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The assessment of cart stacking as a response to free delivery thresholds within South Africa's e-commerce

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

Date: 29th Feb 2024

Abstract

This study explores the phenomenon of cart stacking within South Africa's e-commerce landscape, particularly in response to free delivery thresholds set by online retailers. The study delves into whether the allure of free shipping prompts consumers to alter their purchasing behaviour and basket size to meet the minimum spend required for free delivery. It aims to identify the demographic profile of cart stackers, the types of items they add to their carts, and the underlying motivations for their actions, including factors like cross-selling, up-selling, and habitual buying patterns.

Despite the abundance of research on cart abandonment and free delivery incentives, there's a notable lack of studies focusing on cart stacking from a South African perspective. Given the burgeoning e-commerce market in South Africa, projected at a growth rate of 9.04%, in 2024 (Statista, 2024) understanding cart stacking behaviours is crucial for retailers looking to optimize revenue and profit margins.

The research employs a mixed-method approach, incorporating both qualitative and quantitative analyses to offer a comprehensive view of the drivers behind cart stacking. The research employs a mixed-method approach, incorporating both qualitative and quantitative analyses to offer a comprehensive view of the drivers behind cart stacking. The quantitative results gathered results from 600 respondents, via an electronic survey. The qualitative interviews comprised of 9 in depth interviews, where respondents were frequent shoppers with a high level of income, the qualitative research was done to support the quantitative results in a two phased research design , allowing for further richness in the findings. The research examines how cart stacking aligns with various customer decision-making processes and how internal and external factors influence these behaviours. The study examines how cart stacking aligns with various customer decision-making processes and how internal and external factors influence these behaviours.

Expanding on existing literature and exploring South African e-commerce customers' nuanced behaviours, this study aims to shed light on the strategic implications of free delivery thresholds and the factors influencing cart stacking. It also considers the potential impact of these behaviours on e-commerce practices, offering

recommendations for retailers to better cater to the needs of their customers and encourage more strategic purchasing decisions.

Dedication

This thesis represents the culmination of an intense and dedicated two-year journey. I owe a debt of gratitude to my family, whose steadfast support never wavered. To my late father, Christian, who, although he did not live to see this day, inspired me throughout this journey, and I know he would be so proud; to my mother, Jill , whose strength and unwavering support have been my anchor in challenging times. To my children, your understanding and patience have meant the world to me, even when my studies meant less time together. Finally, my heartfelt thanks to my friend Justin Everste, who shared in the rigors of this academic pursuit and played a crucial role in bringing this project to fruition. Your companionship and collaboration have been invaluable.

Acknowledgement

To the esteemed University of the Witwatersrand, my heartfelt gratitude for the invaluable guidance and support provided throughout my academic journey. Your exceptional faculty, challenging academic environment, and extensive resources have played a pivotal role in shaping both my research and intellectual development. This thesis stands as a testament to the enriching educational atmosphere fostered by the University of the Witwatersrand, encouraging students like myself to pursue our research endeavours with dedication and integrity.

I extend special thanks to my mentor, Professor Greg Lee, for his unwavering guidance and support throughout this research project. Professor Lee, your willingness to share your vast knowledge and expertise has been instrumental in navigating the complexities of this study. Your mentorship has not only enriched my learning experience but has also instilled in me the confidence and rigor required to undertake such a comprehensive research project. Your constructive feedback, insightful suggestions, and encouragement have been invaluable to my academic and personal growth.

I extend my heartfelt appreciation to Hewlett Packard for providing the necessary time and resources that contributed significantly to my academic endeavours. This thesis is a result of the support and flexibility afforded to me by the company. Additionally, my profound thanks go to my manager, Rodrigo Carrasco, whose encouragement and understanding played a pivotal role in enabling me to complete this thesis successfully. His support throughout this academic journey has been invaluable.

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CHAPTER 1. INTRODUCTION

This study is an extension of the study done by Yolisa Mayaba (2023). It aims to continue the purposeful study of the cart stacking phenomenon by including qualitative and quantitative data.

1.1 Statement of purpose

This study aims to investigate cart stacking as a response to the threshold for free delivery policy in the context of South African e-commerce.

1.2 Background to the study

e-commerce can be defined as buying and selling goods or services and enabling financial transactions over the Internet (Cao & Yang, 2016). The adoption of e-commerce has allowed retailers to grow their market presence and enable online presence in outlying areas without requiring a physical brick-and-mortar store.

The prevalence of e-commerce is growing within South Africa and is reaching greater strategic importance within the Omni-Channel customer journey (Singh, 2005) While e-commerce is becoming mainstream in retail, it is still a tiny portion of the overall revenue ("What's Holding Back E-Commerce in South Africa?," 2019). Influential e-commerce companies provide quick turnaround, trustworthy, and low-cost delivery to persuade customers to shop online. The delivery fee and mechanism play a significant role in the customer consideration when purchasing. While most online platforms have an optimal free shipping threshold, this study has sought to investigate the concept of customers deliberately inflating the order basket to qualify for free shipping; this behaviour is referred to in this study as cart stacking.

The last-delivery mile for an online retailer drives significant profitability concerns for the online retailer; with the increased cost of transportation and technology and the rising cost of labour, most online retailers have chosen to adopt a threshold policy for free retail shipping. There is additional evidence that retailers would not benefit from free shipping thresholds and that this would negatively impact profitability and gross

margin by up to 20% (Xu, 2016b). Based on study United states UPS study 58% of customers will cart stack to reach the free delivery threshold (Charlton, 2014).

A study was done in 2023 by Yolisa Mabala in 2023 (Mayaba, 2023) on the same topic and this was used as point of reference in this study. The study investigates consumer behaviour related to cart stacking in response to free delivery thresholds in South African e-commerce. The study, conducted through a survey of Takealot users, applies prospect theory, script theory, optimal stopping theory, and image theory to explain why and how consumers add items to their carts to avoid delivery fees. The findings indicate that most consumers pre-plan their purchases rather than cart stack impulsively, with a significant portion adding items for pleasure. A negative correlation was found between pre-planned cart items and cart stacking, suggesting that pre-planned purchases are often sufficient to meet delivery thresholds. Recommendations include leveraging consumer behaviour insights to optimize marketing strategies and suggesting further research on different e-commerce platforms.

This study has sought to understand the strategic change to the customer basket to qualify for free shipping and what factors have impacted that decision.

1.3 Research problem

The fundamental problem was understanding if free shipping thresholds leads to cart stacking with the e-commerce customer (Huang et al., 2019). Specifically, this study sought to observe if customers change their buying behaviour and basket size to optimise their basket and qualify for the free shipping thresholds.

South African e-commerce providers lack sufficient knowledge about how consumers react to these free delivery thresholds and the extent to which these policies influence their purchase decisions. While similar studies have been conducted in other regions, there is a notable gap in understanding the specific behaviour's and responses of South African consumers to such policies.

This study is particularly relevant for e-commerce providers in South Africa who are keen to understand their consumers' decision-making processes. Investigating consumer behaviour is crucial for identifying opportunities for cross-selling and

upselling. Cross-selling involves offering consumers products that complement their current selections, while upselling encourages consumers to purchase larger quantities or more premium versions of their chosen items. (Kubiak & Weichbroth, 2010)

This study sought to comprehend who the customers are that cart stack, what do they add to their shopping cart and the motivations behind cart stacking. The study attempted to understand what products are added to the basket and what the pre-intentioned purchase was. The study looked at understanding what factors influence these decisions, customer prior purchases and habitual buying patterns which could impact the fulfilment of the basket.

While there is a plethora of literature on cart abandonment rates and free delivery, there should be more research on cart stacking, specifically from a South African perspective. There is a gap in the available material, knowledge, and understanding of customer buying patterns within e-commerce. While e-commerce is still relatively young in South Africa, the predicted revenue in 2023 is USD 7.2M, with a compound annual growth rate of 11.9%, and therefore, retailers would have to understand how to optimise revenue and maximise profit regarding their e-commerce approach (Statista, 2023b),

Through a better understanding of customer behaviours, e-commerce providers could maximise customer spend and better understand the thresholds for free delivery and the key drivers thereof. This would impact cross-selling, up-selling, promotions, and website layout offerings. Understanding consumer behaviour helps e-commerce providers ensure their platforms remain relevant, functional, and appealing to their target audience. If e-commerce providers do not study and adapt to their consumers' habits, they risk losing customers to competitors with similar product offerings. Therefore, it is essential for e-commerce providers to study consumer behaviour, specifically cart stacking behaviour, and consumer reactions to free delivery thresholds.

1.4 Research questions

The questionnaire for the cart stacking study aimed to delve deeply into the nuances of online shopping, especially the strategy of adding items to meet free shipping requirements. It creatively combined various types of questions like yes/no, open-ended, and scaled responses to construct a thorough understanding of shopper behaviour. Crafted from the ground up due to the lack of existing research in this specific area, the questionnaire sought to uncover how often and why consumers engage in cart stacking, what items they are likely to add, how free shipping thresholds influence their choice of retailers, and any recommendations they might have for improving the online shopping journey.

Specifically, questions 3 to 5 were designed to probe into the contents of the customer's cart, their expenditure, and the rationale behind their purchases, pre intended, cart stacked or un-intended purchase. Question 6 aimed to discern whether customers opted for cart stacking or chose to pay for delivery instead. Questions 7 to 9 focused on shopping habits, employing a mix of Likert scale and binary questions to establish a clear profile of typical cart stackers. Questions 10 and 11 explored the influence of websites they were shopping on to understand if this influenced consumer behaviour. Demographic information was collected through questions 12 to 15, including age, income, gender, and ethnicity, to understand the diverse backgrounds of respondents. Question 16, a Likert scale item, was pivotal in gauging the likelihood of participants engaging in cart stacking or paying for delivery. Question 17 and 18 were designed to understand what the customer would typically cart stack and the maximum amount they would be prepared to pay for the item. Question 19 and 20 were designed to understand the propensity to shop on a website that has a free delivery threshold as compared to a website that has free delivery. Question 20 and 21 were opened ended questions aimed at enhancing the qualitative portion of the study.

1.5 Rationale

A threshold for free delivery based on customers reaching a minimum spend to receive free shipping often drives customers to act strategically to change their basket size to qualify for free shipping. In addition, this behaviour was impacted by the organisation's

returns policy on goods and if these are charged for. Based on United States data statistics, the probability of return increases by 12.6% when an order is augmented to reach the delivery threshold.

There is no evidence to suggest that retailers benefit from free shipping thresholds, and the evidence suggests up to a 19.6% decrease in profitability when shipping thresholds are not applied (Xu, 2016a).

A customer who had a pre-existing cart and has met the free delivery threshold will typically not cart stack; however, a customer whose pre-intentional cart was below the threshold may choose to add to their cart to achieve the threshold for free delivery.

Cart stacking can typically be characterised in three ways (Fujie Jin, 2023):

- Increasing the quantity of the order in the shopping cart.
- Adding a new product to the shopping cart.
- Purchasing a more expensive substitute.

This research complements existing literature to investigate the concept of cart stacking within a South African context and how the threshold for free delivery impacts the customers' purchasing behaviours. It has also sought to understand the internal and external factors influencing this process and the contributing factors in the purchasing journey.

This paper has sought to understand customer behaviour better when faced with free delivery thresholds and what informs these behaviours. The research also looked at the influencing factors when customers are in the process of cart stacking. Lastly, the study has attempted to understand which products are included in the cart to understand better the product selection and why this product was selected.

There has already been a published University of Witwatersrand thesis (Mayaba, 2023). This study aimed to expand the current view that was published through a mixed method of both qualitative and quantitative methodology. This thesis was a baseline for this study; however, this study has expanded this research to broaden the understanding of the driving behaviours behind cart stacking by implementing a qualitative review and quantitative data analysis.

Lastly, the study has considered the potential impact of website features like up-selling and cross-selling in South African e-commerce, particularly their effect on cart stacking behaviours. It aimed to determine the relevance of these factors in influencing customers' decisions to add items to their carts.

1.6 Delimitations of the study

Delimitations of this study refer to the factors or terms of research that were not included or explored by this research report.

- i) E-commerce customers that are outside of South Africa.
- ii) E-commerce retailers that do not have a threshold for free delivery policy.
- iii) Return policy of the e-commerce retailer.
- iv) Delivery timeliness impacted by the threshold for free delivery.

