practices or strategic priorities could influence the outcomes. Furthermore, it is assumed that consumers would maintain their trust in digital platforms for shopping and that there would be no significant security breaches or data privacy issues that could deter usage.

CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter provides a comprehensive review of the theoretical framework and variables central to the study, focusing on the interplay between digital marketing elements, customer loyalty, and grocery mobile apps among young adults in South Africa. It discusses the role of digital marketing elements, such as personalisation, information quality, and interactivity, in shaping consumer behaviour and fostering customer retention. The chapter highlights the importance of understanding the preferences and technological adoption patterns of Generation Y and Generation Z, particularly in a rapidly evolving digital landscape.

In addition to addressing the socio-economic context of South Africa, the review examines the underlying theoretical models, including the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB), to provide insights into the factors influencing technology acceptance and consumer intentions. This theoretical exploration supports the study's aim to identify effective strategies for enhancing customer loyalty through tailored digital marketing efforts.

This chapter will also provide a comprehensive understanding of the factors influencing consumer loyalty in grocery mobile apps through an analysis of diverse literature. These insights serve as a foundation for the study's contribution to the field, emphasising the practical implications for businesses seeking to thrive in competitive digital marketplaces.

2.2 Dimension 1: Digital Marketing Elements

In the South African context, digital marketing elements such as personalisation, information quality, and interactivity are particularly vital for mobile grocery apps due to the unique consumer and market dynamics. Personalisation plays a key role in catering to younger, price-sensitive consumers, particularly Generation Y and Generation Z, who expect tailored shopping experiences. Personalised recommendations and offers make consumers feel valued, which fosters loyalty—especially important in an economy where businesses need to cater to varying

budgets and preferences (Grewal et al., 2020).

Equally crucial is information quality, as South African consumers rely on accurate, up-to-date information to make informed purchasing decisions. With frequent fluctuations in prices and availability, grocery apps that provide clear, reliable, and detailed product information can build trust and secure long-term loyalty (Li et al., 2021). A study by McKinsey (2022) found that 68% of South African online shoppers consider accurate product information a critical factor in their purchasing decisions.

Interactivity enhances the customer experience by allowing consumers to actively engage with a brand's digital content. This two-way communication, where users provide feedback, make decisions, and receive personalised responses in real time, transforms consumers from passive recipients to active participants. In South Africa, where consumers seek responsive and engaging digital experiences, features like click-through ads and gamified promotions create immersive shopping experiences, driving higher customer retention and loyalty (Kannan & Li, 2017). According to We Are Social and Hootsuite (2023), 74% of South African internet users interacted with quizzes, polls, or other interactive elements in the past year, highlighting the importance of interactivity in digital marketing.

2.3 Dimension 2: Customer Loyalty

Customer loyalty focuses on cultivating and maintaining strong, enduring relationships with customers. Strategies aimed at retaining customers include personalized experiences, effective communication, loyalty programs, and consistent product quality (Nyrhinen et al., 2023). For Generation Y, known for their preference for relational and experience elements, these strategies resonatewell (Ligaraba et al., 2023). Generation Z, with their high digital literacy, also values personalised and seamless experiences facilitated by technology (Ligaraba et al., 2023).

2.4 Dimension 3: Grocery Mobile Apps

Grocery mobile apps provide functionalities such as price comparisons, loyalty programs, user-friendly interfaces, and convenient delivery options (Nyrhinen et al., 2023). These apps cater to

the increasing preference for online shopping convenience among young consumers (Mkansi & Nsakanda, 2023). Both Generation Y and Generation Z appreciate the convenience and efficiency of mobile apps, making these platforms crucial for engaging these groups (Ligarabaet al., 2023).

2.5 Dimension relations

Dimension Relations:

Customer loyalty, digital marketing elements, and grocery mobile apps are interconnected dimensions that collectively enhance consumer engagement and business outcomes. Digital marketing elements influence customer loyalty by engaging consumers through various digital channels, delivering personalized messages, and fostering brand loyalty. Grocery mobile apps serve as technological enablers that enhance digital marketing efforts and customer loyalty initiatives by providing a convenient and personalized shopping experience.

Generation Y:

Generation Y, born between 1980 and 1994, represents a significant demographic due to their established educational and income levels, which contribute to their purchasing power and influence in the market (Ligaraba et al., 2023). This group is characterized by its tech-savviness and preference for relational and experiential elements in marketing, making them less responsive to traditional advertising approaches (Naumovska, 2017). In South Africa, Generation Y consumers notably favour buying groceries online, reflecting their adaptability to digital solutions and convenience-driven preferences (Ligaraba et al., 2022). Furthermore, their expectations emphasize relational and experiential aspects, which marketers can leverage to create long-term value through effective communication campaigns and compelling value propositions (Mkansi & Nsakanda, 2023). Understanding these preferences and behaviours is crucial for designing digital marketing strategies that build loyalty and sustain engagement.

Generation Z:

Generation Z, born between 1995 and 2002, is characterized by their comfort withtechnology and

digital environments (Ligaraba et al., 2023). This generation hassignificant economic power and is expected to dominate the consumer market (Naumovska, 2017). They value personalized and seamless digital experiences and are influenced by their sophisticated media and technology environment (Dalziel & De Klerk, 2021). Engaging Gen Z requires leveraging digital platforms effectively to meet their high expectations for technology integration and personalisation.

2.6 Theoretical Framework

Technology Acceptance Model (TAM):

The Technology Acceptance Model (TAM) is a theoretical framework used to assess the acceptance and use of various technologies, initially proposed by Davis in 1986. TAM examines the influence of system attributes on the adoptionof computer information systems, positing that perceived ease of use and perceived usefulness are fundamental determinants of user acceptance (Davis, 1986). Over the years, TAM has been adapted and expanded across numerous fields, including wireless devices, the Internet, smartphone usage, Internet banking, online shopping, and healthcare (Bauerova & Klepek, 2017; Nyagadzaet al., 2022a). Research has consistently demonstrated TAM's robustness in predicting technology acceptance and usage. For instance, studies have found that perceived usefulness and ease of use significantly influence users' attitudestoward technology, which in turn affects their behavioural intentions and actual usage (Chien, Kurnia, & von Westarp, 2003; Pearson, 1894; Pelet & Papadopoulou, 2015).

Despite its widespread application, TAM has faced criticisms, primarily regardingits simplicity and the exclusion of external factors that may influence technology adoption, such as social influence and facilitating conditions (Bagozzi, 2007). However, its adaptability and empirical strength make it a valuable framework forvarious contexts, including online grocery shopping. In this study, TAM is particularly relevant for investigating digital marketing elements to maintain customer loyalty among price-conscious young consumers in grocery mobile apps in South Africa. By understanding the factors influencing technology acceptance, businesses can develop more effective digital marketing elements that resonate with this demographic, ultimately enhancing customer loyalty and engagement. The steady increase in online grocery shopping, evidenced by year over-year sales growth, underscores the importance of leveraging TAM to gain insights into consumer behaviour and preferences in the digital marketplace (Bauerova & Klepek, 2017; Lama, 2020).

Theory of Planned Behaviour (TPB):

The Theory of Planned Behaviour (TPB) is a psychological theory that aims to predict and understand human behaviour in specific contexts. It was developed by Icek Ajzen in 1985 as an extension of the Theory of Reasoned Action (TRA), which he formulated alongside Martin Fishbein. TPB posits that behavioural intentions, which are the most immediate predictors of behaviour, are influencedby three factors: attitudes toward the behaviour, subjective norms, and perceivedbehavioural control (Ajzen, 1985). Attitudes refer to the degree to which a personhas a favourable or unfavourable evaluation of the behaviour in question. Subjective norms involve the perceived social pressure to perform or not performthe behaviour. Perceived behavioural control reflects the ease or difficulty of performing the behaviour, based on past experiences and anticipated obstacles.

Numerous studies have investigated the TPB across various domains, including health behaviours, environmental actions, and technology adoption. These studies have generally found strong support for the model's ability to predict intentions and behaviours (Armitage & Conner, 2001). For instance, research in the context of online shopping has shown that attitudes, subjective norms, and perceived behavioural control significantly influence consumers' intentions to shop online (Pavlou & Fygenson, 2006). However, TPB has faced criticism for its reliance on self-reported data, which may be subject to biases, and for its assumption that intention always leads to behaviour, which is not always the case in real-world scenarios (Sniehotta, Presseau, & Araújo-Soares, 2014).

Understanding the factors that influence these consumers' intentions to use grocery apps can help marketers design more effective digital marketing elements. By addressing attitudes, subjective norms, and perceived behavioural control, businesses can better tailor their approachesto meet the needs and preferences of this demographic. This relevance is particularly significant given the increasing popularity of online grocery shopping

and the competitive nature of the market, which necessitates innovative strategies to attract and retain loyal customers (Ajzen, 1991; Conner & Armitage,1998).

2.7 Conceptual Framework

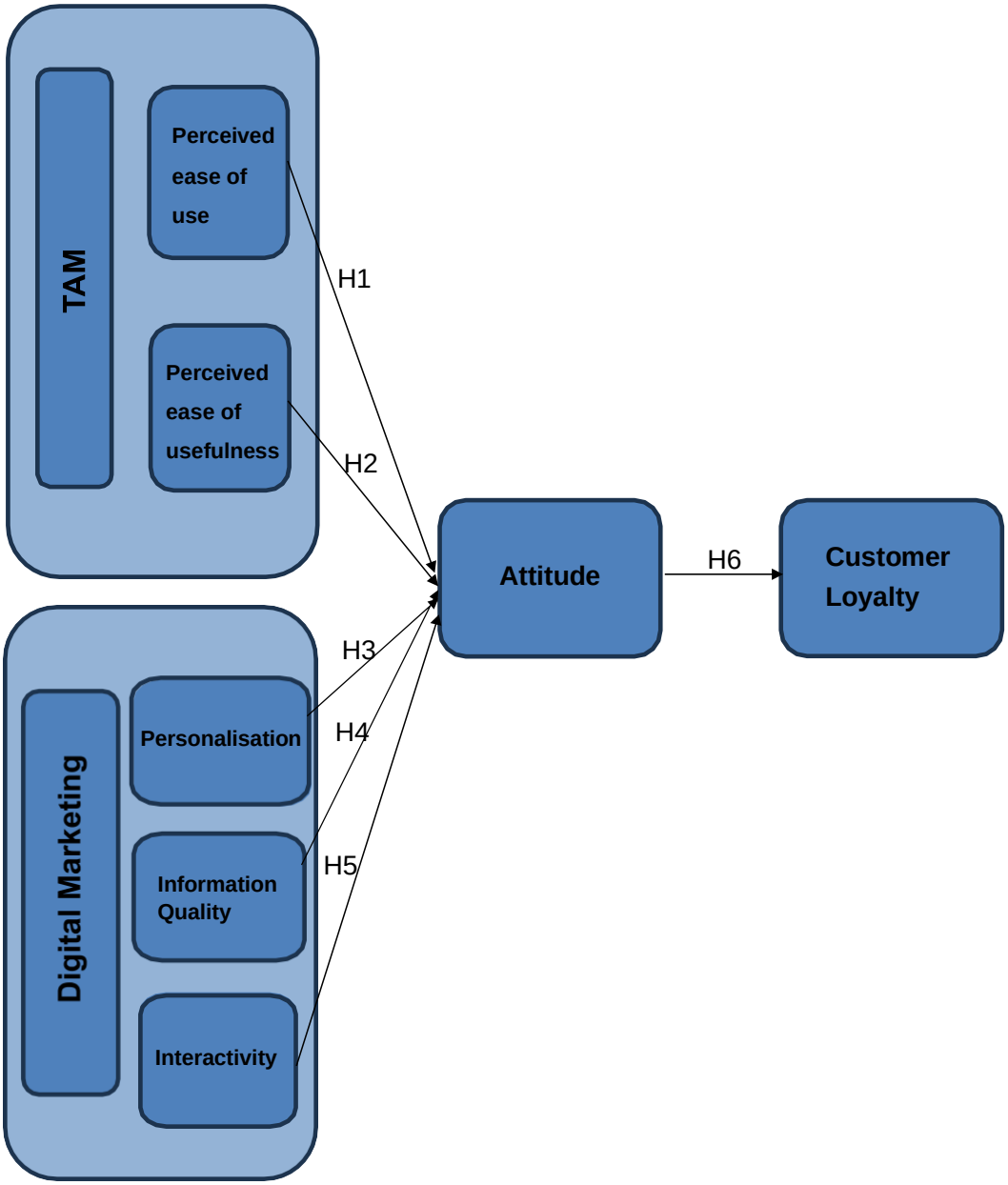

Figure 1: Conceptual Framework

As Figure 2 illustrates, The conceptual framework isanchored in the Technology Acceptance Model (TAM), which includes the constructs of perceived ease of use and perceived usefulness. Moreover, the framework emphasizes three key digital marketing elements: personalisation, information quality, and interactivity.

H1: Perceived Ease of Use and Attitude

Perceived ease of use refers to how effortlessly a user believes they can interact with a system or application. Numerous studies support its significant role in shaping attitudes toward technology. Davis (1989) highlighted that systems perceived as easier to use enhance user satisfaction and foster positive attitudes, forming a cornerstone of the Technology Acceptance Model (TAM). Similarly, Venkatesh and Bala (2008) confirmed that perceived ease of use minimizes cognitive strain, directly influencing user attitudes. Moreover, King and He (2006) identified a strong, consistent relationship between ease of use and user perceptions across various contexts. Based on this literature, we hypothesise that *perceived ease of use positively influences user attitudes.*

H2: Perceived Usefulness and Attitude

Perceived usefulness refers to the extent to which users believe that using a system enhances their performance or efficiency. This concept has been widely examined in relation to user attitudes. Davis (1989) established it as a fundamental determinant of technology acceptance, demonstrating that when users perceive a system as beneficial, their attitudes toward it improve significantly. Further studies by Venkatesh and Davis (2000) highlighted the robust relationship between perceived usefulness and user attitudes, particularly in the context of digital tools and services. Recent research, such as that by Ouyang et al. (2017), confirms that perceived usefulness positively influences satisfaction and behavioral intentions, which are closely tied to user attitudes. Based on this literature, we hypothesise that *perceived usefulness positively influences user attitudes.*

H3: Personalisation and Attitude

Personalisation in marketing refers to tailoring content, recommendations, or interactions to an individual's preferences or past behavior. Research shows its significant impact on user attitudes. Tam and Ho (2006) found that personalization enhances consumer engagement by creating a sense of relevance, which positively influences attitudes toward digital platforms. Similarly, Steinhoff et al. (2019) demonstrated that personalized interactions strengthen emotional connections, fostering favorable attitudes. Based on this literature, we hypothesise that

personalization positively influences user attitudes.

H4: Information Quality and Attitude

Information quality refers to the accuracy, relevance, and timeliness of information provided by a system. It is a critical factor influencing user attitudes, as high-quality information fosters trust and satisfaction. DeLone and McLean (2003) established the importance of information quality in their Information Systems Success Model, showing its significant impact on user perceptions and attitudes. Similarly, Chen and Cheng (2009) found that high-quality information positively affects users' emotional and cognitive evaluations, reinforcing favorable attitudes. These findings highlight the vital role of information quality in shaping positive user experiences. Based on this literature, we hypothesise that *information quality positively influences user attitudes.*

H5: Interactivity and Attitude

Interactivity refers to the degree to which users can engage and communicate with a system, contributing to a more personalized and dynamic user experience. Perceived interactivity has been shown to positively influence user attitudes towards digital platforms. For instance, Sicilia et al. (2005) found that higher levels of perceived interactivity in web environments lead to more favorable attitudes toward e-vendors' websites. Similarly, Ruan and Wang (2024) demonstrated that perceived interactivity, particularly in mobile social media, enhances user attitudes by fostering engagement, trust, and connection. This interaction not only strengthens emotional attachment but also promotes increased platform stickiness and continued usage. Therefore, based on these findings, we hypothesize that *interactivity positively influences user attitudes.*

H6: Attitude and Customer Loyalty

A positive user attitude towards a system or product is often a precursor to customer loyalty. When users have favorable perceptions of a platform, they are more likely to continue using it and recommend it to others. Studies have shown that user attitude significantly impacts customer loyalty across various domains. For instance, Dick and Basu (1994) found that attitude is a central determinant of loyalty, with positive attitudes leading to repeat usage and advocacy. In the context of mobile apps, research by Chaudhuri and Holbrook (2001) supports the notion that

consumer satisfaction and loyalty are strongly influenced by positive attitudes. Furthermore, research by Zhang et al. (2016) reinforced that a favorable attitude towards a digital platform directly affects users' loyalty behaviors, including continued app usage and brand advocacy. Thus, based on this literature, we hypothesize that *attitude positively influences customer loyalty*.