1.7 Definition of terms

- **E-commerce:** Defined as over-the-Internet buying and selling of goods and services, as well as enabling financial transactions (Cao & Yang, 2016).
- **Online shopping cart:** This is where online customers place virtual products of interest that they want to purchase before checkout. The virtual cart allows the customer to add, remove, or virtually review products before checkout (Kukar-Kinney & Close, 2010).
- **Cart stacking:** The customer has a natural demand for a specific product; however, they choose to add or increase an item to reach the free delivery threshold (Hemmati, 2021).
- **Pre-intentioned cart:** The customers pre-conceived purchase before entering the e-commerce website.
- **Free delivery threshold:** The e-commerce platform's minimum threshold for free delivery to absorb the cost of the delivery and encourage customers to increase purchases ("United States : New JDA/Centiro Report Reveals More Than Three-Quarters of European Online Customers are Willing to Exceed Minimum Order Thresholds for Free Delivery," 2016).

- **Cross sell:** This is defined as the selling of additional products and or services that are often complementary to a customer that has already purchased or allocated to the online shopping cart (Ghoshal et al., 2021).
- **Upsell:** The upgrading of a pre-intentioned product to a more expensive version of the purchased item (Johnson & Friend, 2015).

1.8 Assumptions

- Respondents would respond truthfully to the questions that were asked. All responses would be anonymous and used from a holistic perspective.
- There was a perceived value and cost saving when engaging in cart stacking by the customer, which influenced the behaviour.
- There was an assumption that the retailer's e-commerce platform allows customers to add unrelated items to their cart for cart stacking.
- Free shipping incentives are assumed if free shipping offers or discounted shipping rates significantly impact customer behaviour. This assumption suggests that cart stacking may be particularly prevalent when customers seek to avoid paying for shipping.
- If retailers employed various strategies and policies to incentivise or discourage cart stacking behaviour. This assumption implies that retailers have a certain degree of control over cart stacking through their pricing, promotions, and communication strategies.
- Rational decision-making is assumed if customers engage in cart stacking behaviour after evaluating the costs and benefits associated with adding extra items to their order. This assumption suggests that customers would consciously choose to engage in cart stacking based on their perceived value proposition.
- All research would remain independent, and the results would not be influenced or interfered with.

1.9 Chapter outline

The focus of this thesis delved into consumer responses to free delivery thresholds in South African e-commerce, focusing on cart stacking behaviours. It synthesizes, in the literature review, global research, particularly from China and the United States, due

to limited local studies. The investigation aimed to understand the motivations, decision-making processes, and product selection involved in cart stacking to meet free delivery requirements. Through a mixed-method approach, this thesis will examine psychological influences, product choices, and the strategic implications for online retail, culminating in actionable recommendations for the e-commerce sector.

The chapter outline as per below:

Introduction: Outlines the study's purpose, background, and objectives, focusing on cart stacking as a strategy to meet free delivery thresholds.

Literature Review: Reviews theories and existing research related to cart stacking, customer behaviours, and decision-making processes.

Methodology: Describes the mixed-method approach, including research design, data collection, and analysis strategies.

Results: Presents quantitative and qualitative findings, analysing the data in relation to the research hypotheses.

Discussion: Interprets the results, discussing their implications for understanding cart stacking behaviours.

Conclusion and Recommendations: Summarizes the study's findings and suggests implications for e-commerce strategies and future research.

Each chapter builds upon the previous to provide a comprehensive analysis of cart stacking behaviours and their impact on e-commerce strategies.

CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This literature review sought to understand and analyse the existing knowledge and research around cart stacking within the current e-commerce environment in South Africa. The aim was to comprehensively understand cart stacking and the underlying factors that drive customer response. This critical review identified gaps in the existing literature to lay the foundation for this research study.

2.2 Definition and concept of cart stacking

Delivery strategies are an essential factor in driving e-commerce (Wang et al., 2020), and 68% of customers will increase their basket size to meet the free delivery threshold. Customers will, therefore, buy more than their pre-intentioned cart to reach the free delivery threshold (Tsai & Chang, 2022)

When looking at customer behaviour and decision-making, several theoretical frameworks and models proved insightful to customer purchasing decisions. The eight theories outlined below review some of the applicable theories that were formulated. While these theories were not generated directly around cart stacking, they assisted in understanding the decision-making process.

1. Theory of planned behaviour (TPB): The TPB suggests that customer behaviour is influenced by three key factors: attitudes, subjective norms, and perceived behavioural control. Customers' rational behavioural intentions are determinants of behaviours in the context of cart stacking. Attitudes toward adding unrelated items, social influences, and perceived control over the decision to engage in cart stacking can shape customer behaviour (Sharma & Foropon, 2019).
2. Prospect theory was developed by Kahneman and Tversky (1979) (Millroth et al., 2019) and suggests that customer decisions are influenced by the perception of gains and losses rather than absolute values. In the context of cart stacking, customers may engage in the behaviour to avoid the perceived loss of paying for

shipping or to maximise the perceived gain of obtaining free shipping or discount (Chiu et al., 2014).

3. Loss aversion theory suggests that customers are more sensitive to potential losses than equivalent gains. In the context of cart stacking, customers may engage in the behaviour to avoid the loss of paying for shipping, even if the added items are unnecessary or unrelated to their initial purchase intention. This theory is formalised in the prospect theory (Abdellaoui et al., 2007)
4. Customer decision-making models such as the information processing model, the Engel-Kollat-Blackwell model, or the consumer decision process model provide a framework for understanding the cognitive processes and steps involved in customer decision-making. These models can be applied to analyse stages when customers are considering cart stacking and the factors influencing their decisions at each stage (Engel et al., 1995). These models offer a framework for the cognitive process involved in decision-making. Cart stacking can be examined within these models to consider how customers recognise the problem opportunity, search for information, evaluate choices, and ultimately make purchase decisions that may involve adding unrelated items to their cart.
5. Social influence theories, such as social proof theory or reference group theory, highlight the impact of others' behaviour and opinions on individual decision-making. In cart stacking, social influence from peers, online communities, or influencers may play a role in shaping customer behaviour (Cialdini, 1993).
6. Rational choice theory assumes that individuals make decisions rationally, evaluating costs and benefits. In the case of cart stacking, customers may engage in the behaviour if they perceive the benefits, such as free shipping or discounts, to outweigh the costs associated with adding unrelated items. Rational choice (Coleman, 1994) theory may be one lens from which to view cart stacking; however, it does not capture the entire behaviour and complexities.
7. Script theory is a psychological framework where individuals organise the knowledge and expectations about a specific event and situation into a cognitive script that guides behaviour (Schank & Abelson, 1977). These scripts represent actions, roles, and expectations individuals follow within a specific context. Script theory may explain how customers engage in behaviour as part of a learned script for e-commerce engagement. When individuals engage in activities such as

shopping online, they often rely on a script that includes expectations about online store navigation, product selection, and delivery options. Online banners, peer reviews, and word of mouth may reinforce the individual script. Cart stacking may reinforce a sense of familiarity, confidence, and conformity with the e-commerce shopping script and enhance the shopping experience through perceived control over the situation (Erasmus, 2002).

8. Optimal stopping (Zabczyk, 1979) theory is also known as the secretary problem or the marriage problem and is based on a mathematical decision-making framework that addresses the challenge of selecting the best option amongst an observed set of alternatives. The optimal stopping theory suggests an optimal point in a sequential decision-making process following gathering information to decide. Optimal stopping theory (Ferguson, 1989) can be applied to determine the best time to stop adding items to the cart and reach the threshold for free delivery. Customers must decide which items to add to their cart while considering the total cost and the potential savings from free delivery. Optimal stopping theory suggests that there is an optimal point at which individuals should stop adding items to their cart to minimise costs while maximising the benefit of free delivery. Customers should weigh the costs of additional items against the potential savings from free delivery. They may consider factors such as the cost of the other items, the distance from the free delivery threshold, and the estimated shipping cost if the threshold still has to be reached (H Robbins, 1952).

2.2.1 Why do e-commerce customers cart stack to meet the threshold for free delivery?

Within this section, the study sought to relate the available literature and theoretical framework to answer the question: *Why do e-commerce customers cart stack to meet the threshold for free delivery?*

Loss aversion, under the prospect theory

The loss aversion theory by psychologists Daniel Kahneman and Amos Tversky (Tversky & Kahneman, 1979) implies that customers have a greater aversion to losses than the equivalent gains. In the context of e-commerce and free delivery thresholds, customers may perceive paying for shipping as a loss or an extra cost. As a result,

they may engage in cart stacking as a strategy to avoid this perceived loss and gain the benefit of free delivery.

- Customers may perceive the shipping cost as a loss or an additional expense. This perception can trigger a psychological discomfort or aversion, motivating them to seek ways to avoid it.
- The free delivery threshold serves as a goal or reference point customers aim to achieve. This goal provides a psychological incentive for customers to add more items to their cart to meet the threshold and avoid the perceived loss of paying for shipping (Huang et al., 2019).
- The reference point may shift over time, and this may impact perceived value; the reference point is influenced by perceived gain, time factors, and the customer's income (Nwogugu, 2005).
- Cart stacking to meet the free delivery threshold could be framed as a gain or positive outcome. Adding more items to their cart may make customers feel they are getting more value or maximising their benefits. The feeling of gaining something outweighs the perceived loss of paying for shipping.
- Customers may engage in post-purchase rationalisation to justify their cart stacking behaviour. They may convince themselves that the additional items are necessary or valuable, even if their initial intention was solely to meet the free delivery threshold. The customer's actions, therefore, derive a positive outcome, that of free delivery, while minimising perceived losses of shipping payments.

Loss aversion theory suggests that cart stacking to meet free delivery thresholds is driven by customers' aversion to the perceived loss of paying for shipping. By engaging in cart stacking, customers frame their behaviour as a gain, justify their choices, and avoid the psychological discomfort associated with the loss of paying for shipping (Abdellaoui, 2007).

Proposition 1

P1: If a customer perceives paying for shipping as a loss, they will be driven to cart stack to meet the free delivery threshold.

2.2.2 How do e-commerce customers choose to cart stack during an e-commerce journey?

Within this section, the study relates the available literature and theoretical framework to answer the question: *How do e-commerce customers choose to cart stack during an e-commerce journey?*

Script theory

The outline of script theory, also known as cognitive script theory, shows how an individual develops a mental script or framework of behaviours within a specific familiar situation (Safa & von Solms, 2016). This theory suggests that individuals have a predefined script model for particular situations within the context of cart stacking. Customers would be aware of what the delivery threshold is for a specific online retailer. They would evaluate the current item in the cart and compare it to the required threshold. Customers would add items to their cart that they have purchased before, or these items may be selected on the value price or as a cross-sell item relevant to the original item purchased. Customers would weigh the additional costs and benefits to reach free delivery. This would create a mental script for the individual. When the customer experiences the same situation, they mentally review the previous script and utilise it as a reference point in a similar scenario or event. Cart stacking may reinforce a sense of familiarity, confidence, and conformity with the e-commerce shopping script and enhance the shopping experience through perceived control over the situation (Schank & Abelson, 1977).

Optimal stopping theory

The optimal stopping theory requires the customer to stop adding to the cart once they have reached the delivery threshold. There are three main components in making this decision.

The exploration phase is when the customer evaluates the product option and selects an item for their cart to reach the free delivery threshold. The evaluation phase is when the customer continually evaluates the cost compared to the shipping cost stop. The stopping point is imminent once the cart's value equals the free shipping threshold.

The decision to stop adding items and proceed to check out drives maximum satisfaction for the customer (Herbert Robbins, 1952)

Proposition 2

P2. A customer with a framed script model would likely follow the same script as they had previously. This would indicate that purchases would likely be products that were purchased before to meet the minimum threshold. Customers would stop buying when they have reached the minimum free delivery threshold.

2.2.3 Which products will e-commerce customers include in their cart stacking to reach the threshold for free delivery?

In this section, the study seeks to relate the available literature and theoretical framework to answer the question: *What determines the selected products when reaching the free delivery threshold?*

Consumer decision-making process model

The consumer decision-making model assumes that customers make their purchase decisions through various steps when purchasing. While it is necessary to meet all of these steps, the customer decision-making process models can demonstrate how customers actively engage in this process to optimise their shopping and reduce the perceived loss of paying for shipping (Panwar et al., 2019)

This study has applied this to cart stacking by looking at the five stages of the decision-making model.



Figure 1: Five-stage decision-making model (proposed model) (Panwar et al., 2019)

1. **Need recognition and problem awareness:** Customers recognise a need to purchase. This need may arise when they want to buy certain items or fulfil a specific requirement.
2. **Information search:** Customers gather information about the products or services in which they are interested. In the context of cart stacking, customers may search for additional items that can be added to their cart to meet the free delivery threshold.
3. **Evaluation of alternatives:** Customers evaluate different products or brands based on various criteria, such as price, quality, features, and benefits. In the case of cart stacking, customers assess additional items that can be added to their cart to reach the free delivery threshold. They may consider the cost of the items and compare it to the cost of shipping to determine the most economical option. During this phase, customers may be swayed by cross-selling and up-selling as marketing tools to drive an incremental basket and assist in reaching the delivery threshold. Customers may also seek to understand what the returns policy of the e-commerce retailer would be before deciding to cart stack. During this phase, a customer may consider an alternative website offering free shipping instead of a provider with a delivery threshold (Resnick, 2001).
4. **Purchase:** Customers add specific items to their cart to reach the free delivery threshold. They may consider factors such as the total cost, the value they

perceive in the additional items, and the benefit of avoiding shipping charges. This decision may be made consciously or unconsciously, and script theory may play a role in the process (Schank, 1977).