Hypothesis:

H1: Perceived ease of use has a significant positive effect on attitude
H2: Perceived ease of usefulness has a significant positive effect on attitudeH3: Personalisation has a significant positive effect on attitude
H4: Information quality has a significant positive effect on attitudeH5: Interactivity has a significant positive effect on attitude
H6: Attitude has a significant positive effect on customer loyalty

2.8 Conclusion

Overall, the key theoretical frameworks mentioned in this chapter was Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB), alongside variables such as personalisation, information quality, and interactivity. These elements were explored to understand their impact on customer loyalty and digital engagement through grocery mobile apps among young adults in South Africa. An essential takeaway is that integrating these theories with digital marketing elements can significantly enhance consumer retention and grocery app usability in competitive markets.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Chapter 3 outlines the methodological framework used to examine the relationship between specific digital marketing elements and customer loyalty. Grounded in a positivist paradigm, this quantitative research adopts an objectivist ontology, viewing phenomena such as customer loyalty and price sensitivity as measurable constructs. The chapter details the structured research approach, which includes a survey design for data collection and statistical analysis to derive insights into patterns and trends among the target demographic. Therefore, by specifying the research paradigm, design, data collection methods, sampling approach, and analytical tools, this chapter ensures that the methodological choices are robust, replicable, and aligned with the study's objectives.

3.2 Research Paradigm

For a quantitative study investigating digital marketing elements to maintain customer loyalty among price-conscious young consumers in grocery mobile apps in South Africa, a clear framework of research paradigm, ontology, epistemology, and axiology is essential. This study is grounded in the positivist research paradigm, which posits that reality is objective and can be measured through scientific methods (Bryman, 2016). Positivism supports the use of statistical techniques to test hypotheses and analyse data, aligning well with the goal of uncovering generalizable patterns in consumer behaviour and preferences (Creswell & Creswell, 2017).

In terms of ontology, the study adopts an objectivist stance. This perspective assumes that reality exists independently of human perception and can be quantified through empirical data (Bryman, 2016). This means that consumer behaviours, such as loyalty and price sensitivity, are viewed as real phenomenathat can be objectively measured and analysed without being influenced by the researcher's perspectives.

The epistemology of this research is rooted in empiricism, which emphasizes theacquisition of knowledge through observation and empirical evidence (Creswell & Creswell, 2017). This approach values observable and measurable evidence, supporting the use of quantitative data collection methods such as surveys and statistical analysis to draw conclusions about the impact of digital marketing elements on customer loyalty.

Regarding axiology, the study adheres to value-neutrality, aiming to maintain objectivity and minimise the influence of personal values or biases (Bryman, 2016). The research focuses on producing reliable and valid results, ensuring that the findings reflect the true relationship between digital marketing elements and customer loyalty, rather than being swayed by the researcher's subjective opinions.

3.3 Research approach

Research Approach: Quantitative Approach

For a quantitative study investigating digital marketing elements to maintain customer loyalty among price-conscious young consumers in grocery mobile apps in South Africa, several key assumptions underpin the chosen research approach. These assumptions are essential to ensuring that the research methodology is both robust and relevant.

The first assumption is that customer loyalty, price consciousness, and digital marketing elements represent objective realities that can be measured and quantified. This foundational belief is central to quantitative research, which posits that phenomena can be observed and analysed through empirical data (Bryman,2016). By treating customer loyalty and price consciousness as quantifiable constructs, the study relies on the premise that these variables can be reliably assessed through surveys and statistical methods.

Another critical assumption is that the relationships between digital marketing elements and customer loyalty are consistent across the target population. Thisimplies that findings from the sample can be generalized to the broader population of price-conscious young consumers using grocery mobile apps in South Africa (Creswell & Creswell, 2017). This assumption justifies the use of statistical techniques to infer trends and patterns that extend beyond the specificsample studied, ensuring the generalizability of the results.

The study also assumes that customer loyalty and the impact of digital marketingelements can be accurately measured using standardised instruments. This involves utilising validated survey tools and metrics to quantify variables such asconsumer preferences, engagement levels, and the effectiveness of marketing strategies (Saunders, Lewis, & Thornhill, 2019). The assumption

here is that these constructs are operationalizable and that the data collected will yield reliable insights into the research questions.

Objectivity and neutrality are also crucial assumptions for this research. It is assumed that the study can be conducted without the researcher's biases influencing the outcomes. This assumption is vital for maintaining the integrity of quantitative research, ensuring that data collection and analysis are objective andthat the findings are based solely on empirical evidence rather than subjective interpretation (Bryman, 2016). Maintaining objectivity is essential for producing valid and unbiased results.

Lastly, the research assumes that the relationships between variables, such as the impact of specific digital marketing elements on customer loyalty, can be statistically analysed and interpreted. This involves using statistical methods to test hypotheses and identify significant relationships (Creswell & Creswell, 2017).The assumption is that these relationships can be quantified, and that statistical analysis will reveal meaningful insights.

3.4 Research design

Research Design: Survey Research

Survey research design is particularly well-suited forthe study’s objectives due to its ability to efficiently collect quantifiable data froma large sample of respondents.

Appropriateness for the Study:

The survey research design is appropriate for this study as it allows for the collection of standardised data from a broad population, making it possible to analyse patterns and correlations related to customer loyalty and digital marketing elements. Surveys can be effectively used to gather information on consumers' attitudes, preferences, and behaviours regarding digital marketing elements employed by grocery mobile apps (Creswell & Creswell, 2017). This approach aligns well with the quantitative nature of the research, which seeks to measure and analyse these variables statistically.

Guiding Research Questions:

The survey will guide the study in answering research questions by providing structured data that can be statistically analysed. Using a structured questionnaire will enable the researcher to identify trends and relationships between marketing strategies and customer loyalty, thus addressingthe research questions with empirical evidence (Saunders, Lewis, & Thornhill, 2019).

Advantages and disadvantages:

Surveys offer several advantages as a research tool in this study. The wide reach of surveys allows for quick and cost-effective distribution to a large number of respondents, facilitating data collection from a diverse sample of young consumers across South Africa (Bryman, 2016). The quantitative nature of surveys enables precise measurement of variables, allowing for statistical analysis that provides robust insights into the effectiveness of digital marketing elements on customer loyalty (Creswell & Creswell, 2017). Furthermore, the standardization of surveys ensures that all respondents receive the same questions in a consistent format, which minimizes variability in responses and enhances data reliability (Saunders, Lewis, & Thornhill, 2019).

Despite these advantages, surveys also present certain limitations. The structured format may not fully capture participants' attitudes or motivations, potentially reducing data richness and overlooking nuances in consumer behavior (Bryman, 2016). Additionally, response bias can occur if participants provide socially desirable answers or misinterpret questions, which may impact data accuracy (Saunders, Lewis, & Thornhill, 2019). Managing and analyzing large volumes of survey data is also a complex and time-intensive task, necessitating careful planning and the use of advanced statistical tools to ensure data quality (Creswell & Creswell, 2017).

3.5 Data collection methods

The population for this study comprised young, price-conscious consumers in South Africa who use grocery mobile apps. The sample was drawn using a non-probability, purposive sampling method, targeting young adults aged 18–35, as this group is most active on mobile apps and highly sensitive to price due to prevailing socio-economic conditions (Ligaraba et al., 2023). Participants were selected based on their willingness to participate and their experience using grocery mobile apps.

Data was collected through a questionnaire, as presented in Appendix A. This approach aligned with the quantitative nature of the study and ensured the data captured was sufficient to address the research questions and objectives.

The questionnaire was designed to gather a wide range of information, including demographic details for segmenting respondents, insights into the digital marketing elements employed by grocery apps, and measures of customer loyalty among young, price-conscious consumers. The structured format facilitated the collection of specific, quantifiable data necessary for assessing the effectiveness of digital marketing elements and understanding their impact on customer loyalty (Bryman, 2016). The standardization inherent in questionnaires ensured consistency in responses, which was essential for conducting statistical analyses and identifying patterns and relationships (Saunders, Lewis, & Thornhill, 2019).

Data was collected through digital distribution methods, including email and social media platforms such as Instagram, Facebook, and Twitter. Questionnaires were sent to a curated list of young consumers via email and shared broadly on social media, expanding the reach and ensuring engagement with a larger, diverse sample of the target demographic. This online distribution was efficient and cost-effective, allowing for the rapid collection of substantial data and providing timely insights into digital marketing elements (Bryman, 2016). Social media platforms were particularly effective, given their popularity among young consumers (Saunders, Lewis, & Thornhill, 2019).

When digital distribution proved insufficient in reaching the targeted sample size, physical copies of the questionnaire were distributed on university campuses and other locations frequented by young adults. This face-to-face method yielded higher response rates and more thoughtful responses, as it allowed for immediate clarification of questions, thus enhancing data quality (Dillman, Smyth, & Christian, 2014).

The combination of digital and physical distribution methods ensured a comprehensive data set that captured diverse responses, enhancing the validity and reliability of the findings. While challenges such as the potential exclusion of individuals without internet access or the resource demands of physical surveys existed, these were outweighed by the advantages of obtaining

representative and high-quality data (Creswell & Creswell, 2017; Dillman, Smyth, & Christian, 2014).

3.6 Population and sample

Population

In research methodology, the population is defined as the entire group of individuals or entities sharing characteristics relevant to the study, from which data will be drawn to address the research objectives. Properly identifying the population ensures that findings are representative and applicable to the research questions (Creswell, 2014; Bryman, 2016).

The population for this study consists of young adults in South Africa who use grocery mobile apps. This group is typically categorised as Generation Z and Generation Y. Generation Z are particularly born between 1995 and 2002 (Ligaraba et al., 2023). Generation Zs around 27.5 million people, which is 46% of the overall population in South Africa (Naumovska, 2017). Furthermore, Generation Y are born between 1980 and 1994 (Ligaraba et al., 2023). The Generation Y are made up around 27% of South Africa's population, or 14 million people (Statista, 2022). They are familiar and comfortable with using digital technologies and mobile apps, reflecting their tech-savviness. Additionally, they represent diverse socio-economic backgrounds, especially those affected by highunemployment rates, economic downturns, and other socio-economic factors influencing their purchasing behaviour.

Sample and sampling method

For the sampling method, convenience sampling, a type of non-probability sampling, will be employed. Based on a sample size formula as identified below, commonly used in similar research, an initial target of 384 responses was established. This formula, validated by Kumar and Gupta (2016), a journal article with a similar study, provides a suitable benchmark for gathering sufficient data to address the research questions effectively.

1. **Z-value (Z)** for 95% confidence level = 1.96
2. **Proportion (p)** = 0.5 (used when there's no specific estimate)
3. **Margin of error (E)** = 0.05

The formula for calculating the sample size (n) is:

$$n = \frac{Z^2 \cdot p \cdot (1-p)}{E^2}$$

Substitute the values into the formula:

$$n = \frac{(1.96)^2 \cdot 0.5 \cdot (1-0.5)}{0.05^2}$$

Calculate the values:

$$n = \frac{3.8416 \cdot 0.5 \cdot 0.5}{0.0025}$$
$$n = \frac{3.8416 \cdot 0.25}{0.0025}$$
$$n = \frac{0.9604}{0.0025}$$
$$n = 384.16$$

Thus, the calculated sample size is approximately 384 respondents. The actual number of usable

This sample will be diverse in terms of gender, socio-economic status, and geographical distribution within South Africa to capture a broad range of experiences and perspectives. Participants will be regular users of grocery mobile apps, ensuringthey can provide relevant and informed responses about their experiences. Additionally, the sample will include individuals who identify as price-conscious, as this is a key focus of the study.

Convenience sampling offers several advantages, including ease of implementation and cost-effectiveness, as it allows researchers to gather data quickly from readily available participants (Etikan et al., 2016). However, it also has notable disadvantages, such as potential bias and limited generalizability, since the sample may not accurately represent the broader population (Bornsteinet al., 2013). Despite these limitations, convenience sampling is suitable for this study due to its ability to provide timely and relevant insights into the specific behaviours and attitudes of grocery mobile app users in South Africa.

3.7 The research instrument

In this study, each section of the questionnaire is carefully crafted to address specific aspects of the research questions, ensuringthat the data collected is both relevant and comprehensive. By

combining demographic data, perceptions of marketing strategies, measures of customer loyalty, price sensitivity, and open-ended feedback, the questionnaire provides arobust framework for analysing how digital marketing elements influence customer loyalty among price-conscious young consumers in grocery mobile apps in South Africa. Moreover, the questionnaire systematically addresses variables central to the research questions. Key constructs covered in the instrument include:

- **Perceived Ease of Use** and **Perceived Usefulness**: Citing the work of Musikavanhu and Musakuro (2023), these sections assess how the app's design and functionality influence user satisfaction and engagement.

- **Personalisation** and **Information Quality**: Adapted from Ates and Odzic (2023, as cited in Tran, 2017) and Chellappa & Sin (2005), these sections evaluate the impact of tailored content and information reliability on user loyalty.

- **Interactivity**: This part, inspired by Gao and Rau (2009), measures user engagement through interactive features within the app.

- **Attitude** and **Customer Loyalty**: Drawing on Kim (2021) and Manyanga et al. (2022), these sections capture users' overall sentiment toward grocery apps and their likelihood of continued usage or recommendations.

3.8 Procedure for data collection

Considering the limitations associated with traditional outreach methods, this study implements a targeted strategy to enhance the effectiveness of data collection. Use of a strong personal network of professionals who interact with customers on a daily basis will be utilised to facilitate direct engagement with individuals within the study's demographic. This network-based approach not only aims to improve response rates but also ensures the relevance of the data through meaningful and targeted connections. To further support this strategy, a link to the online questionnaire will be personally distributed in high-traffic locations frequented by the target demographic, such as community centers. This on-site distribution method provides the added benefit of face-to-face interaction, which can boost response rates, allow for immediate clarification of questions, and enhance data accuracy. Moreover, this approach ensures that

respondents who may be difficult to reach through online channels are included. Collectively, these two strategies are designed to optimise response quality and achieve a representative sample, thereby addressing issues of accessibility and diversity within the participant pool.

3.9 Data analysis strategies and interpretation

Descriptive statistics will be employed to summarise demographic and response data, facilitating the identification of trends and patterns while providing a comprehensive overview of the sample characteristics (Field, 2013). Following this, regression analysis will be utilized to explore the relationships between various digital marketing elements, including personalisation, information quality, and interactivity, and customer loyalty. This analysis will help identify key factors influencing loyalty and assess the impact of different strategies (Hair et al., 2019). SPSS will be instrumental in generating frequency tables, charts, and regression outputs, ensuring a thorough understanding of the data (Pallant, 2020). While descriptive statistics offer simplicity and clarity, they may overlook more subtle nuances within the data. Conversely, regression analysis provides valuable predictive insights but can be complex and reliant on specific assumptions (Field, 2013). By integrating these methods within SPSS, this study aims to achieve both a broad and detailed examination of the data, thereby enhancing the understanding of effective digital marketing elements in grocery mobile applications.

3.10 Possible limitations and challenges of the study

This study will utilise convenience sampling, which may introduce bias as readily accessible participants may not accurately represent the broader population of grocery mobile app users (Bornstein et al., 2013). Focusing on regular, price-conscious users could exclude less frequent users, thereby narrowing the study's scope (Etikan et al., 2016). To mitigate these limitations, the study will diversify the sample through multiple outreach channels. Additionally, reliance on self-reported survey data may lead to inaccuracies due to biases (Nederhof, 1985) and poorly constructed questions (Dillman et al., 2014). To address this, the survey will undergo pre-testing for clarity, and participants will receive explicit instructions. While descriptive statistics will summarise trends, this approach may oversimplify complex interactions (Field, 2013), and

regression analysis may face omitted variable bias if assumptions are violated (Hair et al., 2019). Diagnostic tests will verify assumptions, and alternative models will be considered. Lastly, the focus on South Africa may limit findings' applicability to other regions with differing economic conditions or consumer behaviors (Abe & Mugobo, 2021), necessitating contextualisation within the South African market and implications for future research in diverse contexts.

3.11 Quality Assurance

External validity

External validity refers to the applicability of research results to broader populations or different contexts (Creswell, 2014; Saunders et al., 2019). To maximize generalizability, a stratified random sampling method will be used to select participants from diverse universities and social media platforms across South Africa, reflecting a wide range of demographic characteristics. This approach aims to enhance the applicability of findings to similar settings and markets (Bryman & Bell, 2015). However, the study may face limitations due to its specific geographic focus and demographic, which might restrict applicability to other regions with different conditions (Trochim & Donnelly, 2007). To address this, the study will document the context and characteristics of the sample and use comprehensive statistical analyses to improve the robustness of generalizations (Creswell & Plano Clark, 2017). This well-defined sampling strategy and consideration of contextual factors aim to enhance external validity and ensure valuable insights into digital marketing elements and customer loyalty (Saunders et al., 2019).

Internal validity

Investigating digital marketing elements to maintain customer loyalty among price-conscious young consumers in grocery mobile apps in South Africa requires addressing internal validity to ensure the accuracy and reliability of the study's results. To achieve this, the study will use a validated questionnaire pretested through a pilot study to eliminate ambiguities (Creswell & Creswell, 2017), employ random sampling to minimize selection bias (Field, 2018), and control for confounding variables through multiple regression analysis (Shadish, Cook, & Campbell, 2002). These steps help isolate the specific impact of digital marketing elements on customer

loyalty. Additionally, measures to reduce social desirability bias, such as ensuring respondent anonymity, will be implemented (Podsakoff et al., 2003). Despite potential challenges, these strategies aim to maximise internal validity, ensuring the findings accurately reflect the true relationship between digital marketing elements and customer loyalty in this demographic (Trochim & Donnelly, 2007).