5. **Satisfaction:** After making the purchase and reaching the free delivery threshold, customers may evaluate their satisfaction with the decision. They may reflect on whether the added items were worthwhile and whether the free delivery benefit influenced their shopping experience (Mofokeng, 2021).

The consumer decision-making process model demonstrates how cart stacking to attain free delivery thresholds aligns with the stages of problem awareness and recognition, information search, evaluation of alternatives, purchase, and satisfaction. Customers actively engage in these stages to optimise their shopping experience and reduce the perceived loss of paying for shipping.

Rational choice theory

The rational choice theory means that "an individual acts as if balancing costs against benefits to arrive at action that maximises personal advantage" (Friedman & Savage, 1948). The Rational Choice Theory provides an economic perspective on decision-making, suggesting that individuals act based on rational self-interest when confronted with multiple options. It proposes that people: (1) are rational and prioritize their own interests; (2) engage in rational decision-making; and (3) aim to maximize benefits while minimizing costs through a careful analysis of all available options. According to this theory, individuals weigh the perceived benefits against the perceived costs of each alternative before making a decision that promises the most favourable outcome. (Zhang et al., 2017).

Customers assess the cost of shipping as a grudge purchase. Rational customers aim to minimise costs, including shipping fees, to maximise their utility. Customers evaluate the cost of adding extra items to their cart to reach the free delivery threshold. The expense of the additional item is assessed against the shipping cost. The threshold for free delivery is considered. A calculation is made between the cost of the intended cart and the required delivery threshold. Rational customers aim to maximise their satisfaction. They will weigh up the benefit of the cost saving versus purchasing additional items.

The rational choice theory implies that customers use a cost-benefit analysis before determining the optimal cart stacking strategy. They seek to minimise shipping costs and maximise the gains from meeting the free delivery threshold.

Proposition 3

P3: A customer will engage in a customer decision-making process to choose as to whether they engage in cart stacking or pay the delivery fee. The customer will undergo a cost-benefit analysis to determine the optimal strategy for cart stacking. The most rational process will ultimately drive the customer's decision to cart stack.

2.3 Analytical framework

The analytical framework and conceptual framework are outlined below to encapsulate the research aims around cart stacking as it relates to the delivery thresholds within the South African e-commerce context.

2.3.1 Theoretical framework

The shipping policy has significant cost to the online retailer, and it is reported that only 80% of the overall delivery cost is covered by the customer (Melton, 2019). The shipping policy implemented by the retailer has a profound impact on the customer behaviour (Li et al., 2023). The retailer will adopt a delivery threshold which induces customers to top up in order to reach the delivery threshold research and the literature review aim to understand the factors indicating cart stacking.

Cart stacking will occur If the pre-intention cart is greater than the free delivery threshold, then it can be derived that no cart stacking will occur.

$$\frac{\text{pre } \textit{intentioned} \text{ cart} + \text{impulse cart}}{\text{free delivery threshold}} > 1 \neq \text{cart stacking}$$

Figure 2: Equation to determine cart stacking where the pre-intentioned cart is equal to or more than the delivery fee (Mayaba, 2023)

If the pre-intention cart is less than the free delivery threshold, the customer would be faced with a choice as to whether to cart stack or pay the delivery fee. The equation

below outlines that should the delivery threshold divide the pre-intentional cart plus the impulse cart, the customer will either pay the delivery fee or cart stack.

$$\frac{\text{pre intentioned cart} + \text{impulse cart}}{\text{free delivery threshold}} < 1 = \text{delivery fee OR cart stacking}$$

Figure 3: Equation to determine cart stacking where the pre-intentioned cart is less than the delivery fee (Mayaba, 2023)

Customers would generally have a pre-intended purchase as per the equation above (see figure 3) if the threshold is below the pre-intended cart then there is a likelihood the customer will cart stack. The script theory, as per cognitive psychology, are mental models that are formulated through repetition over time and allow for situational decision making based on a framed script from a memory and a deliberate framed mental structure rather than a specific focus on the detailed breakdown of the task at hand (Erasmus, 2002). Repeat purchases would align with the framed script theory.

The Loss Aversion theory (Abdellaoui et al., 2007) emphasizes that the pain of losing is psychologically about twice as powerful as the pleasure of gaining. Loss Aversion Theory further explains the lengths to which customers will go to avoid the "loss" of paying for shipping, even if it means purchasing additional items that were not originally intended. Under Prospect Theory (Liu & Liu, 2016), the decision to stack the cart is driven by how customers frame the outcomes—paying for shipping is a loss while obtaining free shipping is gain. This behaviour highlights the complex interplay between perceived value, cost, and the psychological impact of gains and losses on consumer decision-making. Understanding these dynamics can help retailers design more effective strategies for encouraging cart stacking, such as setting optimal free shipping thresholds and tailoring marketing messages to emphasize avoiding loss (shipping fees) and the achievement of gains (free shipping and additional items).

The application of optimal stopping theory to a customer's shopping experience becomes particularly relevant once the threshold for free delivery is achieved, as noted by Cai (Cai et al., 2024). The theory assists in refining the shopper's cart to an optimal configuration that secures free delivery without exceeding the threshold unnecessarily. This strategic stopping point allows customers to maximize their gain by availing free delivery while avoiding additional, unnecessary expenditures. This approach

harmoniously aligns with the principles of loss aversion theory, wherein customers perceive the accumulation of items in their cart—up to the free delivery threshold—as a beneficial gain rather than a potential loss. This dual application of theories underscores a psychological strategy in e-commerce, encouraging shoppers to add items to their carts by leveraging the allure of a free delivery incentive, yet guiding them to a point where the perceived value is maximised without crossing into the realm.

The above theory can be corroborated with the rational choice theory, where customers would engage in a thoughtful and rational decision-making process, maximising their own benefit in the interest of optimising their spending (Jerath & Ren, 2021). The rational choice theory would align with the customer's personal objectives and self-interest; through spend optimisation, consumers strategically add items to their cart in a calculated manner. This behaviour is aimed at achieving the optimal balance between acquiring desired goods and qualifying for free delivery, without incurring unnecessary additional expenses. The decision to add each item is weighed against its contribution to reaching the free delivery threshold and its intrinsic value or utility to the shopper.

The Consumer Decision-Making Process Model, as outlined by (Panwar et al., 2019), describes the journey a customer undergoes when making purchasing decisions, especially in the context of online shopping. This model is broken down into five stages: Need Recognition, Information Search, Evaluation of alternatives, Purchase, and Satisfaction. When the model is applied in the context of cart stacking for the purpose of reaching free delivery thresholds, this model helps understand how customers strategically add items to their carts to maximize value while minimizing costs (Stankevich, 2017). The correlation with Rational Choice Theory (Zhang et al., 2017) lies in the assumption that customers make these decisions based on rational calculations aimed at maximizing their self-interest. The customers use rational thought processes at each stage of the decision-making model to evaluate whether adding more items to their cart to achieve free delivery is in their best interest, considering factors like the total cost, the utility of additional items, and the savings from not paying for shipping. This rational approach to maximizing benefits and minimizing costs underpins both the Consumer Decision-Making Process Model and

Rational Choice Theory, highlighting how consumers strategically navigate their online shopping to achieve the most favourable outcomes.

The interplay between online retailers' shipping policies and customer behaviour is complex and multifaceted, significantly influencing the phenomenon of cart stacking to reach free delivery thresholds. Theoretical frameworks such as the Customer Decision-Making Process Model, Rational Choice Theory, Script Theory, and Optimal Stopping Theory provide valuable insights into consumer behaviour's cognitive and economic underpinnings in online shopping environments. These theories elucidate how customers navigate the decision-making process, from recognising a need to evaluating their satisfaction post-purchase, with a strategic focus on optimising their spending to maximize benefits. Retailers' imposition of delivery thresholds affects not only their cost structure but also deeply impacts customer purchasing patterns, encouraging strategies to increase cart size without unnecessary expenditures. Ultimately, understanding these dynamics is crucial for both retailers and consumers to navigate the online shopping landscape effectively, ensuring mutually beneficial outcomes that align with the interests and objectives of all parties involved.

2.3.2 Conceptual framework

The framework below highlights the conceptual framework for the customer journey.



Figure 4: Customer e-commerce cart stacking journey

1. Customer purchase intention describes how the customer enters the e-commerce site either with a pre-intention or an impulse to purchase. This phase can be attributed to the loss aversion under the prospect theory (Abdellaoui et al., 2007).
2. The customer decides what to purchase on the site, either as a pre-intentioned cart or as an impulse purchase. This could be attributed to script theory (Erasmus, 2002) or the social influence model (Kukar-Kinney & Close, 2010) (see Section 2.2).
3. Once the customer has decided on the purchase and provided they have not met the required delivery threshold, they now need to make an informed decision; if they pay the delivery fee or if they cart stack to meet the delivery threshold, the customer decision-making process model (Panwar et al., 2019), or the rational choice theory (Kari, 2014) would relate to this phase of the customer journey and information processing.
4. If the customer chooses to add to the cart and meet the optimal delivery threshold, or if this is something they have used before or even a habitual pattern, then the script theory would apply. Under the script theory, the customer would typically cart stack an item they have purchased. Once the customer has reached the delivery threshold, the study could potentially derive from the optimal stopping theory that the decision to stop adding to the cart and check out indicates that the customer has reached a point of satisfaction with their purchasing decision and, hence, will stop shopping and check out.
5. The purchase is concluded, and the customer reaches the free delivery threshold. The customer checks out and confirms payment and delivery details.
6. The relevant theory here may refer to the loss aversion theory (Cai et al., 2024), as the customer would have a sense of satisfaction and pleasure at not paying for delivery and reaching the threshold.

2.4 Conclusion of literature review

While there was little existing literature that directly supports the cart stacking theory, there were many theories that could help and assist in understanding the customer decision-making process. The understanding was that the customer would apply a decision-making or a rational choice model when deciding on cart stacking. The prospect theory would drive the motivation to engage in cart stacking and avoid

perceived loss in paying for delivery. The script model would also frame cart stacking through a mental model that is repetitive and from which the customer derives satisfaction. The Optimal stopping theory would dictate that the customer stops adding to the cart once they have reached the threshold for free delivery.

The literature review would indicate that cart stacking combines rational decision-making, a desire to avoid losses, and the pursuit of value maximisation. These findings have allowed for a theoretical foundation to understand the motivation decision-making behind cart stacking within the context of reaching the free delivery threshold.

The propositions below are the basis of this study.

Proposition 1

P1: If a customer perceives paying for shipping as a loss, then they will be driven to cart stack to meet the free delivery threshold.

Proposition 2

P2. A customer with a framed script model would likely follow the same script as they had previously. This would indicate that purchases would likely be products that were purchased before to meet the minimum threshold. Customers would stop buying when they reach the minimum free delivery threshold.

Proposition 3

P 3: A customer will engage in a customer decision-making process to decide whether they engage in cart stacking or pay the delivery fee. The customer will undergo a cost-benefit analysis to determine the optimal strategy for cart stacking. The most rational process will ultimately drive the customer's decision to cart stack.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The research aimed to investigate cart stacking and what drives customers to reach free delivery thresholds. The focus was on understanding the factors that influence customer decision-making and the strategies they employ to maximise the perceived benefit of free delivery. A mixed method approach, combining qualitative and quantitative data collection methods, was employed to explore this phenomenon comprehensively.

This chapter outlines the components critical to the research methodology, the research tools, and the implied logic utilised in this methodology.

3.2 Research approach

The research methodology used was a mixed-method approach to understand the complexities around the driving behaviour of cart stacking. Through the integration of qualitative and quantitative data, this research sought to encapsulate both the individual experience and perceptions of the customer, as well as the broader emergent statistical relationships and patterns from this review. (Tashakkori & Creswell, 2007)

The **quantitative research** involved a survey-based approach and a large sample of e-commerce customers. The survey aimed to collect data on demographics, shopping habits, cart stacking behaviour, and perceptions of reaching the free delivery threshold.

The research sought to answer the following specific questions:

- What is the description of the product cart stacked?
- Why was that product selected?
- What was the pre-intentioned purchase?
- What was the process flow for driving towards the additional items purchased to reach the delivery threshold?
- Why does the customer behave in a particular manner?