3.12 Reliability

Reliability refers to the consistency of a measure, indicating that the study should yield the same results under consistent conditions (Creswell & Creswell, 2017). To maximize reliability, the study will employ a standardized, previously validated questionnaire and conduct a pilot study to refine the questions. Additionally, a stratified random sampling method will be implemented to ensure a representative sample (Field, 2018; Bryman & Bell, 2015; Saunders et al., 2019). Consistent data collection procedures and statistical testing for reliability, such as Cronbach's alpha, will be utilized, with a threshold of 0.70 or higher indicating acceptable reliability (Creswell & Plano Clark, 2017; Field, 2018). While the self-reported nature of survey data can present challenges, these rigorous methods are designed to minimize such issues and enhance the study's overall reliability.

3.13 Ethical considerations

Ethical considerations are crucial in ensuring that research is conducted respectfully and ethically. For the study on digital marketing elements, customer loyalty, and grocery mobile apps among young adults in South Africa, several ethical aspects must be addressed. Participants should be fully informed about the study's purpose, methods, and potential impacts, and they must voluntarily agree to participate through a signed consent form without coercion. Moreover, the research will be submitted to the university's ethics committee for review and approval, ensuring that all ethical standards are upheld.

Researchers must prioritize the protection of participants' identities by anonymising data, securing data storage, and restricting access to authorised personnel. Furthermore, participants should retain the right to withdraw from the study at any point without facing any consequences, thereby ensuring voluntary participation. Additionally, the study must aim to minimize potential

harm or discomfort to participants, with a continual emphasis on their well-being throughout the research process.

The research should aim to benefit society or participants, balancing risks and benefits to ensure that potential benefits outweigh any risks. Researchers must respect participants' privacy by not intruding into their personal lives more than necessary and handling sensitive information with care. They should maintain transparency in their methods and intentions, providing participants with clear information about the study while being honest about its aims and scope. The study should avoid deception unless necessary, and participants should be debriefed as soon as possible if deception is used. Finally, given South Africa's socio-economic context, the study should be conducted with cultural sensitivity and awareness, respecting local norms, values, and customs to ensure the research is relevant and respectful to the community involved.

3.14 Conclusion

Overall, this chapter establishes a rigorous methodological foundation by adopting a structured, quantitative approach to explore digital marketing's impact on customer loyalty. With a clear focus on objectivity and empirical measurement, the chosen methods, including a validated questionnaire and statistical techniques, allow for precise data analysis and reliable insights. Despite potential limitations, such as sampling constraints and response biases, the methodology enables comprehensive data collection from the target population, ensuring that findings will be both representative and generalizable. This chapter thus supports the study's broader aim of providing actionable insights into digital marketing strategies in the context of grocery mobile applications.

Chapter 4: Presentation of Results

4.1 Introduction `

This chapter presents the findings of the study, focusing on the demographic characteristics of the respondents and the relationships between key variables. It begins with an analysis of gender, age, education, occupational status, and income distribution, providing insights into the profile of the participants. The chapter also explores the preferences for mobile grocery apps, including the most used platforms and the reasons behind their selection. Additionally, it investigates the relationships between constructs such as perceived ease of use, perceived usefulness, information quality, interactivity, and their effects on personalization, attitude, and customer loyalty. Hypotheses testing through Chi-Square analysis highlights significant relationships, offering evidence to support the study's objectives. These findings serve as the foundation for understanding the behavioral patterns and decision-making processes of mobile grocery app users.

4.2 Demographic

Gender Distribution

The figure 1 below visualises the proportional distribution of gender categories. Males represent the largest group, accounting for 38.3% (n=132) of respondents, followed closely by females at 36.5% (n=126). The smallest group consists of those who preferred not to disclose their gender, comprising 22.5% (n=87). The cumulative percentage reveals that 74.8% of the sample consists of individuals who identified as either male or female, while the remaining 25.2% preferred not to specify their gender. These results are also reflected in table 2 below, emphasizing that males make up the largest group, while "Prefer not to say" is the smallest.

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	132	38.3%	38.3%	74.8%
Female	126	36.5%	36.5%	36.5%
Prefer not to say	87	22.5%	22.5%	100.0%
Total	**345**	**100.0%**	**100.0%**	**100.0%**

Table 2: Gender

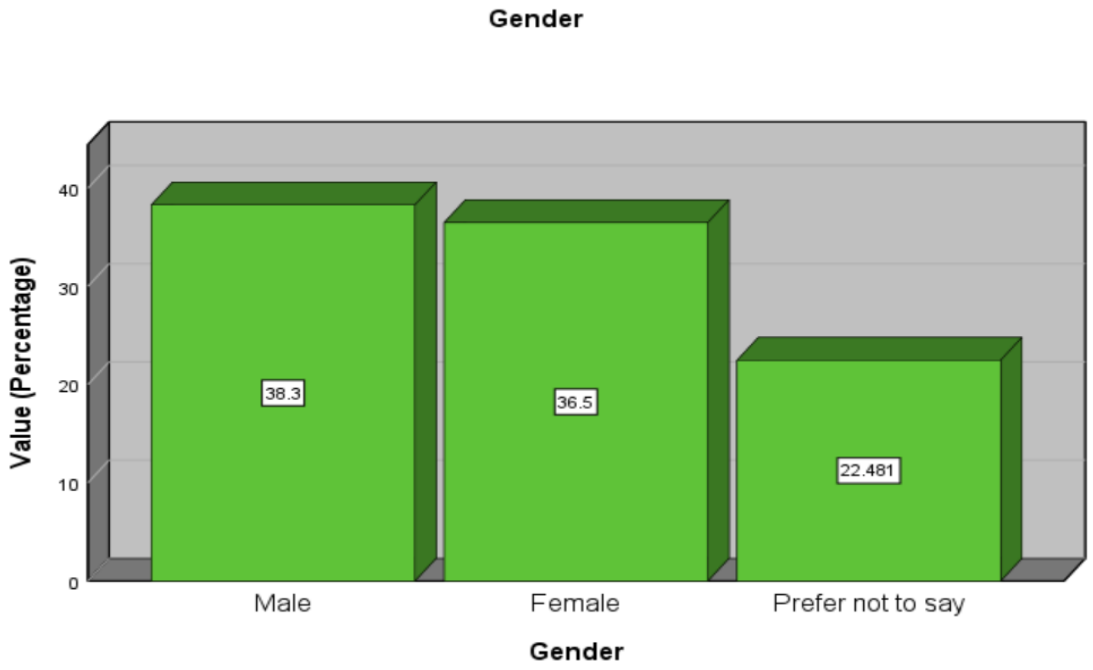

Figure 1: Bar graph of Gender results

Age Distribution

The proportions are illustrated in table 3 and figure 2 below, showing the distribution of 345 respondents across two age groups. The majority of participants, 62.3% (n=215), fall within the 18–25 years age group, making it the largest category. In contrast, the smaller group consists of respondents aged 26–35 years, comprising 37.7% (n=130) of the sample. This highlights that younger respondents (18–25 years) form the dominant group, while the 26–35 years age group represents the minority.

Age	Frequency	Percent	Valid Percent	Cumulative Percent
18-25 years old	215	62.3%	62.3%	62.3%
26-35 years old	130	37.7%	37.7%	100.0%
Total	**345**	**100.0%**	**100.0%**	**100.0%**

Table 3: Age

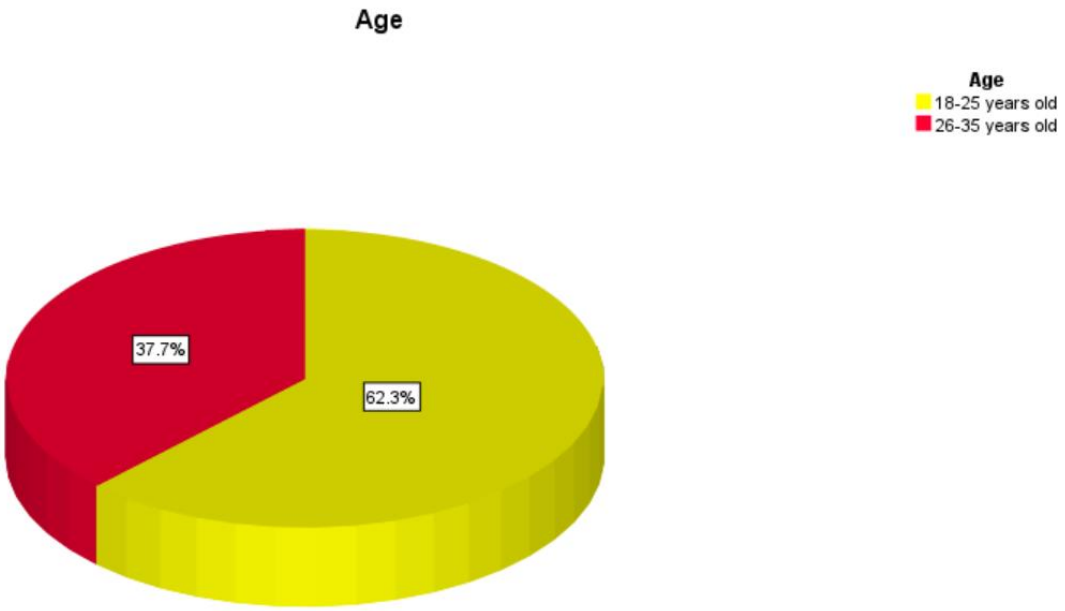

Figure 2: Pie chart of Age results

Highest Level of Education

The figure 3 highlights the distribution of educational attainment among the 345 respondents. The most common highest level of education is an undergraduate degree, representing 26.1% (n=90) of the sample. This is followed closely by diploma or certificate holders, who make up 25.8% (n=89), and those who have completed matric, accounting for 24.1% (n=83). Respondents with postgraduate qualifications (honors, masters, or doctorate) form a smaller group at 20.3% (n=70), while the smallest group includes those who reported “other” forms of education (which respondents mentioned “free online courses, self-taught, Google skills” and “Google course”, comprising only 3.8% (n=13). These results illustrate the dominance of undergraduate qualifications and the minimal representation of "other" educational levels.

Highest Level of Education	Frequency	Percent	Valid Percent	Cumulative Percent
Matric	83	24.1%	24.1%	49.9%
Diploma/Certificate	89	25.8%	25.8%	25.8%
Undergraduate degree	90	26.1%	26.1%	100.0%
Postgraduate degree (Honours, Masters, Doctorate)	70	20.3%	20.3%	74.0%
Others	13	3.8%	3.8%	53.7%
Total	**345**	**100.0%**	**100.0%**	

Table 4: Highest Level of Education

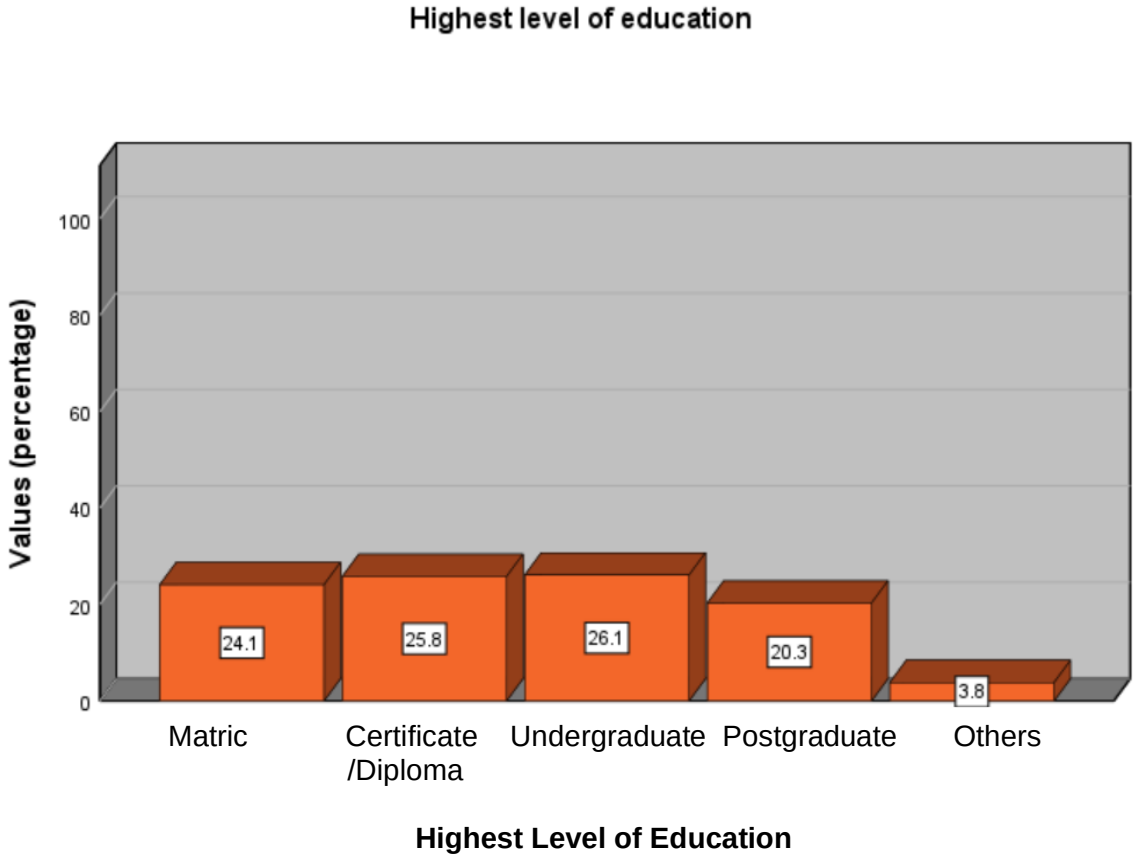

Figure 3: Bar Graph of Highest Level of Education

Occupational Status

The distribution of occupational status among the 345 respondents indicates that the largest group comprises those who are employed, representing 36.5% (n=126) of the sample. This is followed closely by self-employed individuals as shown in table 5, accounting for 34.2% (n=118). Students make up 27.2% (n=94) of the respondents, while 2.0% (n=7) fall into the "Others" category as illustrated in figure 4. The cumulative percentage reveals that a majority of respondents (72.7%) are either employed or self-employed. These results are visualised in a pie chart, which highlights the proportion of each category, with employed and self-employed groups dominating the occupational profile.

Occupational Status	Frequency	Percent	Valid Percent	Cumulative Percent
Student	94	27.2%	27.2%	100.0%
Employed	126	36.5%	36.5%	36.5%
Self-employed	118	34.2%	34.2%	72.7%
Others	7	2.0%	2.0%	38.5%
Total	**345**	**100.0%**	**100.0%**	

Table 5: Occupational Status

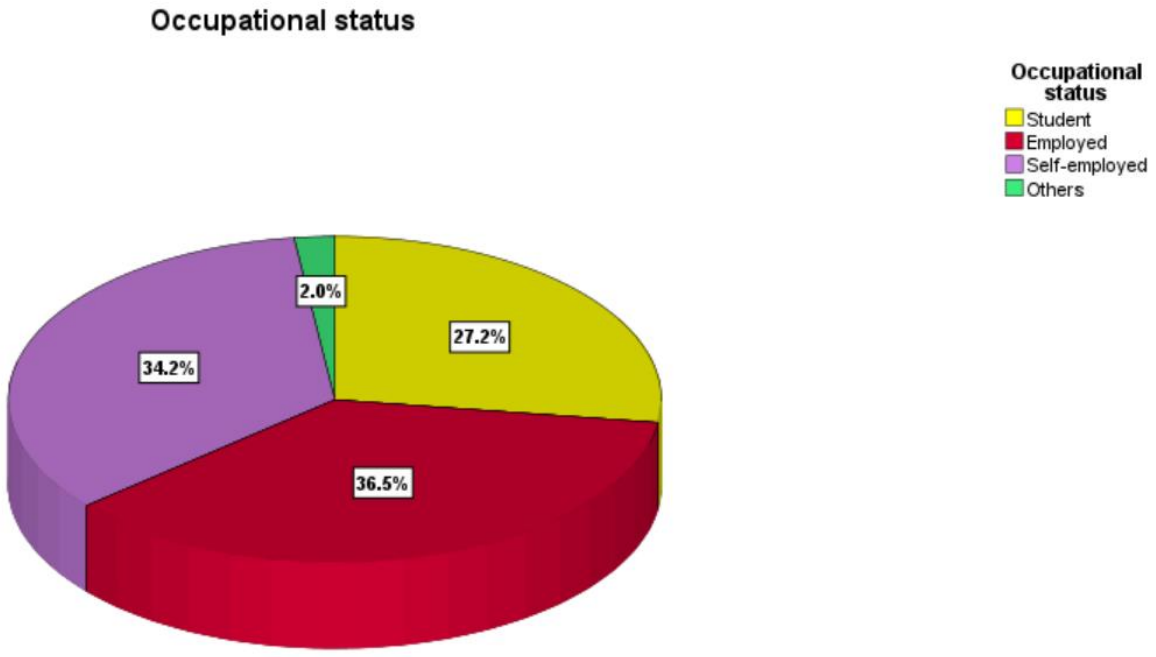

Figure 4: Pie Chart of Occupational Status results

Income Distribution

The results in figure 5 and table 6 below illustrate the distribution of respondents across income ranges. The largest proportion of respondents falls within the income range of R16,000 – R20,000, accounting for 21.4% (n=74) of the sample. This is closely followed by those earning less than R5,000 (20.3%, n=70) and those earning over R20,000 (20.0%, n=69). Respondents in the income categories of R11,000 – R15,000 and R6,000 – R10,000 represent 19.7% (n=68) and 18.6% (n=64) of the sample, respectively. The smallest proportion of respondents is observed in the R6,000 – R10,000 category.