The quantitative data allowed for identifying patterns and statistical data through understanding the relationship between variables. It also provided a broad understanding of the types of commonly purchased products and the impact of perceived price and shipping costs.

A quantitative study allowed for data accuracy and neutrality when collecting data.

The qualitative research involved a limited number (9) of in-depth interviews with e-commerce customers. The qualitative method provided insight into motivation, decision-making processes, and the psychological factors that drove customers to include specific products in their carts. The qualitative data uncovered the range of strategies employed, the perceived value of reaching free delivery, the feelings of the respondents and any challenges associated with the prevalence of cart stacking.

The qualitative data and quantitative data were analysed separately and integrated during the interpretation of the data.

The mixed method research approach allowed for a comprehensive understanding of cart stacking and the various factors influencing customer decision-making to reach the free delivery threshold. The analysis facilitated a holistic interpretation of the data and a comprehensive understanding of the customer experience related to the free delivery thresholds.

3.3 Research design

An explanatory sequential research design was utilised in this study. There were two distinct phases: a qualitative phase followed by a quantitative phase. This design allowed for an initial exploration of the cart stacking phenomenon through quantitative data followed by qualitative data to explain and contextualise the key findings from the primary research (Haines, 2011).

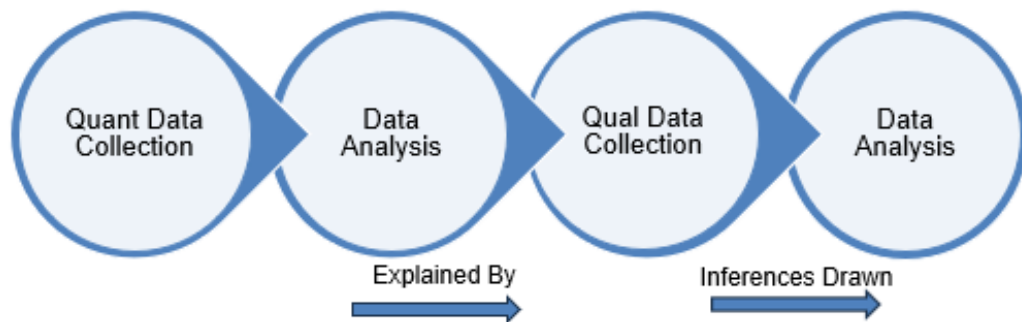


Figure 5: Two phases of research design employed: quantitative and qualitative

The quantitative phase involved a survey-based approach administered to a large sample of e-commerce customers. This survey included questions relating to demographics, shopping habits, cart stacking behaviour, and the perceived value of reaching the free delivery threshold. Specific questions were asked about the items in the cart and what was ordered, and the answers compared to the pre-intention and final cart. The questionnaire sought to understand why the customer chose to add specific items to the cart. The study further investigated the influencing factors for cart stacking decisions.

Following the quantitative phase, the qualitative phase data was collected through in-depth interviews and discussions with e-commerce customers who have engaged in cart stacking. These customers were frequent online shoppers. The qualitative questions emanated from the quantitative survey and allowed for testing and validating the findings.

Advantages of a mixed method methodology: This methodology allows for more flexibility in the research design (Malina et al., 2011). There were two distinct stages to the design of this study, which were easily recognisable. Combining the two types of studies allowed for a more informative result, and the narrative included findings from both data collection sets—a convergence in the data allowed for triangulation and a more conclusive result.

Disadvantages of a mixed method methodology: The data analysis was time-consuming and resulted in longer lead times

3.4 Data collection methods

Quantitative phase: The quantitative phase was in a survey format and was sent to e-commerce customers. The survey included questions related to demographics, shopping habits, cart stacking behaviour, and the perceived value of reaching the free delivery threshold. The purpose of the survey was to understand the factors influencing cart stacking and decision-making behaviours.

Qualitative phase: The qualitative phase was conducted through individual interviews with e-commerce customers who have engaged in cart stacking to reach the free delivery threshold. These customers were defined as frequent online shoppers. These interviews took place following the quantitative phase to explore any points of interest from the primary data source further. The participants were from the initial quantitative survey. The interview explored the motivation, decision-making processes, and strategies customers employ in cart stacking. The questions were open-ended to encourage responses.

Combining quantitative data and qualitative data allowed a comprehensive understanding of cart stacking and its direct relationship to the free delivery thresholds. The quantitative data enabled the identification of patterns and relationships within a larger sample. The qualitative data provided rich insights into individual experiences and motivations.

3.5 Population

The population sample of the study consisted of e-commerce customers in South Africa. Both customers who engaged in cart stacking and those that do not were engaged to understand the rationale for the customer journey further. Purposive or selective sampling would be used to purposefully select participants who meet specific criteria to reach the research objectives (Fakoor et al., 2018). The sampling aimed to capture a diverse perspective of e-commerce experiences by South African customers

who have actively participated in either cart stacking to achieve free delivery or have abandoned their carts.

3.5.1 Population

Participants were selected from across South Africa to represent different areas and account for potential other variances in regional shopping behaviour.

- **E-commerce platform users:** Participants were required to have actively used an e-commerce platform operating within the boundaries of South Africa in the last six months. This included popular platforms such as Takealot, Superbalist, and Zando.
- **Demographic diversity:** The sample encompassed a range of diverse demographics, such as age, gender, income level, and shopping preferences, representing diversity and potential behaviour variations.

3.5.2 Sample sizing

The total number of active users on Takealot, Superbalist, and Zando is estimated to be approximately 200,000 per month (Statistia, 2023a). The margin of error used was 5%, with a confidence level of 95%, and a total universe of 200,000. The recommended sample size was 384 respondents for a statistical representation of the e-commerce shopper (Raosoft., 2014)

Through purposive sampling, the above sample provided valuable insights into the motivation, decision-making strategies, perceptions, and processes related to cart stacking behaviour among e-commerce customers in South Africa.

Cart stacking would not be a pre-requisite for the sample as we would also want to know the impending rationale if people do not cart stack.

3.6 The research instruments.

Quantitative research instrument: The quantitative research instrument was a closed-ended questionnaire utilising a survey design, which was used to gather structured data from the participants. The questionnaire included a series of predefined responses to measure specific variables related to cart stacking and the

process for decision-making and attribution of perceived value. Demographic information was collected to understand the characteristics of the participants.

The data also sought to understand precisely what was allocated to the cart, why the decision to allocate a specific product to the cart was made, and what the customer's pre-intention was before engaging in cart stacking.

Behavioural questions, such as understanding the frequency, the average number of items added to the cart, and the total cart value, were also included. The quantitative survey sought to explore the motivation of the participants, as well as the perceived value delivered from cart stacking. The survey investigated the decision-making process and the factors considered when adding an item to the cart, including factors on the website such as cross-selling, up-selling, and promotions, the brand attribution of the platform, and whether this impacted the minimum order value. The survey was web-based and accessible via either a laptop or smartphone. Before the launch of the study, a pilot test questionnaire was sent to a small group of customers to ensure that the questionnaire was clear, relevant, and comprehensible.

Quantitative research instrument: This research phase used a semi-structured interview guide to collect in-depth participant insights. The quantitative data informed the research questionnaire to gain further insight into the responses provided in the initial data set. The qualitative instruments allowed participants to provide detailed responses and elaborate on the experiences, motivations, and decision-making processes related to cart stacking. The interviews were conducted online utilising MS Teams. All interviews were recorded, with additional notes being taken to provide an accurate reflection of the interview.

3.7 Procedure for data collection

Quantitative data collection: The data was collected through various mediums, utilising the University of Witwatersrand network and social media networks, as well as via e-mail and instant messaging platforms. The sample size was expanded through “snowballing” (Explorable.com, 2009), where the researcher asked participants to recommend other participants with the same characteristics or online propensity to cart stack.

Qualitative data collection: Following the quantitative data collection, candidates from the quantitative data were selected for in-depth interviews.

3.8 Data analysis strategies and interpretation

This study analysed quantitative data using inferential statistics to establish a linear relationship between variables. The statistical sample allows for an understanding of the broader market through hypotheses and drawing conclusions about the larger population. The study conducted a correlation analysis, a component of inferential statistics, to measure the relationship between the variables, cart stacking, and free delivery thresholds. This analysis is relevant to understanding the study's objectives for the influencing factors of cart stacking (Brian Paltridge, 2015)

Following the quantitative data analysis, given that this study was sequential and quantitative dominant, the analysis led to an understanding of the dominant theory. The qualitative questionnaire sought to contextualise and interpret through a better understanding of the participant's perspective (Tashakkori & Creswell, 2007)

The six-stage data analysis was applied.

1. **Data reduction:** Reducing the data collection through statistical analysis.
2. **Data display:** Reducing the quantitative data to tables and charts.
3. **Data transformation:** Transforming qualitative data into quantitative data.
4. **Data correlation:** Correlating the quantitative data with the qualitative data.
5. **Data comparison:** Comparing data from various sources.
6. **Data integration:** Integrating the data into a cohesive whole.

3.9 Possible limitations and challenges of the study

- The study was limited to South Africa
- The researcher experienced challenges regarding attaining the 384 respondents.
- Timing regarding consecutively running two separate research methods.

3.10 Quality assurance

The validity of the research needed to represent the e-commerce landscape through the validation of the data (Patino, 2018).

3.10.1 External validity

The external validity extends to the findings within the report and if the findings can be applied within the context of a broader population. The e-commerce cart stacking report would assess whether the findings and recommendations from this report could generally be applied to e-commerce platforms and their customers. The sample, therefore, had to be representative and diverse in terms of demographic, geographic, and customer behaviours.

3.10.2 Internal validity

The internal validity focused on the accuracy and the validity of the findings specific to this report. The extent of these results should reflect the effects of cart stacking when customers attempt to reach a free delivery threshold. To establish internal validity, the researcher carefully considered the research design and data collection methods and controlled all external variables where possible.

3.10.3 Reliability

Reliability refers to the consistency and stability of the findings and all the results obtained from this report. The cart stacking report was needed to ensure that the method used for collecting data, analysis, and reporting yielded consistent results over time. Standardized procedures were crucial, and robust statistical analysis and the conduct through testing and validation had to be reliable.

3.10.4 Ethical considerations

When conducting this survey, there were crucial ethical considerations:

- **Informed consent:** Participants had to be fully informed of the purpose, nature, risks, and potential benefits of the survey. Voluntary consent had to be provided, and an option to withdraw at any time had to be in place.
- **Privacy and data protection:** The privacy and confidentiality of all participants had to be safeguarded. The researcher applied secure data handling and clear communication regarding data storage and data handling.
- **Transparency and honesty:** The purpose and the objectives of the survey had to be clear and free of any potential biases. Findings had to be presented accurately and honestly without misinterpretation or data manipulation.
- **Fairness and equity:** Results had to be fair and not discriminatory against any group based on race, gender, age, or socioeconomic factors. An inclusive sample representative of e-commerce customers had to be used.
- **Ethics compliance:** The researcher complied with the university's ethics compliance guidelines.
- **Responsible reporting:** Survey findings must be accurately reported, provide appropriate context acknowledging limitations and uncertainties, and include no misleading or exaggerated claims.
- **Compliance:** Legal framework compliance regarding the applicable laws, data privacy laws, and the Consumer Act No. 68 of 2008.

Table 1: Consistency table – research questions, propositions, data collection, and data analysis

RQ #	State research question	Propo sition #	Proposition	Data collection detail	Questions	Data analysis method
1.	Why do e-commerce customers cart stack to meet the free delivery threshold?	1.	P1: If a customer perceives paying for shipping as a loss, then they will be driven to cart stack to meet the free delivery threshold	Survey/Customer interview	Q5, Q6, Q16 , Q8, Q9, Q15	Linear comparison Correlation matrix Thematic analysis
2.	What impacts the customer's buying journey when choosing to participate in the cart stacking process?	2.	P2: A customer that has a framed script model would likely follow the same script as they previously have. This would indicate that purchases would likely be products that were purchased before to meet the minimum threshold. Customers would stop buying at a point where they have reached the minimum free delivery threshold	Survey/Customer interview	Q6, Q16 , Q7, Q8, Q9, Q19, Q15	Linear comparison Correlation matrix Thematic analysis
3.	Which products will e-commerce customers include during the cart stacking process to reach the threshold for free delivery?	3.	P3. A customer will engage in a customer decision-making process to choose whether they engage in cart stacking or pay the delivery fee. The customer will undertake a cost-benefit analysis to determine the optimal strategy for cart stacking. The most rational process will ultimately drive the customer's decision to cart stack.	Survey/Customer interview	Q3, Q4 , Q5, Q6 , Q16 , Q8,Q9, Q10, Q11, Q15, Q17, Q18 , Q19	Linear comparison Correlation matrix Thematic analysis

CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

Chapter 4 presents the study's results on cart stacking from a qualitative and quantitative perspective in South Africa's e-commerce. It begins by describing the demographic details of the survey participants, including age, gender, income, and shopping frequency. Sections 4.3 to 4.5 then systematically address each study hypothesis by presenting the findings related to customer behaviour, including the relationship between age, income, gender, shopping frequency, and cart stacking behaviour. The results section provides statistical analysis and interpretations of how the various factors influence cart stacking, offering insights into the motivations behind customers' decisions to reach free delivery thresholds.

4.2 Sample

4.2.1 Quantitative sample

Demographics of the sample

For the quantitative sample, “snowballing “ (Wohlin et al., 2022) sampling technique to collect a broad and diverse set of responses. This approach began with a small group of initial respondents, who were then asked to share the survey with their own networks, thereby expanding the reach of the data collection effort exponentially. The primary platforms used for disseminating the survey included popular social media sites such as LinkedIn and Facebook, which allowed for a wide demographic reach and the ability to tap into various professional and personal networks.

In addition to leveraging the power of social media, direct messaging was utilised as a more personalized approach to invite participants to take part in the study.

Furthermore, the student body at the University of the Witwatersrand served as a significant source of respondents. By engaging students, via e-mail, from various faculties and levels of study, the research benefited from the inclusion of diverse

perspectives and insights, particularly from those who are in an academic setting and might offer unique viewpoints on the subject matter of the thesis.

This multifaceted approach to data collection not only facilitated the accumulation of a wide range of quantitative data but also ensured that the sample was varied, encompassing different ages, professions, and backgrounds. This diversity is crucial for the robustness and reliability of the research findings, as it minimizes the risk of bias and enhances the generalizability of the results.

The 600 respondents were gathered in an online quantitative survey. The study sample consists of more women (69%) than men (31%). Table 2 presents the total demographic sample. A third (30%) of the respondents are between the ages of 35 and 44, and a third (29%) belong to the 45 to 54 age category. Most respondents' race was demarcated as white (58%), with the balance being black (29%). The income for the respondents was indicated as high, with most (51%) having more than ZAR 45,000 and above, where almost (40%) of the sample shops occasionally, with the balance of a third (31%) shopping frequently and a quarter (23%) shopping very frequently. Although the demographic is skewed, the researcher believes this research represents the approximate distribution of the online shopper.

The sample

Table 2: Demographic sample

		<i>N</i>	%
Gender	Male	83	31%
	Female	187	69%
Age	18-24	41	15%
	25-34	39	14%
	35-44	81	30%
	45-54	78	29%
	55 and above	33	12%
Race	Asian	3	1%
	Black	68	25%

	Coloured	11	4%
	Indian	29	11%
	White	156	58%
Income	Less than ZAR 5,000	28	14%
	Between ZAR 5,000 and ZAR 15,000	19	9%
	Between ZAR 15,000 and ZAR 30,000	26	13%
	Between ZAR 30,000 and ZAR 45,000	53	26%
	More than ZAR 45,000	104	51%
Frequency of online shopping	Very frequently	62	23%
	Frequently	84	31%
	Occasionally	108	40%
	Rarely	19	7%

4.2.2 Qualitative sample

The qualitative interviews comprised nine in-depth interviews to explore the nuances of online shopping behaviours related to cart stacking. The respondents were all frequent shoppers with a high level of income. All shoppers were well versed in the utilisation of the online e-commerce platform and were experienced in online shopping. The quantitative research uncovers how customers strategically navigate e-commerce platforms to maximise value and convenience, often influenced by the desire to avoid delivery fees. The research delves further into the understanding of the respondents' feelings toward cart stacking.

The questions had core areas of focus as follows: the choice of shopping platforms, the dynamics of cart stacking, perceptions of delivery fees, the decision-making framework, attitudes towards free shipping, and overall shopping tendencies.

The qualitative exploration phase aimed to enhance and provide depth to the quantitative research outcomes. This part of the study focused on participants identified as frequent shoppers, who inherently possess a higher tendency to engage in cart stacking behaviour's. This selection criterion ensured that the sample was

representative of consumers most likely to exhibit the patterns of interest, thereby allowing for a more nuanced understanding of the motivations and dynamics behind cart stacking.

4.3 Results pertaining to Proposition 1

Q1: Why do e-commerce customers' cart stack to meet the free delivery threshold?

P1: If a customer perceives paying for shipping as a loss, they will be driven to cart stack to meet the free delivery threshold.

Cart stacking is defined as increasing the number of products in a customer's cart to meet the minimum expenditure threshold implemented by an e-commerce retailer to acquire free shipping. Proposition 1 is designed to answer the first research question, which queries why e-commerce customers cart stack.

The quantitative survey was designed to understand the shopping process that could lead customers to optimise their shopping basket and not pay the delivery fee. An inferential analysis was done to understand the correlation between the independent and dependent variables. The age, gender, race, and income of the respondents were compared to how often they shopped, why they shopped online, and if they made repeat purchases.

Below is a discussion around the statistical connections observed within the dataset. To ascertain the presence of any statistically significant correlations among the variables, a correlation matrix (referenced as Table 3) was constructed, drawing upon the data derived from the survey questions.

4.3.1 Quantitative Correlation Matrix

Table 3 Correlation Matrix

		Did you cart stack or pay For Delivery (Q6)	Repeat purchases (Q7)	Online Shopping Frequency (Q8)	Online Shopping for Price or convenience (Q9)	Gender Male or Female (Q12)	Age (Q13)	Monthly income (Q15)	Likleyhood of cart stacking (unlilekly to extremely likely) (Q16)
Did you cart stack or pay For Delivery (Q6)	Pearsons r df p-value		-0.084 280 0.160	0.200 279 < .001	0.020 279 0.738			0.043 278 0.474	0.487 273 < .001
Repeat purchases (Q7)	Pearsons r df p-value	-0.084 280 0.160		-0.307 279 < .001	-0.098 279 0.100			-0.103 278 0.085	0.215 273 < .001
Online Shopping Frequency (Q8)	Pearsons r df p-value	0.200 279 < .001	-0.307 279 < .001		0.149 279 0.012	0.217 278 < .001	0.162 278 0.007	0.279 278 < .001	0.215 273 < .001
Online Shopping for Price or convenience (Q9)	Pearsons r df p-value	0.020 279 0.738	-0.098 279 0.100	0.149 279 0.012				0.062 278 0.304	-0.079 273 0.193
Gender Male or Female (Q12)	Pearsons r df p-value							-0.157 278 0.008	
Age (Q13)	Pearsons r df p-value			0.162 278 0.007				0.556 278 < .001	
Monthly income (Q15)	Pearsons r df p-value	0.043 278 0.474			0.062 278 0.304	-0.157 278 0.008	0.556 278 < .001		0.003 273 0.958
Likleyhood of cart stacking (unlilekly to extremely likely) (Q16)	Pearsons r df p-value	0.487 273 < .001		0.215 273 < .001	-0.079 273 0.193			0.003 273 0.958	

4.3.2 Age compared to income.

The correlation between income vs. age is significant, reflecting a correlation between age and income. Therefore, as age increases, so does the average income.

The statistical analysis supports this observation, with a Pearson's correlation coefficient (r) of 0.556 and a p-value of less than 0.001, signifying a strong and statistically significant positive correlation between age and income levels.

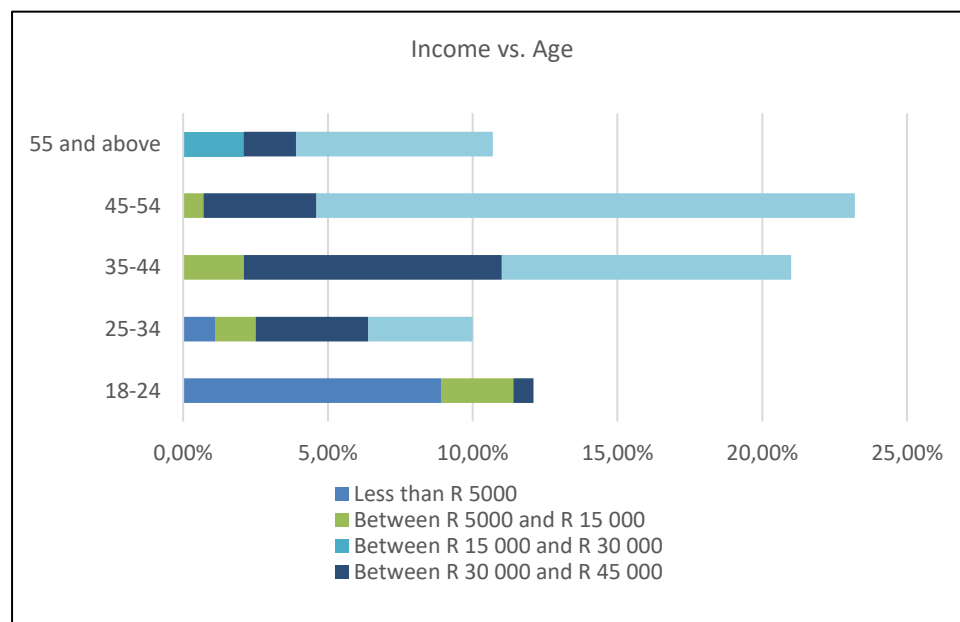


Figure 6 Age as compared to income

The linear regression results indicate a significant positive relationship between age and wealth ($p < .0001$), with the coefficient for age being 0.1262. This positive coefficient suggests that as individuals progress to higher age groups, their wealth tends to increase.

The model accounts for approximately 44.91% of the variance in wealth, as indicated by the R-squared value. The adjusted R-squared value, which adjusts for the number of predictors, is slightly lower at 44.67%, but still suggests a moderate fit of the model. The Root Mean Square Error (RMSE) of 0.17407 provides an estimate of the standard deviation of the residuals and indicates the typical deviation from the regression line.

The analysis supports the notion that wealth increases with age. The strength of this relationship is moderate, with age explaining a substantial portion of the variation in wealth. The confidence in the model is bolstered by the significant p-value and the intervals shown in the fit plot. These findings suggest that age is a determinant of wealth accumulation; however, there are in addition other significant factors contributing to health.

4.3.3 Income compared to online shopping frequency.

The online survey indicates that an elevation in income levels significantly contributes to a gradual upsurge in the frequency of online shopping activities. This discernible relationship underscores the existence of a notable correlation between belonging to a higher income bracket and the increased frequency of online shopping occurrences.

The statistical analysis supports this observation, with a Pearson's correlation coefficient (r) of 0.279 and a corresponding p-value of less than 0.001, providing strong evidence of a positive correlation between income levels and online shopping frequency.

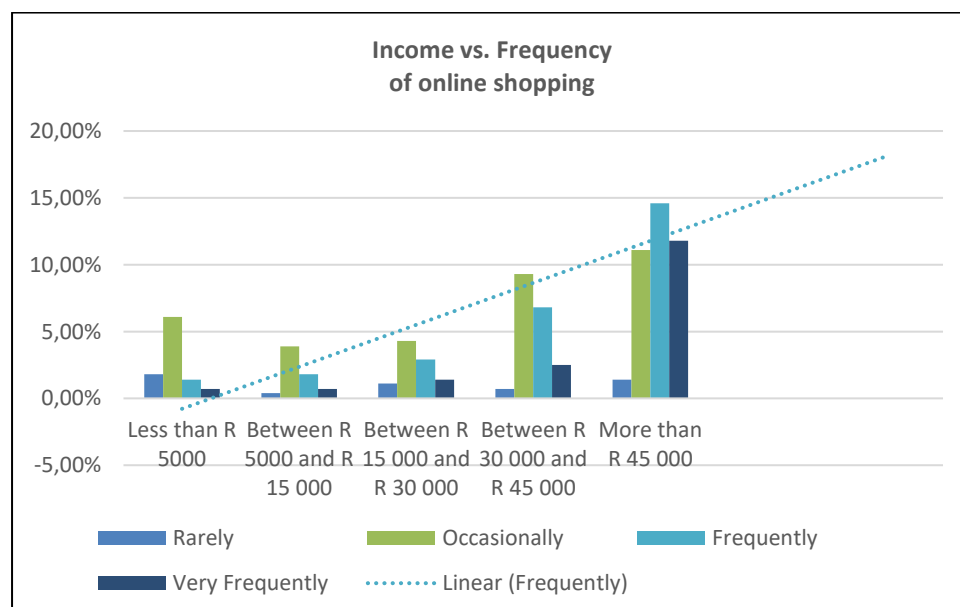


Figure 7 Income as compared to Online shopping frequency

The linear regression showed that wealth is a significant predictor of shopping frequency. Specifically, the model's F-value of 25.63 ($p < .0001$) confirms the relationship's statistical significance, while the R-squared value of 0.0991 indicates that wealth accounts for about 9.52% of the variation in shopping frequency. The wealth coefficient is significantly positive (1.17370), suggesting that higher wealth levels correspond to increased shopping frequency.