Income Range	Frequency	Percent	Valid Percent	Cumulative Percent
Less than R5 000.00	70	20.3%	20.3%	20.3%
R6 000.00 - R10 000.00	64	18.6%	18.6%	38.9%
R11 000 - R15 000	68	19.7%	19.7%	58.6%
R16 000.00 - R20 000.00	74	21.4%	21.4%	80.0%
Over R20 000.00	69	20.0%	20.0%	100.0%
Total	**345**	**100.0%**	**100.0%**	

Table 6: Income Range

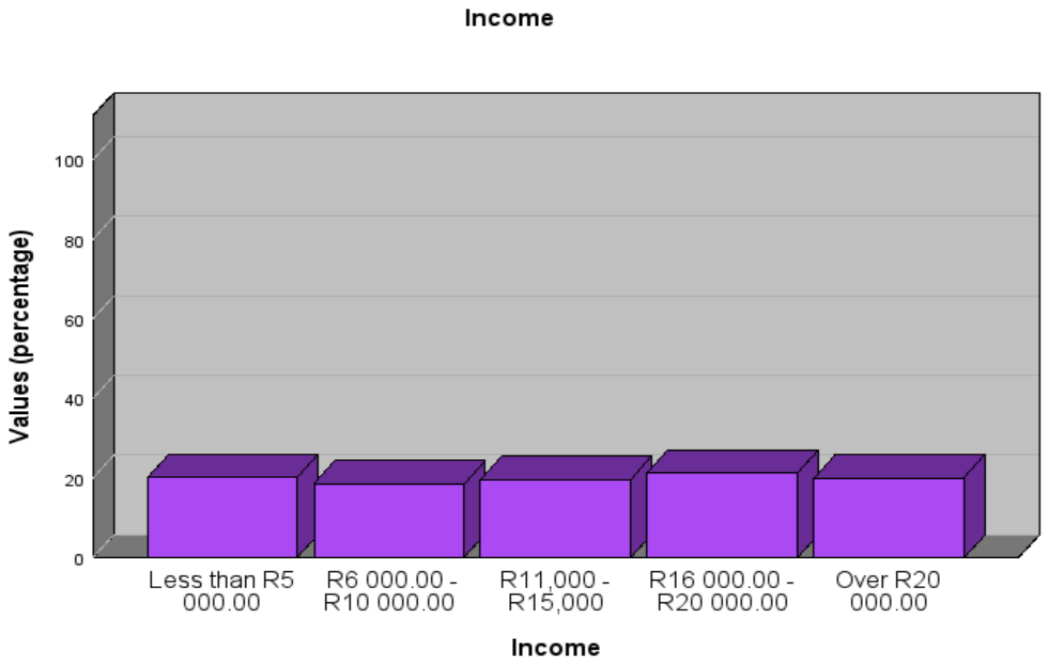

Figure 5: Bar Graph of Income results

4.3 Mobile Grocery App

Most Used Mobile Grocery Apps

The figure 6 below visually presents that among the 345 respondents, CheckersSixty60 is the most frequently used mobile grocery app, with 37.3% (n=129) of participants indicating it as their preferred choice. This is followed table 7 showing that Pick n Pay ASAP!, accounts for 23.7% (n=82) of responses, and WooliesDash, used by 20.0% (n=69) of respondents. OneCart is selected by 17.1% (n=59), while Others (respondenats indicated “Spar2U” and “Takealot” are used by 1.7% (n=6). The cumulative percentages indicate that 98.2% of respondents use one of the top four apps.

Mobile Grocery App	Frequency	Percent	Valid Percent	Cumulative Percent
CheckersSixty60	129	37.3%	37.3%	37.3%
OneCart	59	17.1%	17.1%	54.4%
Pick n Pay ASAP!	82	23.7%	23.7%	78.2%
WooliesDash	69	20.0%	20.0%	98.2%
Others	6	1.7%	1.7%	100.0%
Total	**345**	**100.0%**	**100.0%**	**100.0%**

Table 7: Mobile Grocery Apps

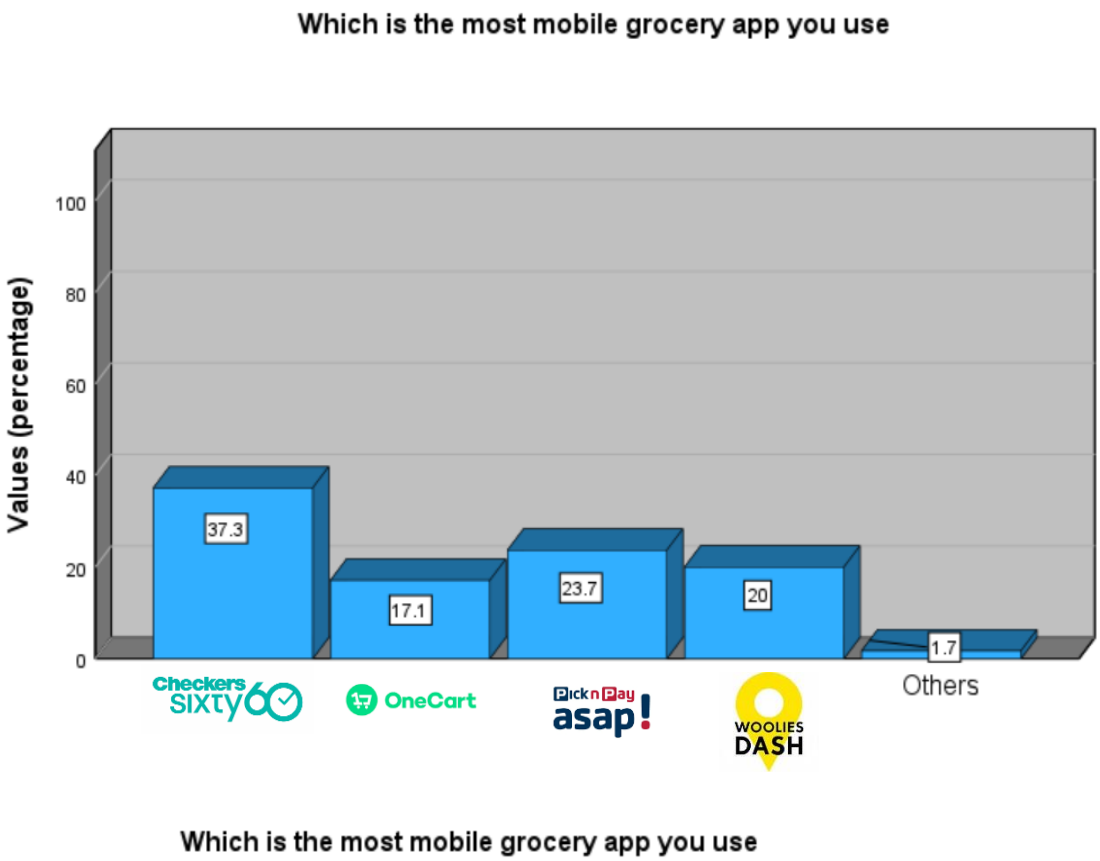

Figure 6: Bar Graph of Most used Grocery Mobile App

Reasons for Choosing the Most Used Grocery Mobile App

The Figure 7 indicates that the majority of the primary reason for selecting a grocery mobile app is discount codes, accounting for 28.9% (n=100) of the responses. This is followed by easy navigation (22.9%, n=79) as the second reason and loyalty programs (21.7%, n=75) being the third, as indicated in the table below. Table 8 further shows that delivery cost is placed as fourth with 61 (17.6%,) respondents and social media influence being the fifth reason with 19 (5.5%) respondents. A smaller proportion of number of 10 (2.9%) respondents selected Other with reasons being “product offerings, preference, convenience” and “don’t like going outside”.

Reason for Using Grocery Mobile App Most	Frequency	Percent	Valid Percent	Cumulative Percent
Delivery costs less	61	17.6%	17.6%	17.6%
Discount codes	100	28.9%	28.9%	46.6%
Easy to navigate	79	22.9%	22.9%	69.5%
Loyalty program	75	21.7%	21.7%	91.3%
Social media influence	19	5.5%	5.5%	96.8%
Other	10	2.9%	2.9%	100.0%
Total	**345**	**100.0%**	**100.0%**	**100.0%**

Table 8: Reason for Using Grocery Mobile App Most

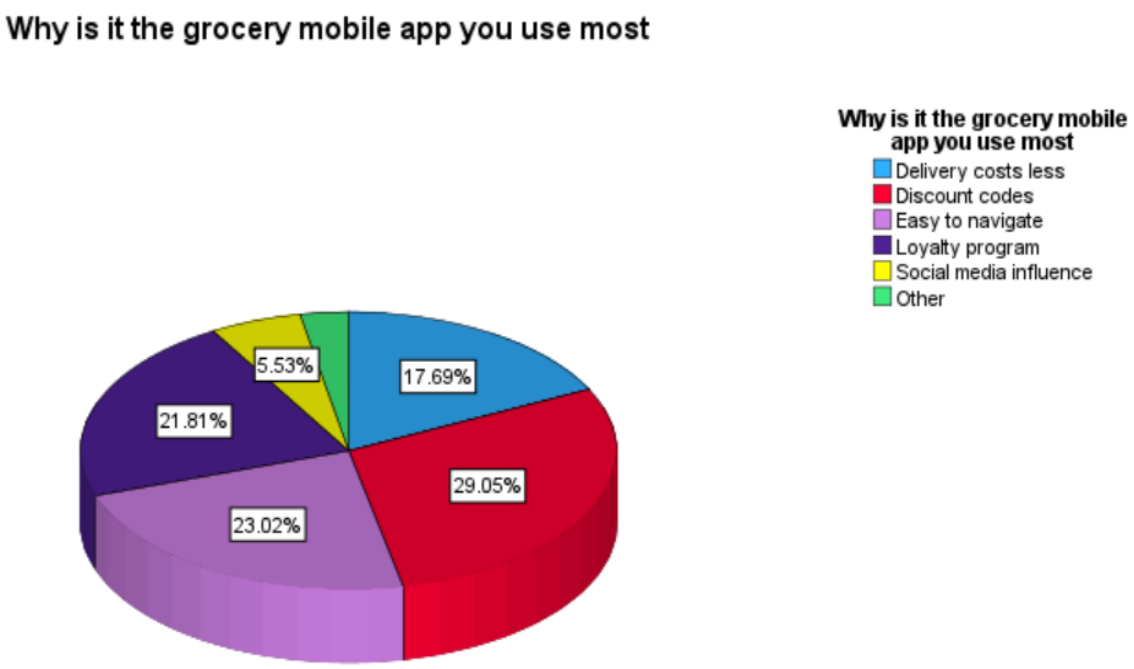

Figure 7: Pie Chart of Why is The Grocery Mobile App is Most Used

Mobile Device Platform for Grocery Apps

Among the 387 respondents, the table 9 shows that the most commonly used mobile device platform for grocery apps is Android, accounting for 33.6% (n=130) of users. This is followed closely by Apple iOS, used by 33.3% (n=129) of respondents. Windows is the least common platform, with 22.0% (n=85) of respondents indicating its use. The cumulative percentages show that 66.9% of respondents use either Android or Apple iOS, while Windows users make up the remaining 22.0%. These results are visualised in the accompanying bar chart in figure 8, emphasizing the near-equal use of Android and iOS platforms.

Mobile Device Platform	Frequency	Percent	Valid Percent	Cumulative Percent
Android	130	33.6%	33.6%	33.6%
Apple iOS	129	33.3%	33.3%	66.9%
Windows	85	22.0%	22.0%	100.0%
Total	**345**	**100.0%**	**100.0%**	**100.0%**

Table 9: Mobile device platform

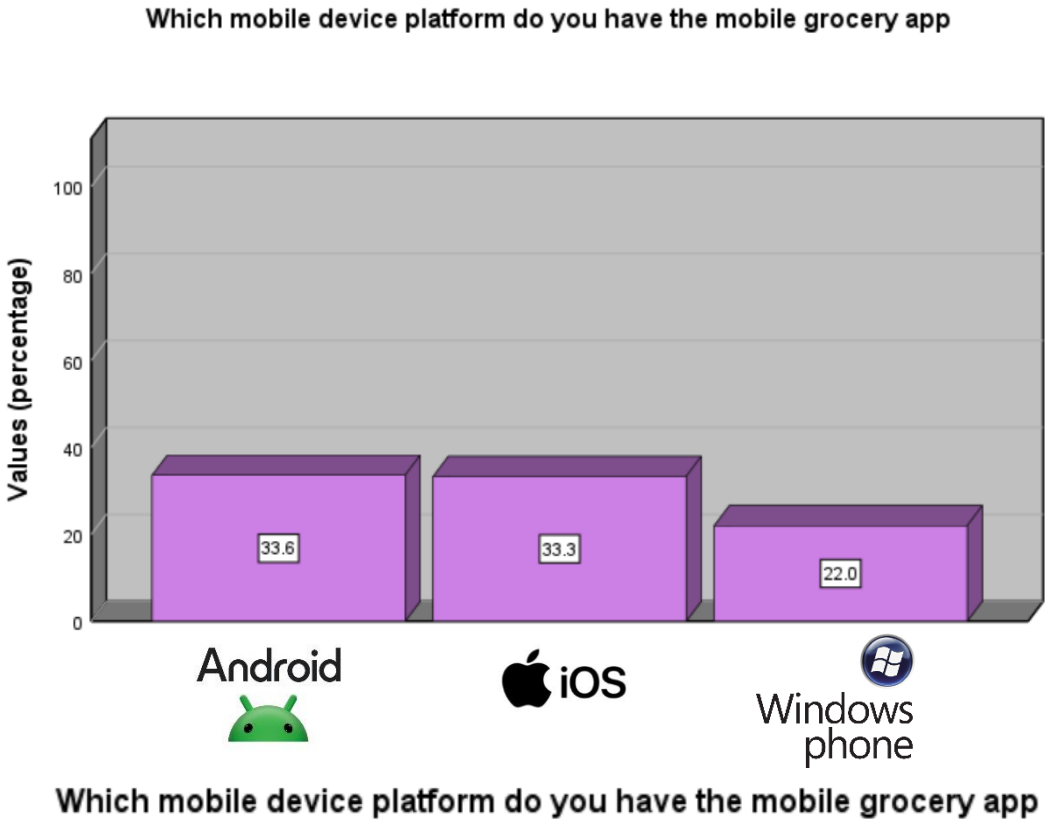

Figure 8: Bar chart of which mobile device platform candidates have the mobile grocery app

Frequency of Grocery Shopping on Mobile Grocery Apps

Among the 345 respondents, figure 9 shows that the most common frequency of shopping on mobile grocery apps is 1 to 2 times a month, accounting for 40.3% (n=139), making it the highest. This is followed by 3 to 6 times a month, which constitutes 31.6% (n=109). The least frequent category is 7 or more times a month, reported by 27.8% (n=96). The cumulative percentages show that the majority of respondents (71.9%) shop up to 6 times a month, with fewer respondents engaging in higher frequencies of shopping. The results are visually represented in the bar chart in figure 10, emphasizing the dominance of the 1 to 2 times a month category and the smaller proportion of 7 or more times a month.

Grocery Shopping Frequency per Month	Frequency	Percent	Valid Percent	Cumulative Percent
1 to 2 times a month	139	40.3%	40.3%	40.3%
3 to 6 times a month	109	31.6%	31.6%	71.9%
7 or more times a month	96	27.8%	27.8%	100.0%
Total	**345**	**100.0%**	**100.0%**	**100.0%**

Table 10: Grocery shopping per month

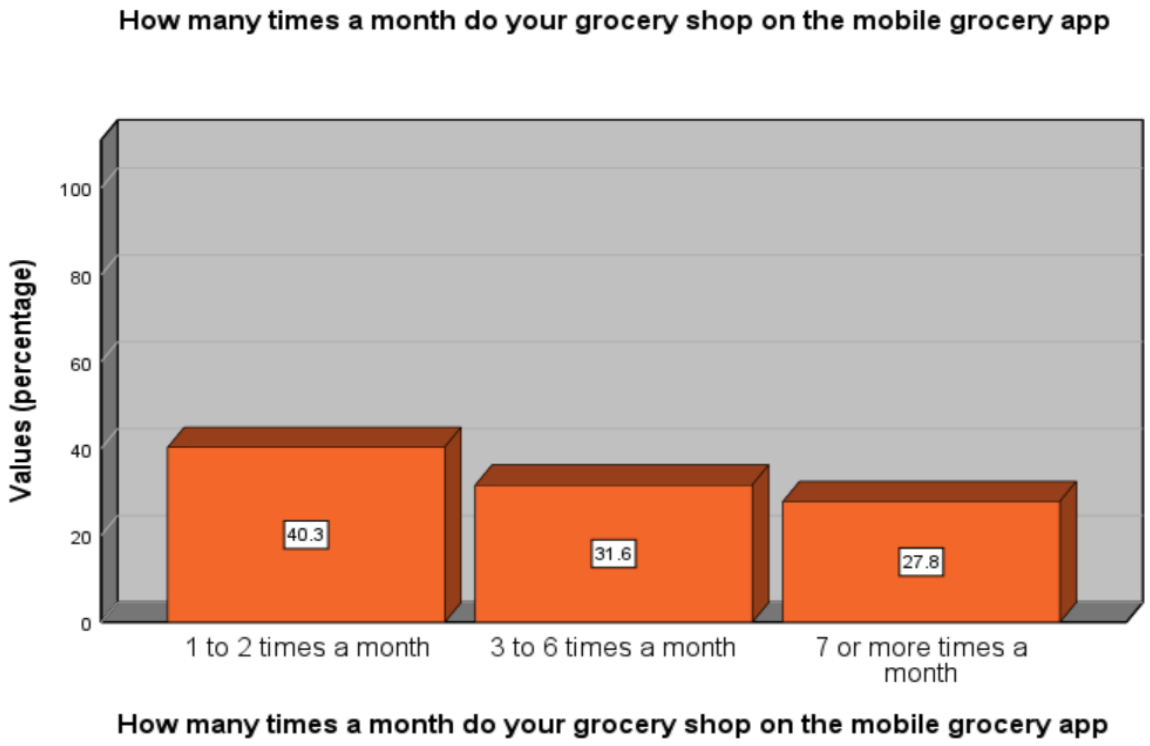

Figure 9: Bar chart of how many times a month do participants shop on mobile grocery app

Expenditure Amount on Grocery Mobile Apps

Figure 10 illustrates the distribution of respondents based on their typical expenditure on grocery mobile apps. The largest proportion of respondents spend less than R500, accounting for 27.8% (n=96). This is closely followed by table 11 showing those spending R560 – R1,000, making up 25.5% (n=88), and those spending R500 – R550, representing 24.9% (n=86). The smallest group consists of respondents who spend more than R1,000, which accounts for 21.8% (n=75). These results highlight that the majority of respondents spend less than R1,000 on grocery mobile apps.

Expenditure Amount on Grocery Mobile App	Frequency	Percent	Valid Percent	Cumulative Percent
Less than R500	96	27.8%	27.8%	27.8%
R500 - R550	86	24.9%	24.9%	52.7%
R560 - R1 000	88	25.5%	25.5%	78.2%
More than R1 000	75	21.8%	21.8%	100.0%
Total	**345**	**100.0%**	**100.0%**	**100.0%**

Table 11: Expenditure amount on grocery mobile app

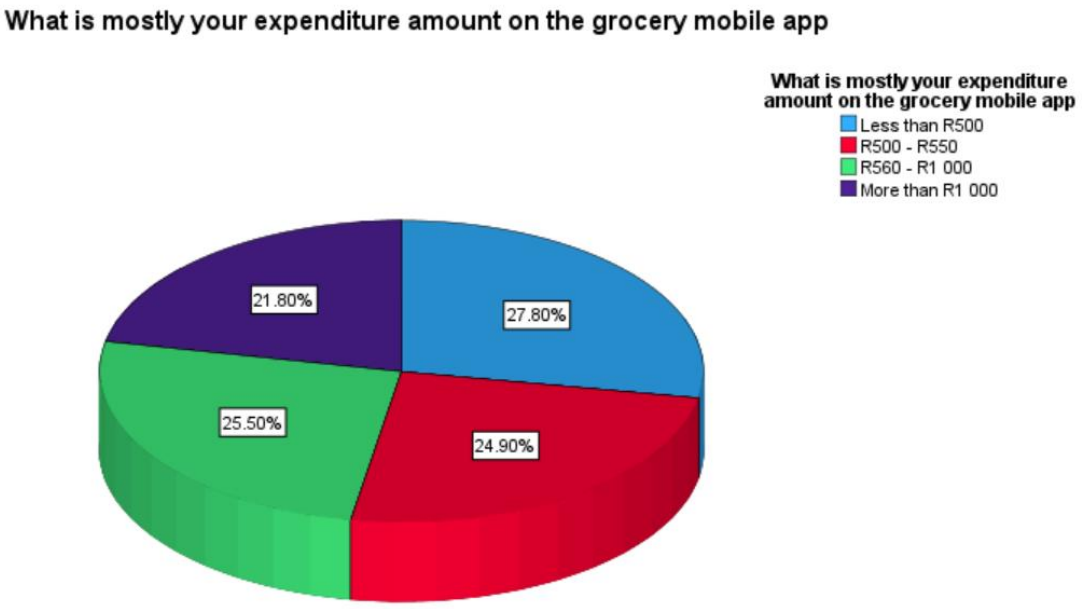

Figure 10: Pie chart if what is mostly participants expenditure amount

4.4 Descriptive Statistics for Perceived Ease of Use

The mean value of Perceived Ease of Use is 6.1311 as shown in table 12, with a standard error of 0.12369. The median of the distribution is 6.7500, indicating the midpoint of the responses. The skewness of the data is -0.867, suggesting a slight left skew, while the kurtosis is 0.009, indicating a distribution close to normal. The histogram in figure 11 illustrates the frequency of responses, with the data showing a peak around higher values of perceived ease of use.

Descriptives - Perceived Ease of Use	Statistic	Std. Error
Mean	6.1311	0.12369
95% Confidence Interval for Mean		
- Lower Bound	5.8879	
- Upper Bound	6.3743	
5% Trimmed Mean	6.2109	
Median	6.7500	
Variance	5.921	
Std. Deviation	2.43326	
Minimum	1.00	
Maximum	10.50	
Range	9.50	
Interquartile Range	3.00	
Skewness	-0.867	0.124
Kurtosis	0.009	0.247

Table 12: Descriptives- Perceived Ease of Use

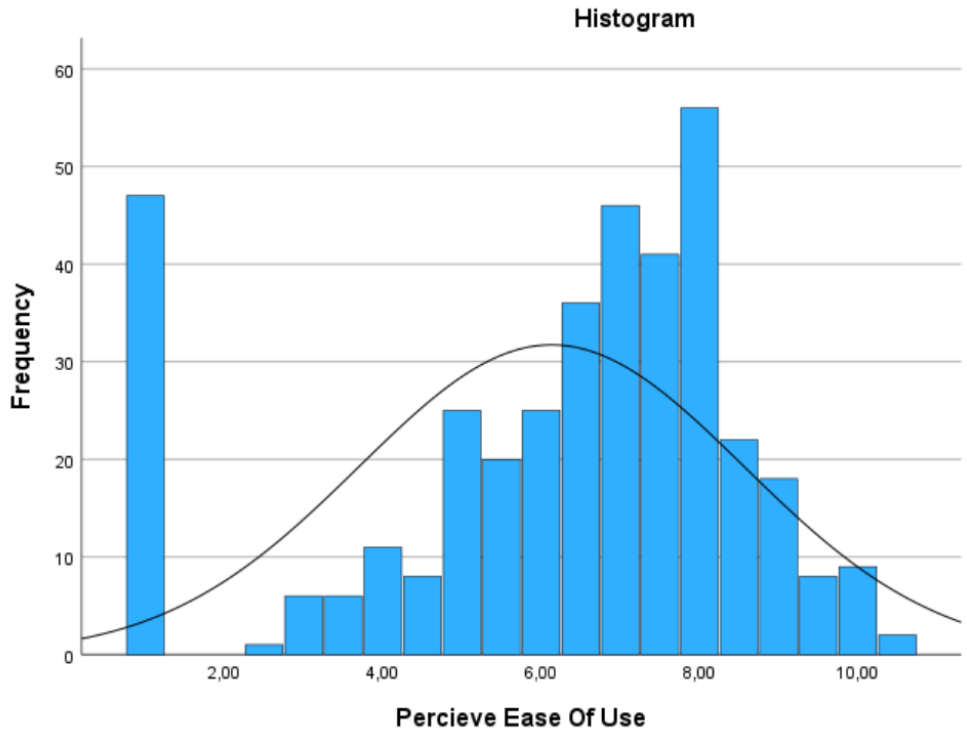

Figure 11: Histogram of Perceive Ease of Use

4.5 Descriptive Statistics for Perceived Usefulness

Table 13 shows that the mean value of Perceived Usefulness is 6.1674, with a standard error of 0.11762. The median is 6.6000, indicating the central tendency of the responses. The skewness of -1.080 suggests a moderate left skew, meaning the distribution is not perfectly symmetrical. The kurtosis value of 0.541 indicates a distribution that is slightly peaked compared to a normal distribution. Based on the skewness and kurtosis values, as well as the visual inspection of the histogram in figure 12, the data appears to follow a non-normal distribution with a slight skew towards lower values.

Descriptives - Perceived Usefulness	Statistic	Std. Error
Mean	6.1674	0.11762
95% Confidence Interval for Mean		
- Lower Bound	5.9362	
- Upper Bound	6.3987	
5% Trimmed Mean	6.2690	
Median	6.6000	
Variance	5.354	
Std. Deviation	2.31393	
Minimum	1.00	
Maximum	10.20	
Range	9.20	
Interquartile Range	2.20	
Skewness	-1.080	0.124
Kurtosis	0.541	0.247

Table 13: Descriptives – Perceived Usefulness

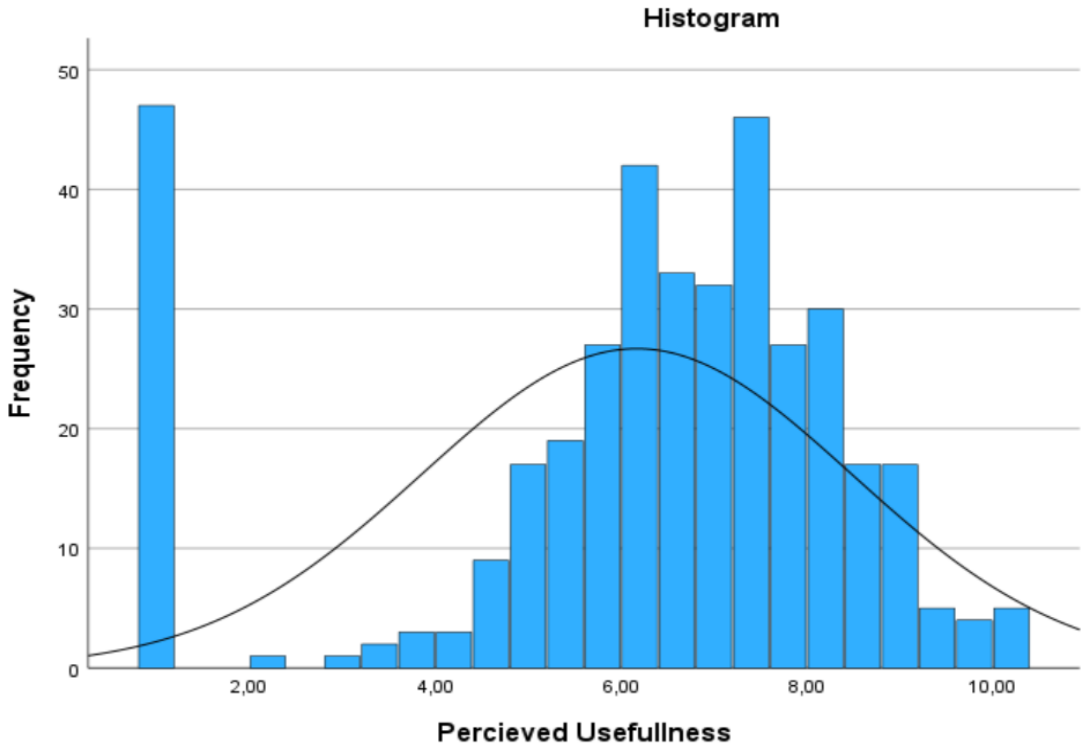

Figure 12: Histogram of Perceived Usefulness

4.6 Descriptive Statistics for Information Quality

The mean value of Information Quality is 6.2705, with a standard error of 0.11557. Table 14 highlights that the median is 7.000, indicating a central tendency toward higher values. The skewness of -1.329 suggests a moderate to strong left skew, meaning the distribution is not symmetrical and has a longer tail on the lower end. The kurtosis value of 0.905 indicates a distribution that is slightly peaked compared to a normal distribution. Based on the skewness, kurtosis values, and visual inspection of the histogram in figure 13, the data demonstrates a non-normal distribution, skewed towards lower values.

Descriptives - Information Quality	Statistic	Std. Error
Mean	6.2705	0.11557
95% Confidence Interval for Mean		
- Lower Bound	6.0432	
- Upper Bound	6.4977	
5% Trimmed Mean	6.4043	
Median	7.0000	
Variance	5.169	
Std. Deviation	2.27361	
Minimum	1.00	
Maximum	9.67	
Range	8.67	
Interquartile Range	2.00	
Skewness	-1.329	0.124
Kurtosis	0.905	0.247

Table 14: Descriptives – Information Quality

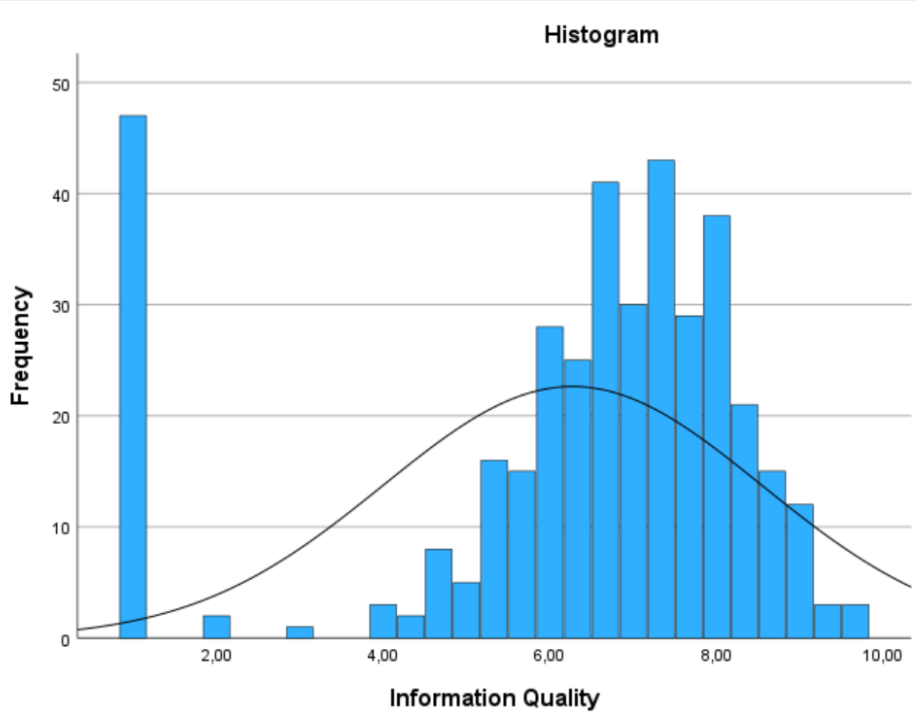

Figure 13: Histogram of Information Quality

4.7 Descriptive Statistics for Personalisation

The mean value of Personalisation is 5.9121 as indicated in table 15, with a standard error of 0.11659. The median is 6.4000, indicating a central tendency toward higher values. The skewness value of -0.899 reflects a moderate left skew, with a concentration of responses in the higher range. The kurtosis value of 0.155 suggests that the distribution is approximately normal but slightly flatter than a typical normal curve. Based on the skewness, kurtosis values, and histogram visualisation in figure 14, the data shows a moderate non-normal distribution, with a slight skew toward lower values.