Despite these findings, the relatively low R-squared value suggests that other factors not included in the linear regression modelling may also influence shopping frequency.

4.3.4 Age as compared to online shopping frequency.

In the study, the research findings reveal a statistically significant positive correlation (Pearson's $r = 0.556$, $p < .001$) between the age of the respondents and the frequency of online shopping.

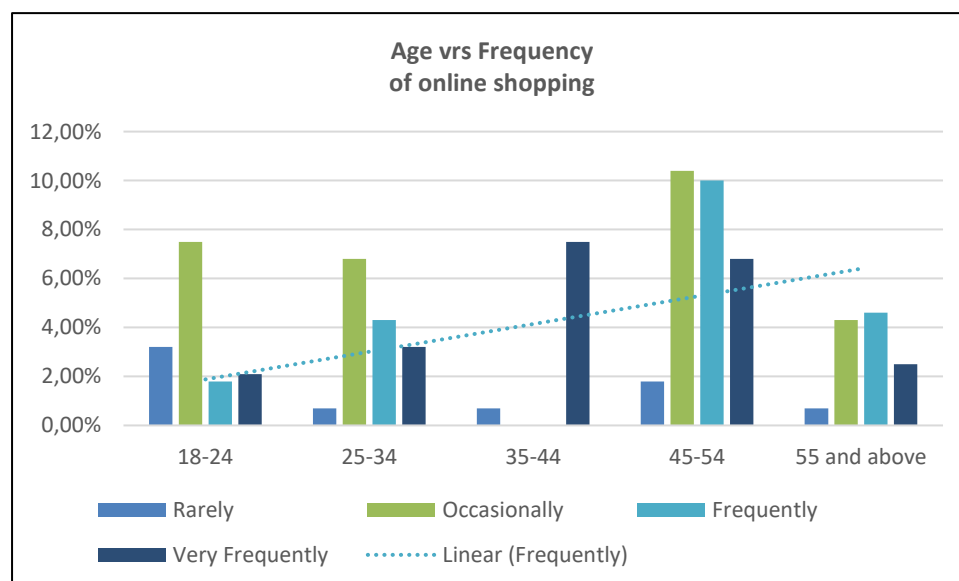


Figure 8: Age in comparison to online shopping frequency

Following a linear regression analysis, the results from the Analysis of Variance (ANOVA) indicated a statistically significant model, with an F-value of 8.18 ($p = 0.0045$). This significant p-value suggests a meaningful association between age and shopping frequency within the dataset.

The model's R-Square value was found to be 0.0289, with an adjusted R-Square of 0.0254. This denotes that age accounts for approximately 2.54% of the variability in shopping frequency among the subjects. Despite being statistically significant, the low R-Square value implies that age alone is not the single predictor of shopping behaviour,

Parameter estimates reinforced the significance of age, with an estimated effect size of 0.12452, and a standard error of 0.04352, resulting in a t-value of 2.86 ($p = 0.0045$). This positive relationship indicates that as age increases, the frequency of online shopping also tends to increase.

The data suggests that customers tend to engage in online shopping more frequently as they age. This finding indicates a significant association between age and online shopping habits, with older customers demonstrating a higher propensity for online shopping.

The analysis presents evidence of a positive impact of age on online shopping frequency. Given the limited ability of the model to explain the phenomena, it's crucial to consider other elements that might affect shopping patterns. The results indicate that although age plays a role, the intricate nature of shopping behaviours is probably shaped by a wide range of factors beyond just this one variable.

4.3.5 Gender compared to online shopping frequency.

The study finds a correlation between gender and shopping frequency. Specifically, the study indicates that, on average, female shoppers tend to engage in online shopping more frequently than their male counterparts.

This correlation is supported by statistical analysis, with a Pearson's correlation coefficient (r) of 0.217 and a p-value of less than 0.001. These values affirm the presence of a statistically significant positive correlation between gender and the frequency of online shopping, underscoring the tendency for women to shop online more frequently than men.

The ANOVA results indicated a significant model ($F=12.42$, $p=0.0005$), suggesting that gender differences are indeed associated with variations in shopping frequency. The

model explained 4.31% of the variance in shopping frequency, as reflected by the R-Squared value, which although statistically significant, points to a modest effect size. The Adjusted R-Squared value, a more conservative metric, stood at 0.0396.

In terms of parameter estimates, being female was associated with an increase in shopping frequency (Estimate=0.39980, SE=0.11324, $t=3.52$, $p=0.0005$), with the 95% confidence interval ranging from 0.17617 to 0.62230, confidently excluding zero and thus underscoring the robustness of this finding.

The evidence from the regression analysis substantiates the assertion that gender, specifically being female, is significantly related to higher shopping frequency. Despite this, the relatively low R-Squared value indicates that gender is not the sole predictor of shopping frequency, and further research should aim to identify additional factors that influence shopping habits.

4.3.6 Frequency compared to convenience and price.

The convenience of online shopping is one of the most significant drivers of online shopping engagement (Makhitha et al., 2019). This study highlights the alignment between online shopping frequency and the convenience it offers online customers. While price influences those who shop occasionally or rarely, experienced shoppers frequently value convenience above pricing.

Supporting this notion, the statistical analysis reveals a Pearson's correlation coefficient (r) of 0.149 and a corresponding p -value of 0.012, signifying a statistically significant positive correlation. This correlation reaffirms that the higher the convenience factor associated with online shopping, the more frequently customers tend to engage in this mode of shopping, supporting the established literature.

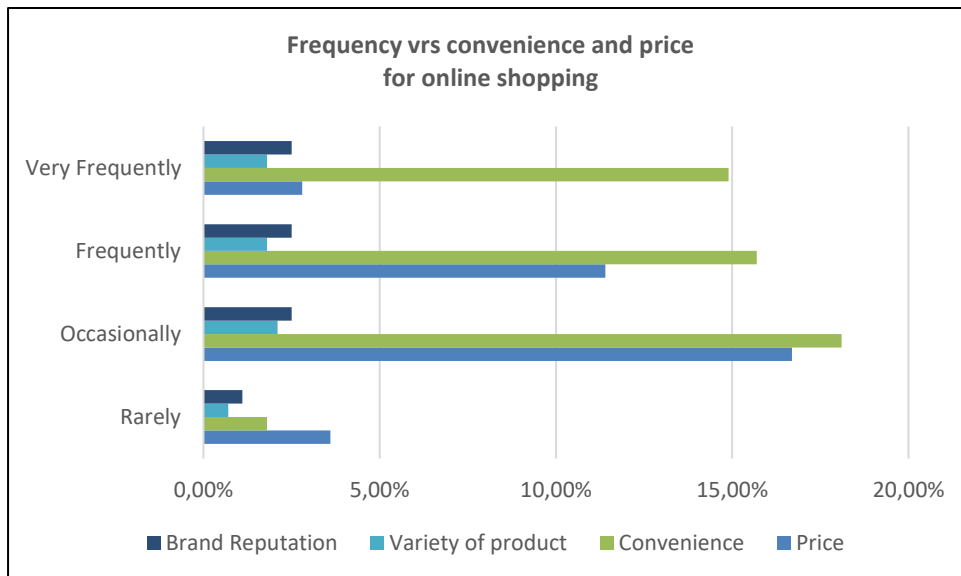


Figure 9: Frequency of online shoppers compared to convenience and price

Linear regression analysis examining the effect of perceived convenience on the shopping of high-frequency online shoppers. The regression analysis, as indicated by SAS outputs, demonstrates a statistically significant relationship between these variables. An F-statistic of 8.38 ($p = 0.00367$) validates the significance of the model, suggesting that convenience is an influential factor for frequent shoppers.

The parameter estimate for convenience reveals a positive coefficient of 0.17991, which is statistically significant with a p-value of 0.00367. This suggests that frequent shoppers are doing so for the level of convenience that online shopping offers. The R-Square value of 0.0233, adjusted to 0.0227, implies that convenience accounts for a modest proportion—around 2.33%—of the variance in shopping frequency, signifying the presence of other contributing factors.

Despite the statistical significance, the low R-Square value emphasizes the need to explore additional factors that may influence the frequency of online shopping. The scatter plot with a regression line, affirms the trend that convenience positively correlates with increased shopping frequency, yet it also highlights the variability not explained by convenience alone.

Convenience is a determinant factor of online shopping; it is clear that the behaviour of high-frequency online shoppers is multifaceted and potentially affected by a range of other influences.

4.3.7 Cart stacking as it compares to frequency.

Cart stacking, as it aligns with shopping frequency, shows a high correlation between the two variables, indicating that the more the online customer shops, the more they are inclined to add to their cart to reach the delivery threshold.

This correlation is statistically significant, as reflected by Pearson's correlation coefficient (r) of 0.200 and a p-value less than 0.001. These findings affirm the relationship between shopping frequency and the practice of cart stacking, reinforcing that increased shopping frequency is associated with a higher likelihood of cart stacking among online customers.

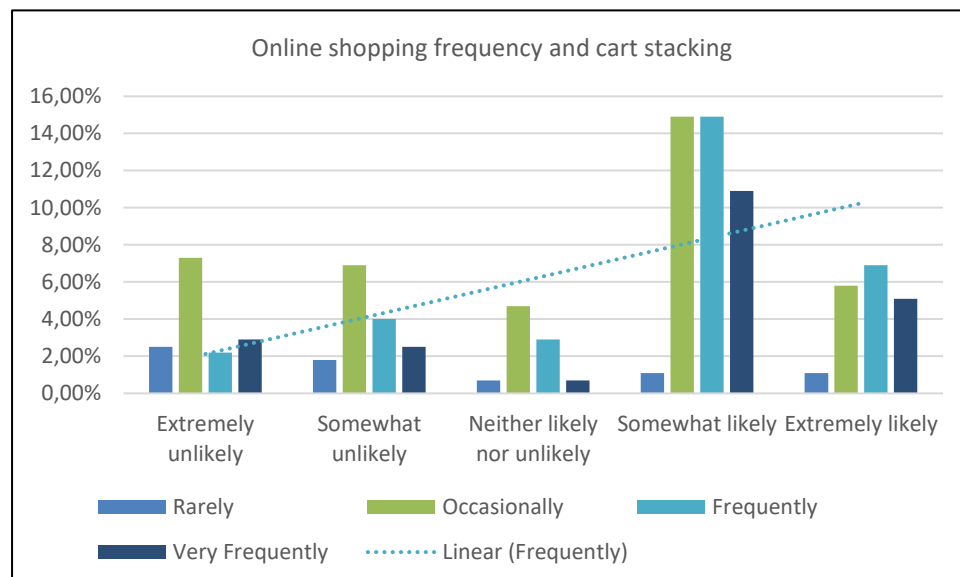


Figure 10: Online shopping frequency and cart stacking

An additional analysis was done to understand the respondents' behaviour and whether there was a gap between the minimum threshold for free delivery and online shopping frequency. The respondents were asked to qualify their behaviour if they did not meet the delivery threshold regarding cart stacking. Notably, the occasional shoppers indicated that they would pay for a delivery, whereas the frequent and very frequent shoppers may still pay for a delivery; however, there is a higher propensity to add an item to the cart or spend more than initially planned.

The results revealed a significant correlation between these factors, with a Pearson's correlation coefficient (r) of 0.200 and a p-value of less than 0.001. This suggests a

noteworthy relationship between the presence of a delivery threshold gap and the frequency of online shopping among the respondents, underscoring the impact of this variable on their shopping behaviour.