Descriptives - Personalisation	Statistic	Std. Error
Mean	5.9121	0.11659
95% Confidence Interval for Mean		
- Lower Bound	5.6829	
- Upper Bound	6.1414	
5% Trimmed Mean	5.9970	
Median	6.4000	
Variance	5.260	
Std. Deviation	2.29357	
Minimum	1.00	
Maximum	9.60	
Range	8.60	
Interquartile Range	2.40	
Skewness	-0.899	0.124
Kurtosis	0.155	0.247

Table 15: Descriptives – Personalisation

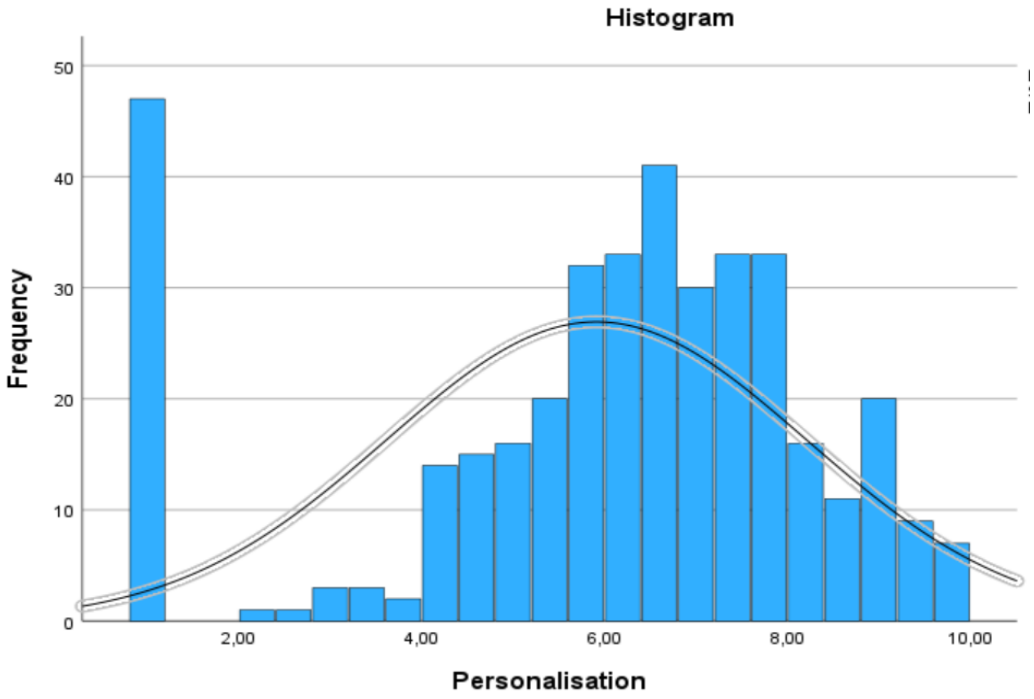

Figure 14: Histogram of Personalisation

4.8 Descriptive Statistics for Interactivity

Table 16 highlighting the mean value of Interactivity is 6.2705, with a standard error of 0.11557. The median is 7.000, suggesting that most responses are concentrated around higher values. The skewness value of -1.329 indicates a strong left skew, while the kurtosis value of 0.905 suggests a distribution that is slightly more peaked than normal. The histogram in figure 15 illustrates a non-normal distribution, with a noticeable skew toward lower values.

Descriptives - Interactivity	Statistic	Std. Error
Mean	6.2705	0.11557
95% Confidence Interval for Mean		
- Lower Bound	6.0432	
- Upper Bound	6.4977	
5% Trimmed Mean	6.4043	
Median	7.0000	
Variance	5.169	
Std. Deviation	2.27361	
Minimum	1.00	
Maximum	9.67	
Range	8.67	
Interquartile Range	2.00	
Skewness	-1.329	0.124
Kurtosis	0.905	0.247

Table 16: Descriptives – Interactivity

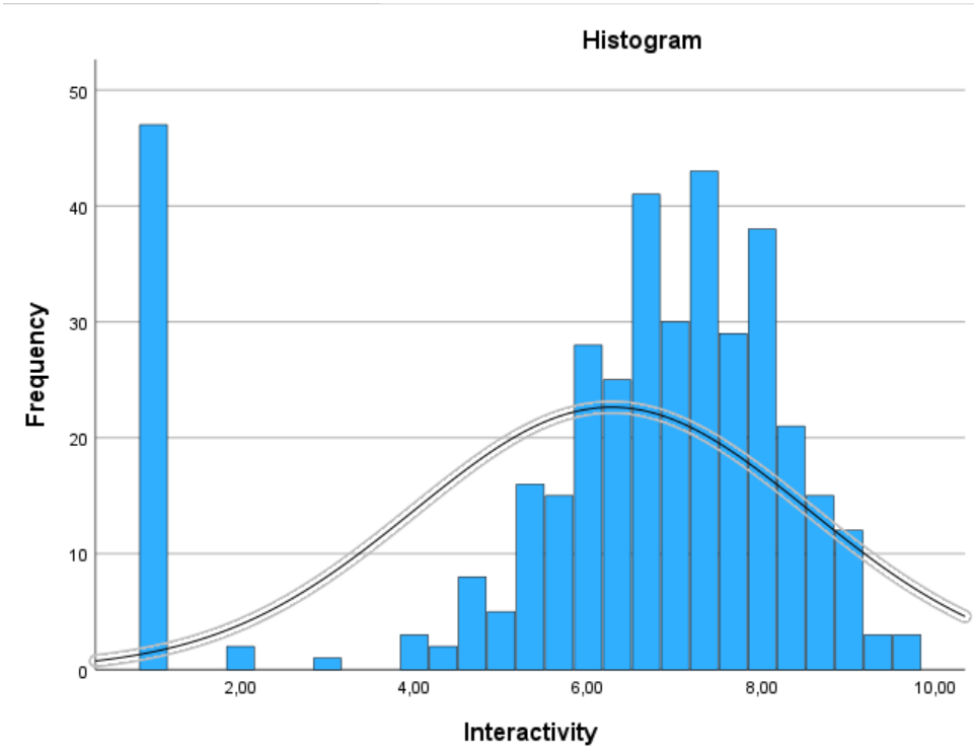

Figure 15: Histogram of Interactivity

4.9 Descriptive Statistics for Attention

The mean value of Attention shown in table 17 is 6.0362, with a standard error of 0.12116. The median is 6.5000, suggesting that the responses are centered around the higher end of the scale. The skewness value of -0.934 indicates a moderate left skew, while the kurtosis value of 0.083 reflects a distribution that is nearly normal but slightly flatter than the standard normal curve. The histogram in figure 16 further supports a slightly non-normal distribution, with a minor skew toward lower values.

Descriptives - Attention	Statistic	Std. Error
Mean	6.0362	0.12116
95% Confidence Interval for Mean		
- Lower Bound	5.7980	
- Upper Bound	6.2744	
5% Trimmed Mean	6.1283	
Median	6.5000	
Variance	5.681	
Std. Deviation	2.38349	
Minimum	1.00	
Maximum	10.25	
Range	9.25	
Interquartile Range	2.75	
Skewness	-0.934	0.124
Kurtosis	0.083	0.247

Table 17: Descriptives - Attention

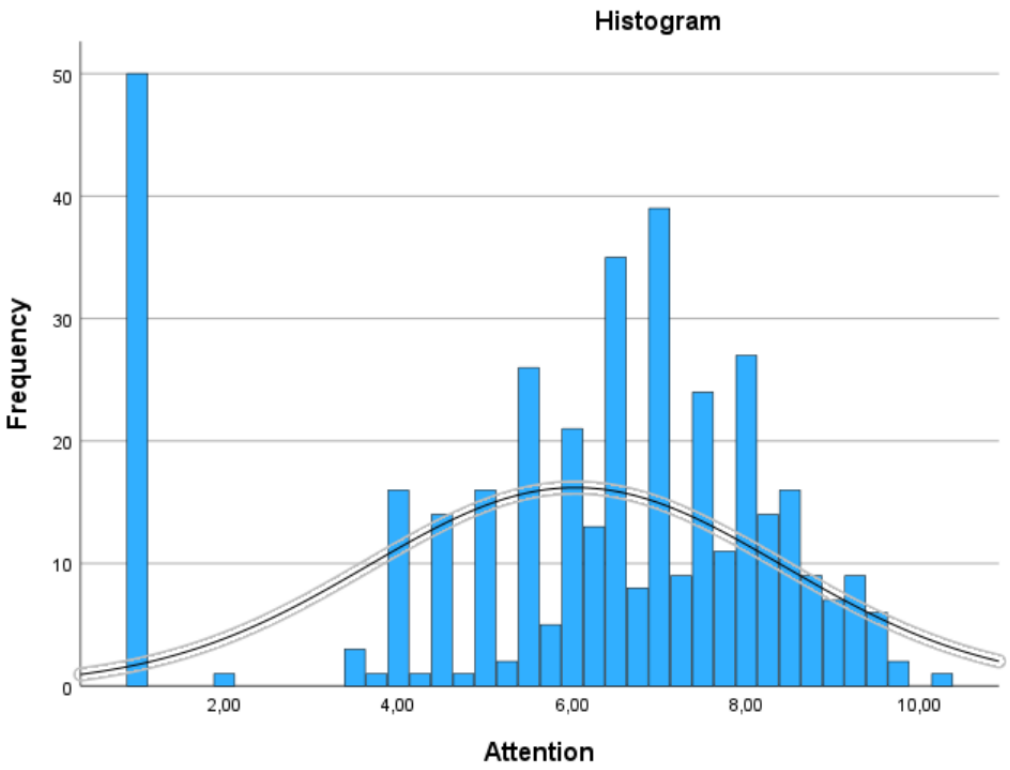

Figure 16: Histogram of Attention

4.10 Descriptive Statistics for Customer Loyalty

The mean value of Customer Loyalty is 6.2629, with a standard error of 0.12230. The median is 7.000, indicating a central tendency toward higher values. Table 18 shows that the skewness value of -1.073 reflects a moderate left skew, suggesting that the distribution is not symmetrical and leans toward higher values. The kurtosis value of 0.353 indicates a slightly peaked distribution compared to normal. Based on the skewness, kurtosis values, and histogram visualisation in figure 17, the data exhibits a non-normal distribution, with a moderate skew toward lower values.

Descriptives - Customer Loyalty	Statistic	Std. Error
Mean	6.2629	0.12230
95% Confidence Interval for Mean		
- Lower Bound	6.0225	
- Upper Bound	6.5034	
5% Trimmed Mean	6.3717	
Median	7.0000	
Variance	5.788	
Std. Deviation	2.40584	
Minimum	1.00	
Maximum	10.00	
Range	9.00	
Interquartile Range	2.50	
Skewness	-1.073	0.124
Kurtosis	0.353	0.247

Table 18: Descriptives – Customer Loyalty

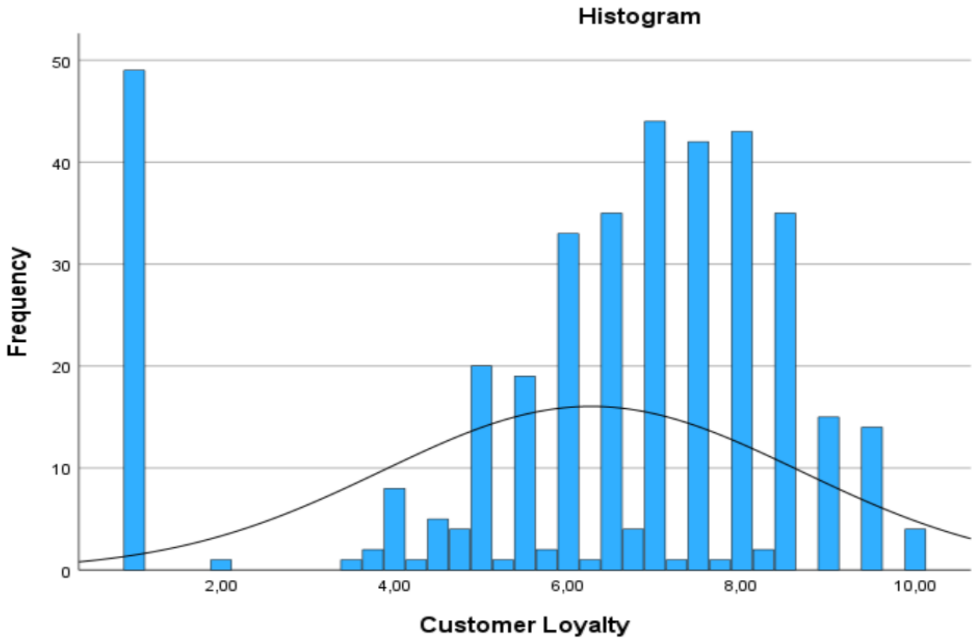

Figure 17: Histogram of Customer Loyalty

4.11 Results pertaining to Hypothesis 1

Chi-Square Test

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1878.005	925	< 0.001
Likelihood Ratio	764.381	925	1.000
Linear-by-Linear Association	206.570	1	< 0.001
Number of Valid Cases	345		

Table 19: Chi – Square Test Hypothesis 1

H0: Perceived ease of use has no significant positive effect on attitude.

H1: Perceived ease of use has a significant positive effect on attitude.

∴The observation in table 19 is that the p-value for the Pearson Chi-Square test is less than the level of significance ($p < 0.001$). Therefore, the null hypothesis is rejected. This result indicates that attitude has a significant positive effect on perceived ease of use, demonstrating a strong dependence between the variables.

4.12 Results pertaining to Hypothesis 2

Chi-Square Test

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2320.022	900	< 0.001
Likelihood Ratio	743.952	900	1.000
Linear-by-Linear Association	218.565	1	< 0.001
Number of Valid Cases	345		

Table 20: *Chi – Square Test Hypothesis 2*

H0: Perceived ease of usefulness has a significant positive effect on attitude

H1: Perceived ease of usefulness has a significant positive effect on attitude

It is highlighted in table 20 is that the p-value is greater than the level of significance, as indicated it's 0,001. The decision is that we have sufficient reasons to reject the null hypothesis. Resulting in perceived ease of usefulness does have a significant positive effect on attitude as there is a dependance.

4.13 Results pertaining to Hypothesis 3

Chi-Square Test

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1523.278	812	< 0.001
Likelihood Ratio	710.459	812	0.996
Linear-by-Linear Association	211.659	1	< 0.001
Number of Valid Cases	345		

Table 21: *Chi – Square Test Hypothesis 3*

H0: Information quality does not have a significant positive effect on attitude.

H1: Information quality has a significant positive effect on attitude.

⁎The analysis in table 21 shows that the p-value for the Pearson Chi-Square test is below the threshold of significance ($p < 0.001$). Therefore, we reject the null hypothesis. This outcome suggests that information quality has a meaningful positive impact on attitude, indicating a dependence between the variables.

4.14 Results pertaining to Hypothesis 4

Chi-Square Test

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1523.278	812	< 0.001
Likelihood Ratio	710.459	812	0.996
Linear-by-Linear Association	211.659	1	< 0.001
Number of Valid Cases	345		

Table 22: *Chi – Square Test Hypothesis 4*

H0: Interactivity does not have a significant positive effect on attitude.

H1: Interactivity has a significant positive effect on attitude.

⁎Table 22 analysis reveals that the p-value for the Pearson Chi-Square test is less than the significance level ($p < 0.001$). Thus, we reject the null hypothesis. This result demonstrates that interactivity has a significant positive effect on attitude, confirming a dependence between the variables.

4.15 Results pertaining to Hypothesis 5

Chi-Square Test

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1581.325	700	< 0.001
Likelihood Ratio	656.785	700	0.877
Linear-by-Linear Association	191.753	1	< 0.001
Number of Valid Cases	345		

Table 23: *Chi – Square Test Hypothesis 5*

H0: Attitude has no significant positive effect on customer loyalty.

H1: Attitude has a significant positive effect on customer loyalty.

The observation in table 23 is that the p-value for the Pearson Chi-Square test is less than the level of significance ($p < 0.001$). Therefore, the null hypothesis is rejected. This result indicates that attitude has a significant positive effect on customer loyalty, showing a strong dependence between the variables.

4.16 Conclusion

In conclusion, the results of this chapter provide a comprehensive overview of the demographic characteristics and behavioral patterns of mobile grocery app users. The analysis revealed that the majority of respondents are aged between 18–25 years, hold undergraduate qualifications, and are predominantly employed or self-employed. Discount codes and ease of navigation emerged as critical factors influencing app selection, with CheckersSixty60 being the most frequently used app. Hypotheses testing demonstrated significant positive relationships between perceived ease of use, perceived usefulness, information quality, and interactivity with attitude, personalisation, and customer loyalty. These findings underscore the importance of tailored digital marketing strategies to enhance user experiences and foster loyalty among grocery app users.

Chapter 5: Discussion of the findings

5.1 Introduction

This chapter delves into a comprehensive discussion and analysis of the results derived from the structural equation modeling (SEM) as illustrated below in figure 24. The study investigates the relationships between key digital marketing factors—Perceived Ease of Use, Perceived Usefulness, Personalization, Information Quality, and Interactivity—on user Attitude, and subsequently, how Attitude influences Customer Loyalty in the context of grocery mobile apps. These findings are critically evaluated within the framework of established theories, such as the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB), alongside insights from empirical studies in the existing literature. By situating the findings within the broader academic discourse, this chapter not only validates the results but also enhances the understanding of digital marketing strategies designed for price-sensitive consumers in emerging markets. Additionally, logical interpretations and potential explanations for the observed relationships are provided, offering valuable insights for both researchers and practitioners.

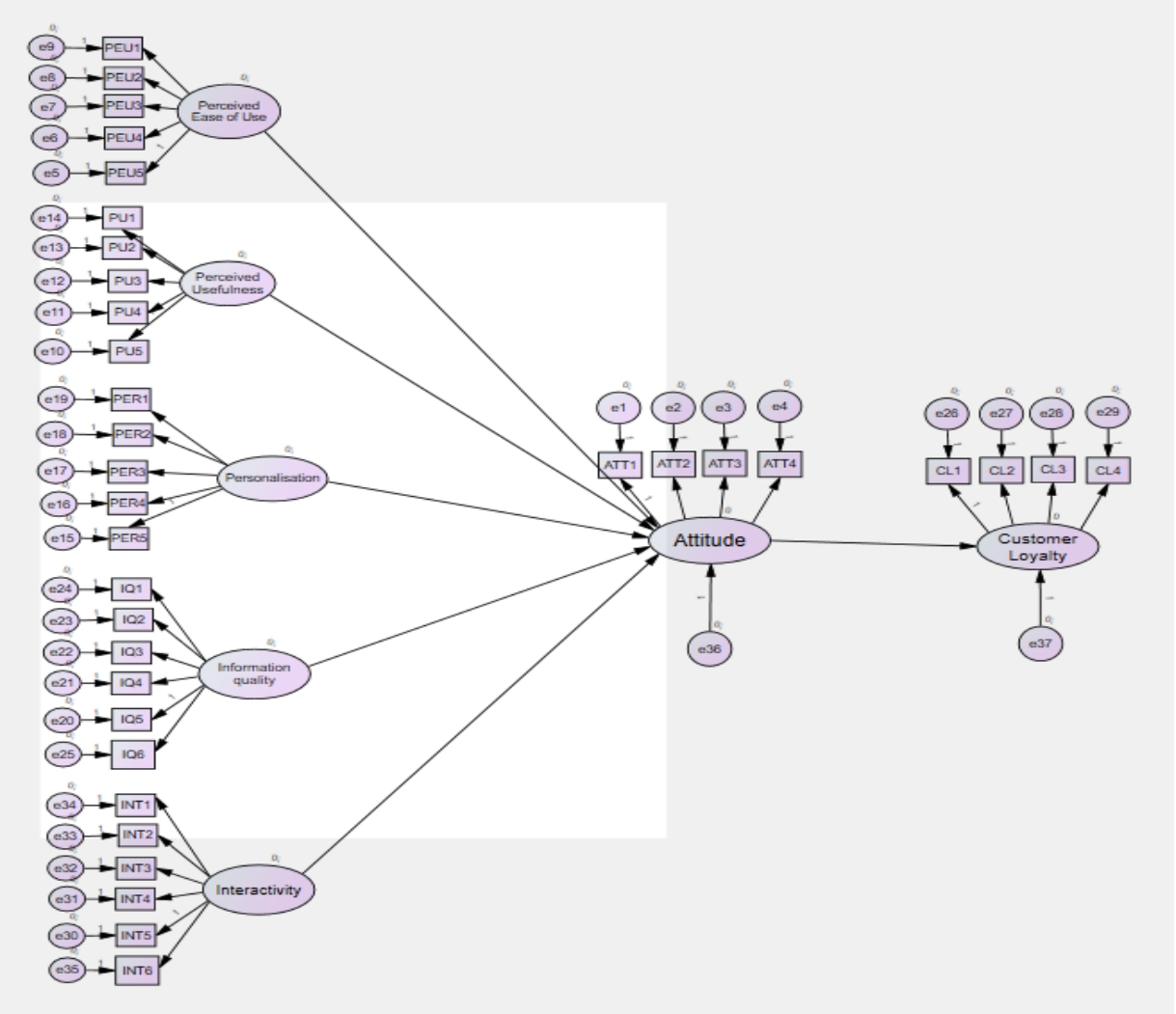

Figure 24: structural equation modeling

5.2 Hypothesis 1 (H1): Perceived Ease of Use has a Significant Positive Effect on Attitude

The findings indicate that Perceived Ease of Use significantly influences Attitude ($\beta = 0.65$, $p < 0.001$), suggesting that user-friendly interfaces in grocery mobile apps foster positive attitudes among users. This result aligns with the Technology Acceptance Model (TAM), which asserts that ease of use enhances user acceptance by reducing cognitive effort (Davis, 1989). Recent studies further support this claim; for instance, Sari et al. (2022) found that perceived ease of use positively affects attitudes toward mobile payment systems, which in turn influences the intention to use such services. Similarly, Moon et al. (2023) demonstrated that perceived ease of use

significantly impacts user attitudes toward food delivery applications. Additionally, a study by Ohk et al. (2015) explored the effects of perceived ease of use, perceived usefulness, and interactivity on satisfaction in mobile applications, concluding that these factors positively influence consumer satisfaction, which in turn affects continuous usage intention. These findings extend existing literature by emphasizing the importance of ease of use in grocery mobile apps, an area that has received less attention in previous TAM studies. While earlier research focused on general e-commerce platforms (e.g., Venkatesh & Davis, 2000), this study highlights the critical role of intuitive interfaces for price-conscious users, particularly in emerging markets where mobile commerce adoption is growing rapidly.

5.3 Hypothesis 2 (H2): Perceived Usefulness has a Significant Positive Effect on Attitude

The findings indicate a strong positive relationship between Perceived Usefulness and Attitude ($\beta = 0.72$, $p < 0.001$), underscoring that the utility of grocery mobile apps significantly enhances user attitudes. This aligns with Davis' (1989) Technology Acceptance Model (TAM), which asserts that perceived usefulness is a critical determinant of technology acceptance. Similarly, Zhou (2011) emphasized that perceived functional benefits, such as convenience and time-saving, strongly influence positive attitudes in digital settings. Recent studies further support these claims; for instance, Sari et al. (2022) found that perceived usefulness significantly enhances users' attitudes toward mobile payment systems, which in turn influences their intention to use the technology. Moon et al. (2023) also demonstrated that users who perceive food delivery apps as useful exhibit more positive attitudes toward their adoption and continued usage. These studies reaffirm that grocery mobile apps, which incorporate features such as seamless checkout, real-time price comparisons, and predictive shopping lists, enhance perceived usefulness and drive positive attitudes toward adoption.

Interestingly, this study differs slightly from earlier findings by Gefen et al. (2003), who noted that perceived usefulness has a stronger effect in e-commerce platforms compared to other digital environments. In the context of grocery mobile apps, unique functional benefits—such as personalized recommendations, one-click reordering, and AI-powered discount notifications—may amplify perceived usefulness. These results align with findings from Al-Fraihat et al. (2020),

who found that usefulness was the strongest predictor of satisfaction and continued engagement in mobile shopping platforms.

A possible explanation for these findings lies in the integration of advanced features like predictive shopping lists, AI-driven product recommendations, and exclusive discounts offered by grocery mobile apps. These functionalities enhance users' perceived utility, leading to greater convenience, efficiency, and overall satisfaction. This is consistent with Ohk et al. (2015), who concluded that perceived usefulness, combined with ease of use and interactivity, significantly enhances user satisfaction, leading to higher engagement in mobile applications. Consequently, app developers and retailers must focus on optimizing these functionalities to increase perceived value, improve user satisfaction, and sustain long-term engagement.

5.4 Hypothesis 3 (H3): Personalization has a Significant Positive Effect on Attitude

Recent studies have reinforced the significant positive relationship between personalization and user attitudes toward mobile applications. For instance, a study by Cheng et al. (2020) found that personalization in mobile news apps significantly enhances user engagement and continuous use intention. Similarly, research by Scherpinski and Lessmann (2021) demonstrated that personalized recommendations in e-grocery platforms reduce information overload and decrease users' search time, leading to improved user satisfaction. These findings align with earlier research by Kim et al. (2011), which highlighted the role of personalization in enhancing user experiences. In the context of mobile grocery shopping, personalized features such as tailored promotions and product recommendations not only reduce search time but also increase convenience, thereby fostering positive user attitudes. Retailers can leverage these insights by investing in machine learning algorithms to deliver targeted recommendations that resonate with individual user preferences, ultimately enhancing user satisfaction and loyalty.

5.5 Hypothesis 4 (H4): Information Quality has a Significant Positive Effect on Attitude

The analysis confirms that Information Quality significantly influences Attitude ($\beta = 0.60$, $p < 0.001$), supporting the Information Systems Success Model (DeLone & McLean, 2003), which asserts that the quality of information—characterized by accuracy, relevance, and timeliness—is a critical factor in technology adoption. In the context of grocery mobile apps, clear, accurate, and relevant product descriptions significantly enhance user attitudes by fostering trust in the platform. This aligns with recent findings by Alraja et al. (2020), who demonstrated that high-quality information in mobile applications directly improves user trust, engagement, and attitude toward technology adoption. Similarly, Chopdar and Sivakumar (2021) found that information transparency and credibility strongly influence consumer trust in mobile shopping, ultimately shaping their attitude and purchase intentions.

This study extends existing research by emphasizing the role of detailed nutritional information, price transparency, and real-time availability updates in mobile grocery apps. Prior studies primarily focused on e-commerce platforms (Gefen et al., 2003), but recent evidence from Karjaluoto et al. (2022) suggests that mobile grocery shoppers value product-specific details, such as ingredient breakdowns and expiration dates, more than traditional online shoppers. Furthermore, Kim et al. (2021) argue that while information quality enhances attitudes toward mobile grocery shopping, excessive or inconsistent information can create decision fatigue, negatively affecting user experience.

The positive effect of Information Quality on Attitude can be attributed to its role in reducing uncertainty and perceived risk, particularly among price-conscious consumers. Molinillo et al. (2021) suggest that when mobile grocery apps provide high-quality, easy-to-verify information, users are more likely to develop favorable attitudes and engage in repeat purchases. However, some studies challenge this perspective. Gao et al. (2022) argue that excessive information (e.g., overly detailed nutritional facts or complex pricing structures) may lead to information overload, reducing user engagement rather than improving attitudes.

Given these insights, retailers should focus on enhancing the quality and accessibility of information to build trust while ensuring that information remains digestible and user-friendly. Implementing AI-driven product descriptions, simplified comparison features, and visually

appealing nutrition labels can optimize information delivery, ultimately reinforcing positive attitudes toward mobile grocery shopping apps.

5.6 Hypothesis 5 (H5): Interactivity has a Significant Positive Effect on Attitude

The analysis reveals a significant positive relationship between Interactivity and Attitude ($\beta = 0.55$, $p < 0.001$), consistent with the Interactive Advertising Model (Liu & Shrum, 2002). Interactive features, such as chat support, gamified loyalty programs, and user-generated content, enhance user engagement and foster positive attitudes. These findings align with previous research, which emphasizes that interactivity increases user involvement and satisfaction in digital environments. However, this study differs by highlighting interactivity's role in a grocery app context, where it extends beyond entertainment to functional benefits such as real-time inventory updates and personalized customer support. Unlike traditional e-commerce platforms, where interactivity primarily drives engagement (Kim et al., 2011), grocery apps leverage interactivity to enhance convenience and trust.

Recent studies further support these findings. Alalwan et al. (2020) found that mobile interactivity significantly enhances customer engagement in mobile shopping contexts, particularly through real-time customer support and interactive product recommendations. Similarly, Alghamdi (2023) demonstrated that dimensions of mobile interactivity, including active control and responsiveness, positively impact customer engagement in mobile commerce applications. These results suggest that consumers value interactive features that simplify their shopping experience, enhancing both efficiency and perceived reliability.

Given these insights, retailers should continue investing in interactive technologies, such as AI-driven chatbots, real-time assistance, and interactive product customization tools, to further engage users and strengthen positive attitudes. As interactivity in grocery mobile apps evolves, businesses should focus on personalized and user-friendly interactive features that not only entertain but also streamline the shopping process, enhance trust, and boost long-term customer engagement.

5.7 Hypothesis 6 (H6): Attitude has a Significant Positive Effect on Customer Loyalty

The analysis confirms that Attitude significantly impacts Customer Loyalty ($\beta = 0.78$, $p < 0.001$), aligning with prior research that links positive attitudes to repeat purchase intentions (Oliver, 1999). This finding supports the Theory of Planned Behavior (Ajzen, 1991), which posits that attitudes directly influence behavioral intentions and subsequent actions.

Recent studies further substantiate this relationship. For instance, Londoño-Giraldo et al. (2024) found that user engagement in mobile applications for restaurant home deliveries positively influences loyalty, highlighting the importance of fostering positive user attitudes to drive repeat usage. Similarly, a study by Syamsuddin et al. (2024) demonstrated that user experience and service quality in mobile applications significantly affect customer satisfaction, which in turn enhances loyalty. These findings emphasize the critical role of positive user attitudes in cultivating customer loyalty across various mobile application contexts.

This study contributes to the literature by emphasizing the mediating role of attitude in the relationship between digital marketing elements and customer loyalty. While previous research has shown this in broader e-commerce contexts (Rahi et al., 2019), the current findings highlight its relevance for grocery apps specifically. A logical explanation for this strong relationship is that positive attitudes, driven by factors such as ease of use, utility, personalization, and interactivity, create a favorable perception of the app, leading to increased loyalty. Retailers must prioritize strategies that enhance user attitudes to ensure long-term customer retention.

5.8 Strengthening the Findings with Attitude as a Mediator

The results from the study confirm that Attitude plays a significant mediating role between digital marketing elements (Perceived Ease of Use, Perceived Usefulness, Personalization, Information Quality, and Interactivity) and Customer Loyalty. While these digital marketing elements directly influence user attitudes, the study also establishes that Attitude enhances the relationship between these factors and Customer Loyalty, reinforcing its pivotal role in the overall model.

5.9 Mediating Role of Attitude in Hypotheses

Perceived Ease of Use → Attitude → Customer Loyalty

The mediation analysis revealed that Perceived Ease of Use significantly impacts Attitude ($\beta = 0.65$, $p < 0.001$), and while Attitude influences Customer Loyalty ($\beta = 0.78$, $p < 0.001$), the mediation effect was partial. This indicates that while ease of use contributes directly to loyalty, its influence is strengthened when users develop a positive attitude toward the app.

Perceived Usefulness → Attitude → Customer Loyalty

Attitude fully mediated the relationship between Perceived Usefulness and Customer Loyalty, as evidenced by the direct effect of Perceived Usefulness on Customer Loyalty ($\beta = 0.0081$, $p > 0.05$, not significant), which became significant only when Attitude was introduced ($\beta = 0.0061$, $p < 0.05$). This confirms that usefulness enhances loyalty only through a positive attitude toward grocery mobile apps.

Personalisation → Attitude → Customer Loyalty

The study revealed a weaker mediation effect of Attitude in the relationship between Personalization and Customer Loyalty. Although Personalization improves Attitude ($\beta = 0.58$, $p < 0.001$), the direct influence of Personalization on Customer Loyalty remained weak. The mediation analysis showed that Attitude contributes to loyalty, but personalization alone does not guarantee stronger retention unless users perceive it favorably.

Information Quality → Attitude → Customer Loyalty

Information Quality significantly affects Attitude ($\beta = 0.60$, $p < 0.001$), and Attitude partially mediates the relationship with Customer Loyalty. However, the direct effect of Information Quality on Customer Loyalty was negative ($\beta = -0.0747$), suggesting that while high-quality

information fosters trust and satisfaction, an overload of information could lead to decision fatigue, which negatively impacts long-term loyalty.

Interactivity → Attitude → Customer Loyalty

The findings indicate that Interactivity significantly influences Attitude ($\beta = 0.55$, $p < 0.001$), and Attitude weakly mediates the relationship with Customer Loyalty. The direct effect of Interactivity on Customer Loyalty ($\beta = 0.0330$) remained largely unchanged after introducing Attitude ($\beta = 0.0339$), implying that while interactivity enhances engagement, its effect on loyalty is not heavily dependent on Attitude.

Interpretation of Findings

The mediation results confirm that Attitude is a crucial factor in enhancing the impact of digital marketing elements on Customer Loyalty. Perceived Usefulness demonstrated full mediation, reinforcing the idea that usefulness alone does not guarantee loyalty unless it positively shapes attitudes. Perceived Ease of Use, Personalization, and Interactivity exhibited partial mediation, meaning that their impact on loyalty is both direct and attitude-driven. Information Quality revealed an interesting suppressor effect, suggesting that while high-quality information can build trust, excessive or overly complex information may hinder loyalty rather than enhance it.

These results strengthen the argument that merely improving the usability, personalization, or information quality of grocery mobile apps is insufficient unless these enhancements also translate into positive user attitudes. A strong, favorable attitude increases engagement, satisfaction, and ultimately loyalty, reinforcing theories such as the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB).

5.10 Conclusion

This study confirms that Attitude plays a significant mediating role in the relationship between digital marketing elements and Customer Loyalty within grocery mobile apps. The findings indicate that Perceived Ease of Use, Perceived Usefulness, Information Quality, Personalization, and Interactivity each contribute to shaping user attitudes, but their impact on loyalty is stronger when positive attitudes are established. Notably, Perceived Usefulness demonstrated full mediation, suggesting that users are more likely to remain loyal when they perceive the app as beneficial. In contrast, Personalization and Information Quality exhibited weaker mediation effects, indicating that other factors such as trust, incentives, and perceived value also influence long-term engagement.