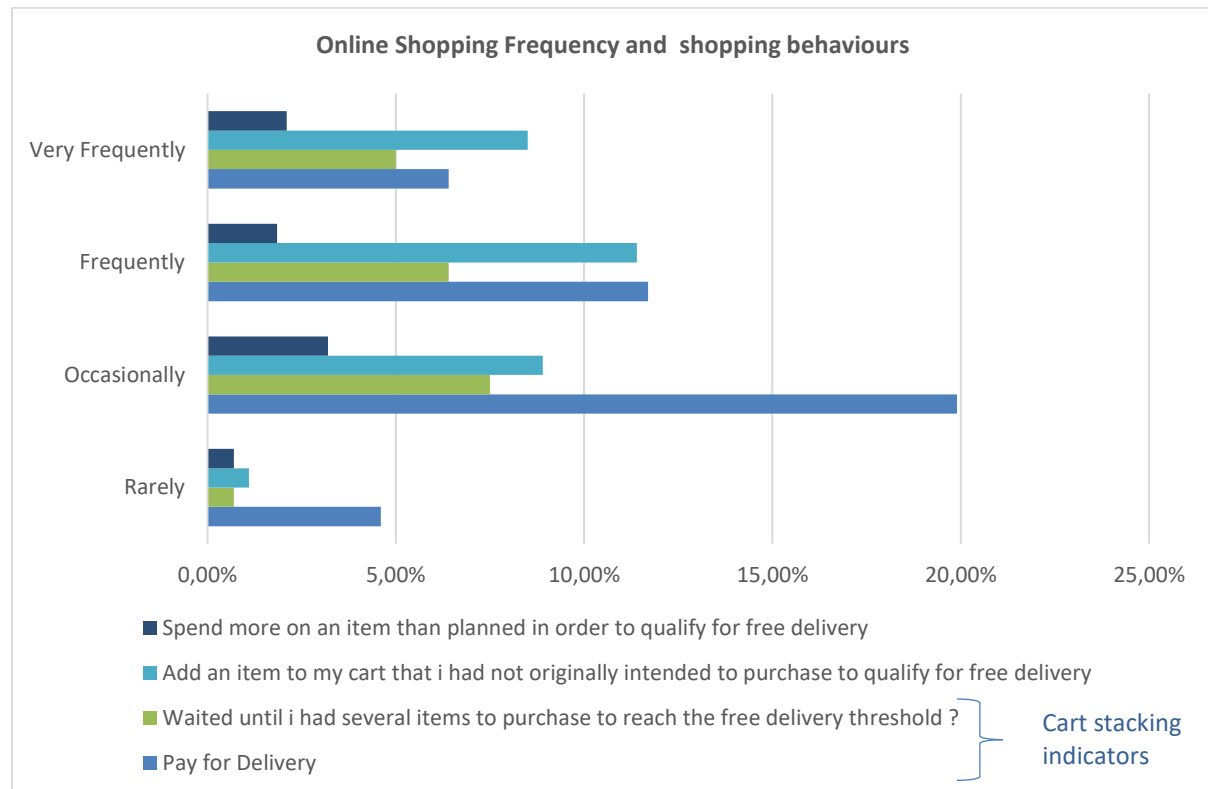


Figure 11: Online shopping indicators as compared to frequency

As the frequency of shopping increases, the probability of cart stacking increases, and the probability of paying for delivery decreases (see Table 3).

When looking at the data through a linear regression analysis model the following was observed The ANOVA results indicate a significant model with an F-value of 12.29 and a p-value of 0.0005, signifying a meaningful relationship between the independent variable (shopping frequency) and the dependent variable (cart stacking likelihood).

The model summary presents an R-Square value of 0.0435, implying that approximately 4.35% of the variability in the cart stacking likelihood is explained by shopping frequency. The Adjusted R-Square, at 0.0400, provides a more conservative estimate that accounts for the number of predictors in the model. The Root Mean Square Error (RMSE) of 0.88443 is an indication of the model's prediction error.

The parameter estimates indicate that the baseline shopping frequency, when the likelihood of cart stacking is zero, is significantly different from zero (Intercept = 2.63420, $p < 0.0001$). Additionally, the likelihood of cart stacking shows a significant positive coefficient (0.14061) with a t-value of 3.51, reinforcing the positive influence of shopping frequency on cart stacking behaviour.

The convergence model below (see Figure 12) indicates that adding to cart to reach free delivery is positive and significant, indicating that as shopping frequency increases the likelihood of adding an item to cart to reach the delivery threshold also increases. The frequency of spend more on a particular item (i.e. upsell) does not change significantly. While the frequency effect of waiting until they have several items to purchase is positive it is less significant than cart stacking

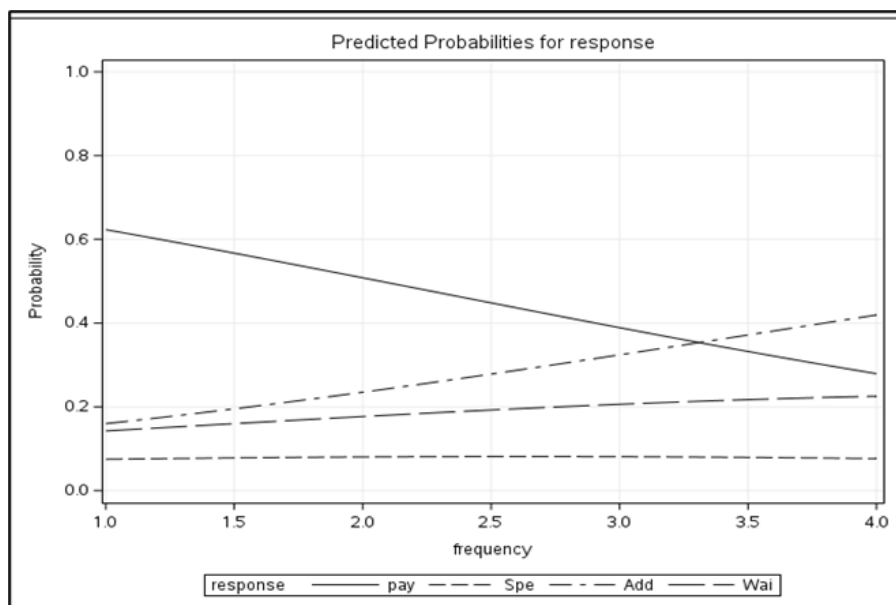


Figure 12 Predicated response of cart stacking compared to frequency.

4.3.8 Quantitative results relating to Proposition 1

The following results were observed based on the customer survey.

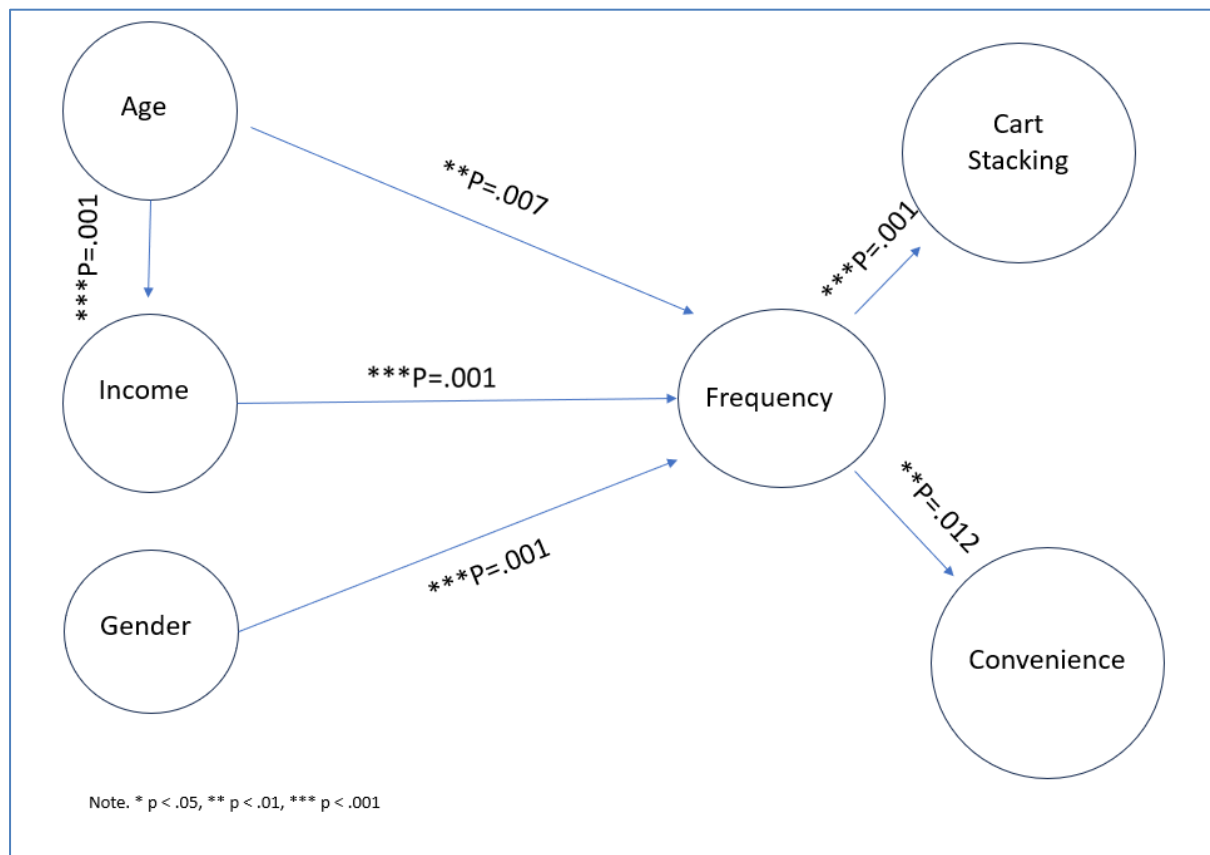


Figure 13: Cart stacking SEM diagram

The study findings suggest that several demographic factors exhibit statistically significant correlations with the frequency of customers' engagement in online shopping, including the age range (35-55) of the customer, a higher income level (ranging from ZAR 30,000 to over ZAR 450,000), and a gender bias towards women. The data highlights that mature customers within the 35-55 age bracket enjoy a higher income, typically are women, and exhibit a greater propensity for engaging in online shopping with increased frequency.

Furthermore, this study uncovers a noteworthy pattern among more experienced shoppers with a higher online shopping frequency. These customers are observed to engage in cart stacking, wherein they deliberately add items to their virtual shopping

carts to meet the minimum threshold for free delivery. Convenience plays a pivotal role in the decision-making process of these shoppers, as they prioritise a streamlined and efficient shopping experience over being primarily influenced by price sensitivity.

4.3.9 Qualitative results relating to Proposition 1

The qualitative interviews on cart stacking provide additional insight into customer behaviour. Participants describe most of their primary online purchases as being pre-determined, and the decision to add to the cart stack is rational and based on basket optimisation.

A recurring theme among the respondents was the satisfaction of avoiding delivery fees, which varied across various platforms. Experienced and frequent shoppers viewed paying for delivery as a loss. Cart stacking is viewed as optimising the shopping basket and acquiring something for nothing. There is a positive sentiment reflected around not paying for delivery (see Table 5). Respondents mentioned their preferences for adding familiar or necessary items to avoid delivery fees, often referring to this practice as getting "money for jam" or feeling like they have "beaten the system".

The interviews suggest that the perception of paying for shipping as a loss drives customers to cart stacks, supporting Proposition 1. The immediate need for products, future requirements, promotional offers, and delivery convenience influences this behaviour. Respondents generally preferred receiving physical items rather than paying for delivery, perceiving greater value in tangible goods. Their behaviour varied across platforms, with some being more inclined to cart stack on generalist sites like Takealot than specialist sites.

Table 4 : Qualitative shopping behaviour codification

	Positive				Negative
	100	80	60	40	20
Shopping behaviour					
Pre-intentioned cart	87,5				
Repetitive purchases	83,75				
Needs-based purchasing	86,25				
Cart stacking behaviour					
Cart stacking sentiment	100				
Frequent cart stacking	90				
Sentiment towards cart stacking	86,25				
Satisfaction around not paying for delivery	90				
Attitude towards paying the delivery fee				41,25	
Calculated decision process for cart stacking		80			

Overall, the decision to cart stack is driven by a mix of needs-based shopping, the lure of deals, the convenience of online shopping, the psychological satisfaction of avoiding delivery fees, and viewing paying for the delivery as a loss.

Respondents' verbatim comments below on cart stacking as opposed to paying for delivery:

- *"I would rather buy something now that i do not need to "save" on delivery by reaching the free delivery threshold. e.g. if i'm at 450 i will search for something that will push me just over the value for free delivery, but also trying not to*

exceed the delivery fee. In other words, I'm trying to "get" something "free" for the delivery fee I'm not paying".

- *"I feel that instead of wasting money on paying for delivery and physically receiving something I would rather add more to my cart to receive something physically."*
- *"Delivery seems like a wasted spend, rather get something tangible for your hard-earned money than paying for delivery".*
- *"I see it as a nice extra. A bonus."*
- *"With stacking I receive an actual product - instead of paying a fee for delivery".*
- *"Personally, I cart stack because I find that the money, I could've paid for delivery could have been used on two or more items. I do realize that the minimum threshold for delivery benefits the sellers the most, but to me it feels like a bargain, it's somewhat like girl math I guess."*

4.4 Results pertaining to Proposition 2

Q2: What impacts the customer's buying journey when choosing to partake in the cart stacking process?

P2: A customer that has a framed script model would likely follow the same script as they have done previously. This would indicate that, to meet the minimum threshold, purchases would probably be products that were purchased before. Customers would stop buying at a point where they had reached the minimum free delivery threshold.