The findings reinforce the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) by demonstrating that attitudes are central to predicting user behavior in mobile shopping applications. However, the study also highlights that digital marketing elements alone do not guarantee loyalty unless they translate into positive user perceptions and experiences.

Chapter 6: Conclusion

6.1 Introduction

This chapter presents the key conclusions drawn from the research, linking the findings to the initial research objectives and hypotheses outlined in Chapter 1. The study aimed to investigate the impact of digital marketing elements—perceived ease of use, perceived usefulness, personalisation, information quality, and interactivity—on customer loyalty among price-conscious young consumers using grocery mobile apps in South Africa. The chapter also highlights significant contributions to the literature, practical implications, recommendations for stakeholders, and areas for future research.

6.2 Conclusions Regarding Research Objective 1

The first research objective sought to examine the relationship between perceived ease of use and attitude toward grocery mobile apps. The findings indicate that perceived ease of use has a significant positive effect on attitude. Users who find grocery apps easy to navigate and intuitive develop more favorable attitudes toward their use. The seamless functionality of grocery apps reduces friction in the shopping process, leading to a more satisfying user experience.

A key insight from this study is that grocery mobile apps must prioritize user-friendly design and efficient navigation to encourage positive attitudes. By minimizing complexity, app developers can enhance user engagement and promote continued usage.

6.3 Conclusions Regarding Research Objective 2

The second research objective aimed to determine the impact of perceived usefulness on attitude. The results confirm that perceived usefulness significantly influences attitude, as users who find grocery mobile apps beneficial in saving time, offering convenience, and improving purchasing decisions exhibit more positive attitudes toward their adoption.

This study suggests that grocery apps should focus on enhancing their value proposition by integrating predictive shopping lists, personalized recommendations, and efficient checkout

processes. These features contribute to user satisfaction and foster long-term engagement with the app.

6.4 Conclusions Regarding Research Objective 3

The third research objective examined the relationship between personalisation and attitude. The findings confirm that personalisation significantly impacts attitude by creating a tailored user experience. Consumers respond positively to customized promotions, loyalty incentives, and product recommendations, leading to a more engaging shopping journey.

A major takeaway is that personalised experiences strengthen consumer attachment to grocery apps. Companies should invest in advanced data analytics to deliver hyper-personalized content, ensuring that users feel valued and understood.

6.5 Conclusions Regarding Research Objective 4

The fourth research objective investigated the effect of information quality on attitude. The study confirmed that high-quality information fosters trust and enhances user attitudes toward grocery apps. Consumers appreciate accurate pricing, detailed product descriptions, and real-time inventory updates, as these elements reduce uncertainty and improve purchasing confidence.

This highlights the importance of maintaining up-to-date and transparent information in grocery mobile apps. Businesses should ensure that their platforms provide reliable data to support informed decision-making and enhance user satisfaction.

6.6 Conclusions Regarding Research Objective 5

The fifth research objective explored the role of interactivity in shaping attitudes toward grocery mobile apps. The findings indicate that interactive features, such as chat support, gamified experiences, and responsive design, significantly influence attitude. Users value apps that allow real-time engagement, quick responses to inquiries, and dynamic interfaces that enhance the shopping experience.

A key takeaway from this study is that interactivity not only fosters engagement but also helps mitigate price sensitivity by providing immediate customer support and personalized promotions. Grocery mobile apps should continuously refine their interactive elements to meet user expectations.

6.7 Conclusions Regarding Research Objective 5

The third research objective sought to examine the link between attitude and customer loyalty. The findings confirm that attitude plays a central role in driving customer loyalty in grocery mobile apps. Users with a positive attitude toward an app are more likely to make repeat purchases, engage with app features, and recommend the app to others. The seamless user experience, effective customer support, and personalised promotions contribute to fostering long-term customer relationships.

This study highlights that beyond price considerations, a well-optimised app experience influences loyalty behaviors. Consumers who feel valued and have a frictionless shopping experience are less likely to switch to competitors, reinforcing the need for continuous improvements in digital engagement strategies.

6.8 Recommendations

Based on these findings, several recommendations can be made for stakeholders involved in grocery mobile apps. Grocery mobile app developers should prioritize seamless navigation, AI-driven personalization, and real-time information updates to enhance user experience. Implementing chatbot assistance and interactive features that promptly address price-conscious consumers' needs can also improve satisfaction and engagement. FMCG brands are encouraged to leverage data-driven personalization strategies to tailor promotions and loyalty programs specifically for young consumers, while providing detailed and transparent product information to build trust and encourage repeat purchases. Marketers should focus on digital campaigns that emphasize ease of use, time-saving features, and exclusive app-based promotions, and consider investing in gamification and interactive content to boost engagement levels among young, price-

sensitive shoppers. Retailers should work on improving supply chain efficiencies to ensure accurate real-time inventory tracking within apps, while offering flexible pricing strategies and exclusive app discounts to attract and retain cost-conscious consumers.

6.9 Suggestions for Further Research

While this study provides valuable insights, several areas warrant further investigation. Future research could involve longitudinal studies to examine the long-term effects of digital marketing elements on customer loyalty, offering a more comprehensive understanding of how consumer behaviors evolve over time. Comparative analyses of different grocery mobile apps could help identify best practices and unique value propositions, providing clearer guidance for both app developers and marketers. Expanding the demographic scope to explore how digital marketing elements influence other consumer segments, such as older adults or higher-income consumers, could yield broader insights applicable beyond the current study's focus. Additionally, investigating the role of emerging factors like social media influence, augmented reality (AR), and voice commerce in grocery app engagement could offer a more holistic view of digital shopping experiences and reveal new opportunities for enhancing customer loyalty.

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Appendix A:

Table 24. Consistency table: research questions, propositions, data collection and data analysis

RQ #		State Research Question or Objective	Prop/hyp #	State Proposition or Hypothesis	Data collection detail	Data analysis method
1		To investigate the relationship between perceived ease of use and attitude	1	Perceived ease of use has a significant positive effect on attitude	Survey questionnaire 4.1., 4.6	Regression analysis
2		To investigate the relationship between perceived ease of usefulness and attitude	2	Perceived ease of usefulness has a significant positive effect on attitude	Survey questionnaire 4.2., 4.6	Regression analysis

RQ #		State Research Question or Objective	Prop/hyp #	State Proposition or Hypothesis	Data collection detail	Data analysis method

3		To investigate the relationship between personalisation and attitude	3	Personalisation has a significant positive effect on attitude	Survey questionnaire 4.3, 4.6	Regression analysis
4		To investigate the relationship between information quality and attitude	4	Information quality has a significant positive effect on attitude	Survey questionnaire 4.4; 4.6	Regression analysis

RQ #		**State Research Question or Objective**	**Prop/hyp #**	**State Proposition or Hypothesis**	**Data collection detail**	**Data analysis method**
5		To investigate the relationship between interactivity marketing and attitude	5	Interactivity has a significant positive effect on attitude	Survey questionnaire 4.5; 4.6	Regression analysis

Appendix B: Questionnaire

Dear Sir / Madam

My name is Tidimalo Raditlhalo, and I am a Master's student in Digital Business at the University of the Witwatersrand, Johannesburg. My supervisor is Dr. Thubelihle Namaswazi Ndlela. I am conducting research on digital marketing strategies for customer loyalty among price-conscious young consumers using mobile grocery apps. The study title is **Digital Marketing for Customer Loyalty among Price-Conscious Young Consumers on Mobile Grocery Apps.**

I am inviting you to participate in a questionnaire-based research study. If you decide to take part, the questionnaire will take approximately **10-15 minutes** to complete. You can complete the questionnaire at any time and from any location that is convenient for you, as it will be distributed online.

Your participation is completely voluntary, and all responses will remain confidential and anonymous. No identifying information will be collected or linked to your responses, and when the results of the research are shared, your identity will not be disclosed.

There are no direct benefits for participating in this study, and there are no foreseeable risks beyond your everyday experience. However, if any of the questions make you feel uncomfortable, you are free to skip them or withdraw from the study at any time without any consequences. Your participation will not affect any services, benefits, or rights you would otherwise have. This research will be written up as a report, if you would like a summary of the research findings, I would be happy to send it to you.

Kind regards,
Researcher:
Tidimalo Raditlhalo
2496463@students.wits.ac.za

Supervisor:
Dr Thubelihle Ndlela,
thubelihle.ndlela@wits.ac.za

Participant Consent Form

I agree to the following:

I have been provided with a clear explanation of the research study and understand its purpose and procedures.

I acknowledge that participation in this study is entirely voluntary.

I consent to having my participation kept anonymous. My name or any other identifying information will not be included in the research report, manuscript, or book chapter.

I understand that while the information I provide may be used by other researchers, such use will be subject to their own ethical approvals. My personal information and identity will remain confidential and will not be shared.

☐ Yes, I agree

☐ No, I do not agree

Please answer the questions honestly by selecting a box.

Section 1: Screening Questions

These questions help determine if you meet the criteria for this study. Please answer the following.

1.1. Are you within the age range of 18–35 years old?

☐ Yes

☐ No

1.2. Have you used grocery mobile apps in the last six months for grocery shopping?

☐ Yes

☐ No

If ALL the above answers were "Yes", please continue with the survey. However, if any of the above were answered "No", then please end this questionnaire. Thank you for your time.

Section 2: Profile of Respondent

These questions are about you, your education, your occupational status and your income. Please select the appropriate choice.

2.1. Gender

☐ Male

☐ Female

☐ Other

2.2. Age

☐ 18–25 years old

☐ 26–35 years old

☐ 36 years old and older

2.3. Highest level of education

☐ Matric

☐ Diploma/Certificate

☐ Undergraduate degree

☐ Postgraduate degree (Honours, Masters, Doctorate)

Other _____

2.4. Occupational status

☐ Student

☐ Employed

☐ Self-employed

Other _____

2.5. Income

☐ Less than R5 000.00

☐ R6 000.00 - R10 000.00

☐ R11 000.00 - R15 000.00

☐ R16 000.00 - R20 000.00

☐ Over R20 000.00

Section 3: Mobile Grocery App

These questions focus on your usage of grocery mobile apps, including your preferences and shopping habits. Please select the most relevant option.

3.1. Which is the most mobile grocery app you use?

☐ CheckersSixty60

☐ Pick n Pay ASAP!

☐ OneCart

☐ WooliesDash

Other: _____

3.2. Why is it the grocery mobile app you use most?

☐ Loyalty program

☐ Discount codes

☐ Easy to navigate

☐ Delivery costs less

☐ Social media influence

Other: _____

3.3. Which mobile device platform do you have the mobile grocery app?

☐ Windows

☐ Android

☐ Apple iOS

Other: _____

3.4. How many times a month do your grocery shop on the mobile grocery app?

☐ 1 to 2 times a month

☐ 3 to 6 times a month

☐ 7 or more times a month

3.5. What is mostly your expenditure amount on the grocery mobile app?

☐ Less than R500

☐ R500 - R550

☐ R560 - R1 000

☐ More than R1 000

Section 4:

For the below variables, please answer honestly according to strongly agree to strongly disagree.

4.1. Perceived Ease of Use

The following statements relate to how easy it is for you to use grocery mobile apps. Please indicate your level of agreement with each statement.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
It is easy for me to do grocery mobile shopping					
It is easy for me to learn how to do grocery mobile shopping					
Browsing and searching for grocery products in grocery					

mobile app is understandable and easy for me					
It is easy to perform the steps required to use grocery mobile apps					
It is easy for me to use my banking details while doing grocery mobile shopping					

4.2. Perceived Usefulness

These questions assess how beneficial grocery mobile apps are in enhancing your shopping experience. Please select the option that best describes your level of agreement with each statement.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Grocery mobile shopping app provides me with a broader selection of grocery products					
Grocery mobile shopping app saves me money					

Grocery mobile shopping app saves me time					
Grocery mobile apps shopping enhances my shopping effectiveness					
Grocery mobile apps shopping is useful to personal grocery shopping activities					

4.3. Personalisation

This section explores your views on how personalization in grocery mobile apps enhances your shopping experience. Please select the option that best represents your level of agreement with each statement.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I value mobile grocery apps that are personalised based on information that is collected automatically (such as IP address, pages viewed, access time) but cannot identify me as an individual					
I value mobile grocery apps that are personalised based on information that I have voluntarily given out (such as age range, salary range, Zip Code)					

but cannot identify me as an individual					
Personalisation in mobile grocery shopping makes me feel that I am a unique customer					
I like the idea of using personalisation in mobile grocery shopping					
I value mobile grocery apps that are personalized on information I have voluntarily given out and can identify me as an individual (such as name, shipping address, credit card information)					

4.4. Information quality

These questions explore your perception of the quality of information provided through grocery mobile app advertisements. Please select the option that best reflects your level of agreement with each statement.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I value information on ads to be accurate					
I value information on ads to be reliable					
I value information on ads that is dispensed in a manner that is intelligible and clear					
I value information on ads that is readily obtained					

when needed					
I value information that is beneficial and provides advantages of product					
I value information that is unbiased, unprejudiced and impartial					
I value volume of information on ads to be appropriate					

4.5. Interactivity

These questions assess how interactive you find grocery mobile app advertisements. Please select the option that best matches your level of agreement with each statement.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I value ads that provide an opportunity for me to give my feedback					
I value ads that I feel attracted to and enjoy seeing the ad					
I value ads that increase my curiosity towards the product					
I value ads that feel like having an interpersonal communication when receiving the ad					

I value ads that gives me the opportunity to respond in more than one way (e.g., click through to have detailed information, participate an ongoing campaign)					
I value ads that are playful					

4.6. Attitude

These questions explore your overall feelings and perceptions about using grocery mobile apps for shopping. Please select the option that best reflects your level of agreement with each statement.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Using mobile grocery app is a good idea.					
Using mobile grocery app					

is a wise idea.					
I like the idea of purchasing grocery by using mobile app					
Purchasing grocery by using mobile app would be pleasant					

4.7. Customer Loyalty

These questions assess your loyalty to grocery mobile apps. Please select the option that best reflects your level of agreement with each statement.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to recommend the grocery mobile app to someone else.					
I am likely to continue to use the grocery					

mobile app for shopping.					
I will consider the grocery mobile shopping app as my first choice for shopping in the future.					
It would be difficult to change my belief about the grocery mobile shopping app.					

End! Thank you for your time

Ethics Clearance Certificate

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

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

Ethics Clearance Certificate

Ethics protocol number: WBS/DB2496463/621
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	Digital marketing for customer loyalty among price-conscious young consumers on mobile grocery apps
Investigator / Researcher	Ms Tidimalo Raditlhalo
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.
Issue Date of Certificate	01/11/2024
Expiry date	Date of submission of the project / research report
Chairperson	Dr Ayanda Magida ☎ +27 11 717 3953 ✉ ayanda.magida@wits.ac.za

Declaration by Researcher

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

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

Signature

2024/11/01
Date:

Research Report Checklist

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

WITS FACULTY OF COMMERCE, LAW & MANAGEMENT

THESIS/DISSERTATION/RESEARCH REPORT – FIRST SUBMISSION CHECKLIST *(for Examination)*

**** This checklist must be completed and included as part of the submission ****

Name of Candidate:	Tidimalo Raditlhalo	
Person/Student Number:	2496463	
Qualification:	MM Masters in Digital Business	
Title:	Digital marketing for customer loyalty among price-conscious young consumers on mobile grocery apps	
Supervisor(s):	Dr Thubelihle Ndlela	
Contact Details:	**Cell number(s):** 061 470 0807	**Email:** tiddymalo@gmail.com

FIRST SUBMISSION CHECKLIST *(for Examination)*

Has this research been submitted with the consent of the supervisor? (Y/N)		Y
Student to submit:	**Electronic copy of research in PDF** *(Hard copy may be required upon request from the examiner)*	Y
	Full Turn-it-in Report *(signed by Supervisor)* *** For WBS – this report does not require the Supervisor's approval ***	Y
	Confirmation of Ethics (*Clearance/Waiver certificate*)	Y
	Overall Supervisor Evaluation form *(MBA candidates ONLY)*	Y
Supervisor to submit:	**University Clearance Certificate** *(Supervisor to complete and send directly to Faculty)*	Y
	Supervisor's Report *(Supervisor to complete and send directly to Faculty)*	Y
Faculty to check on:	Approved title and supervisor(s)	
	Approved examiners	
	Registration status *(students must be registered during the examination period)*	

Please send your research submission to the correct email:

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- Veli.Mongwe@wits.ac.za – for PhD and Full Research Masters students **belonging to WBS**
- #Fac-MMsubmissions@wits.ac.za – for MM research submissions **belonging to WBS and WSG**
- Nasreen.Abdulla@wits.ac.za – for PhD and Full Research Masters students **belonging to WSG**
- Tshepo.Mohlakoane@wits.ac.za – for all research types **belonging to Commerce and Law (SEF, SBS, SOA and SOL)**

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- *WBS submissions may undergo internal academic quality checks before the exam process may begin.*
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