4.4.1 Frequency compared to repeat purchases

In analysing the quantitative data, there is a correlation between the frequency of online shoppers and the making of repeat purchases. With a Pearson's correlation coefficient of -0.307 and a p-value of less than 0.001 across 279 degrees of freedom, the data suggests a notable negative correlation, implying that the occasional shopper is less inclined to make repeat purchases than the frequent or very frequent shopper.

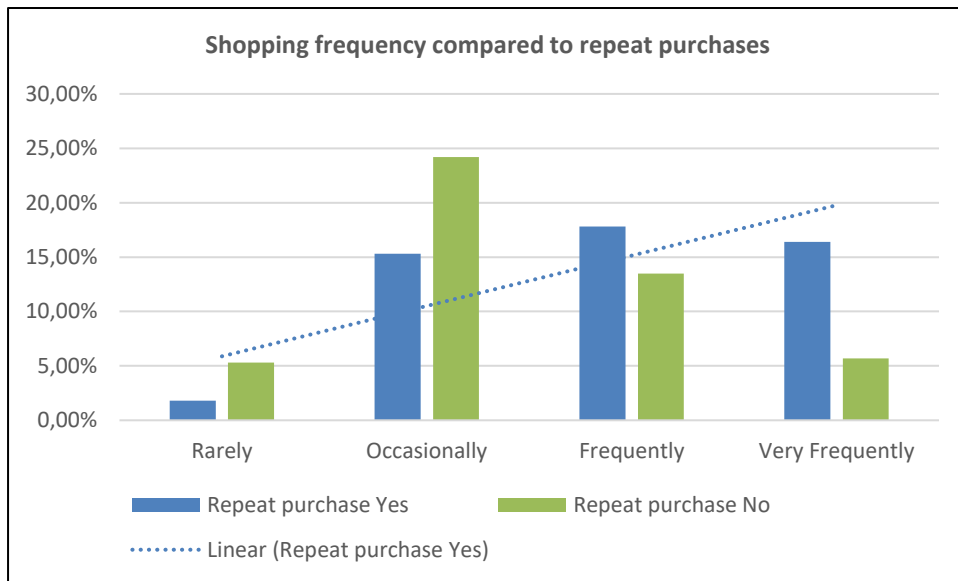


Figure 14: Shopping frequency compared to repeat purchases

Therefore, based on the quantitative data, it can be concluded that frequent and very frequent shoppers have a higher propensity to make repeat purchases and cart stacking.

The linear regression analysis examining the relationship between the likelihood of repeat purchases and online shopping. The regression analysis validity shows a significant relationship between repeat purchase likelihood and shopping frequency, evidenced by an F-value of 28.99 and a p-value of less than 0.0001. The R-Square value is 0.0950, meaning that the model explains 9.50% of the variance in shopping frequency. The Adjusted R-Square, which accounts for the number of predictors in the model, is slightly lower at 0.0918, still indicating that a modest proportion of the variance in shopping frequency is explained by the likelihood of repeat purchases.

The regression coefficient for repeat purchases is 0.55333, with a very low p-value (< 0.0001), signifying a positive and statistically significant relationship. This suggests that as the likelihood of making repeat purchases increases, there is a corresponding increase in the frequency of shopping online. The intercept of the regression equation is 2.40441 with a p-value of less than 0.0001, which means when the likelihood of repeat purchases is at zero, the baseline shopping frequency is significantly different from zero. The fit plot (see Figure 23) illustrates the relationship between repeat purchase likelihood and shopping frequency. The 95% confidence and prediction

intervals provide a range for where we can expect the mean of the dependent variable and individual future observations to lie, respectively.

Scatter Plot with Regression Line displays the observed data points with the fitted regression line superimposed. The positive slope of the regression line visually confirms the positive association indicated by the regression coefficient, implying that higher repeat purchase likelihood corresponds with higher shopping frequency.

The analysis indicates a significant positive correlation between the likelihood of repeat purchases and the frequency of online shopping. Customers who are more likely to make repeat purchases tend to shop online more frequently. However, the R-squared value suggests that there are other factors not captured in this model that also affect shopping frequency. The results could guide e-commerce platforms to incentivize repeat purchases to potentially boost shopping frequency.

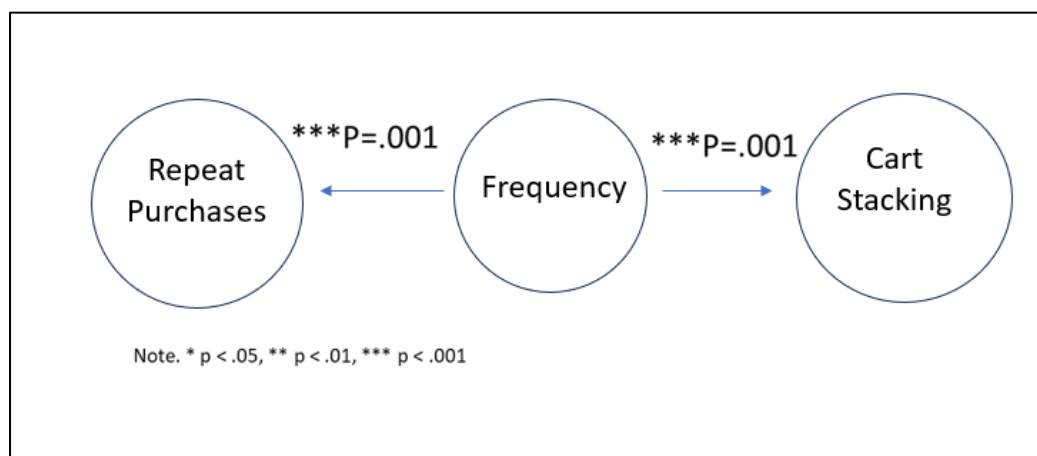


Figure 15: Frequency of shopping as it correlates to cart stacking and repeat purchases

4.4.2 Proposition 2 – quantitative results

As highlighted in Proposition 1, customers with higher incomes are more likely to shop frequently. According to quantitative analysis, a strong link exists between high-income levels and the tendency to rebuy familiar products and make repeat purchases. The quantitative data indicates a correlation between repetitive shopping purchases, frequency, and the likelihood of cart stacking.

4.4.3 Proposition 2 – qualitative results

The respondents to the qualitative questions were customers with a high online shopping frequency and high income. The decision to shop online was driven by convenience product value and cost-benefit analysis. All the respondents had pre-intentioned shopping carts prior to going online. Online shopping was driven by needs-based purchasing rather than browsing on the online platform. Most of the respondents exhibited a calculated decision-making process through a methodical way of shopping based on needs-driven criteria. Impulsive shopping was a secondary activity following the purchase of the pre-determined item.

Table 5: Codification of qualitative results for repeat purchases

	Positive				Negative
	100	80	60	40	20
Shopping behaviour					
Frequent shopper	100				
Convenience shopper	100				
High income	92,5				
High education		78,75			
Pre-intentioned cart	87,5				
Repetitive purchases	83,75				
Needs-based purchasing	86,25				
Browsing purchasing			50		
Platforms					
Utilisation of multiple online platforms	100				

Frequent shoppers indicated that they had a high utilisation of multiple platforms and made repeat purchases on these platforms (83% positive sentiment). The respondents indicated that they would often cart stack items they had previously bought, which may fulfil a future or stacking with essential items that they had bought before. Household items and beauty items were frequently indicated as items to be added to the cart for cart stacking. Luxury or non-essential items were not prevalent in the items that were cart stacked. All frequent shoppers chose to cart stack rather than pay for delivery. As they were frequent shoppers, the decision to stack items in their cart was a familiar action, and they automatically assessed the cost-benefit based on their previous experiences.

Respondents verbatim comments below on what impacts then when making the decision to cart stack:

- *“I would probably buy something I have used before, whether it's a washing powder or if you know the sometimes, they sell like nice like spritzers or you know something for house”*
- *“I always do it to get free delivery - but doesn't improve any level of satisfaction. I'll double up on items purchased frequently - or basic household goods that I would have bought somewhere anyhow.*
- *My thinking is sometimes for the price of delivery charges I can buy something I need and will use!”*
- *“Usually if it something that I will probably need in the future or something nice on sale I will buy it for free delivery.”*
- *“I would normally add cheaper items in my cart that i could use in future, just to meet the free delivery.”*
- *“I had a need or potential future need for the items”.*
- *“So from a delivery, It will definitely call stack and the basic theory behind it for me is let's say I'm going to pay 80 Rand, which is a delivery fee, I'm not getting any value or perceived value from the delivery , I can add a product for at 80 Rand and I can get a product and I get delivery included “.*
- *“I normally consider if the item I am getting will be a regular item I would need to order monthly if it is and it's an item that won't expire, I purchase enough to cover free delivery that way I am saving in the long run”*

4.5 Results pertaining to Proposition 3

Q3: Which products will e-commerce customers include during the cart stacking process to reach the threshold for free delivery?

P3: A customer will engage in a customer decision-making process to make a choice as to whether they engage in cart stacking or pay the delivery fee. The customer will undergo a cost-benefit analysis to determine the optimal strategy for cart stacking. The most rational process will ultimately drive the customer's decision to cart stack.

4.5.1 Proposition 3 – Quantitative results

An analysis of 985 shopping baskets was conducted to determine what people had purchased online and whether the purchase was intentional, an impulsive buy, or if the product was bought to meet the free delivery threshold (i.e., cart stacked).

Table 6: Why customers purchased online

		<i>N</i>	%
Why do people purchase	Added to the cart because you liked the product	183	19%
	Added to cart to reach the free delivery threshold	117	12%
	Intended to buy before initiating purchase	685	70%

In Table 6, 70% of the purchases made by the customers were pre-intentioned and these purchases were planned before going online, 19% of the purchases were impulsive and based on liking the product on the website, and 12% of the products purchased were made so to reach the free delivery threshold.

In the category of pre-intentioned purchases, the data in Table 4 predominantly highlights technology (118), household groceries (108), household essentials (93), and health and beauty products (93) as the top categories. Thus, it can be concluded that the primary motivators for planned purchases are technology, groceries, and household goods.

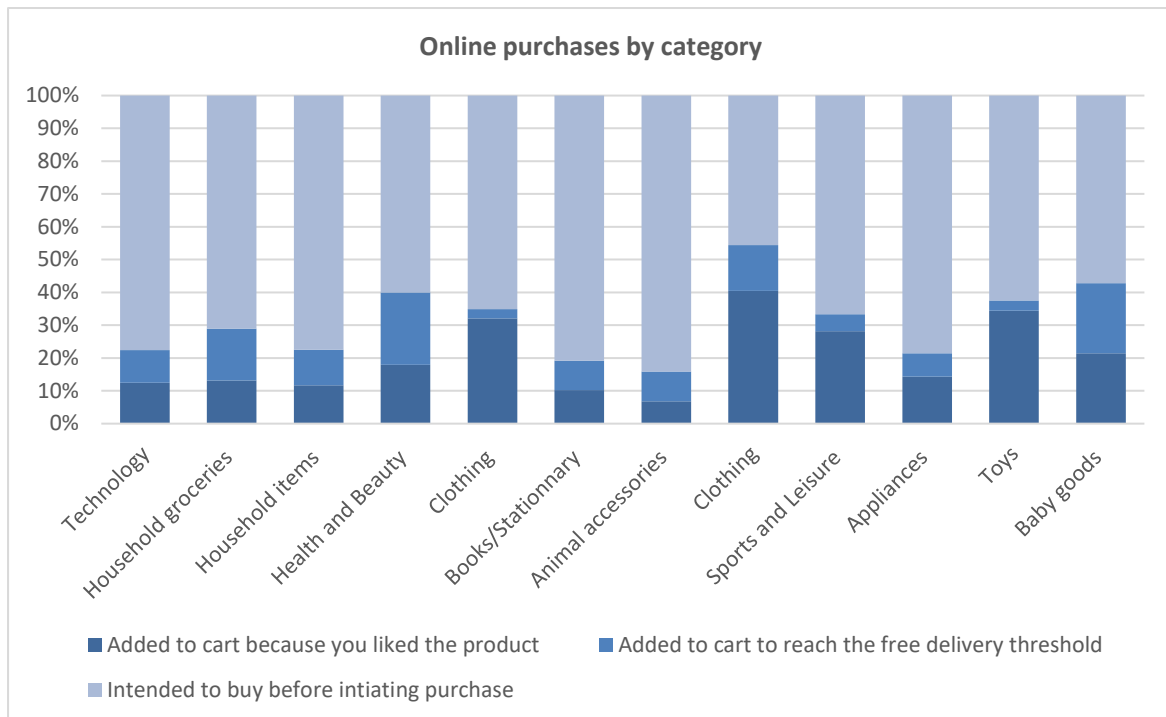
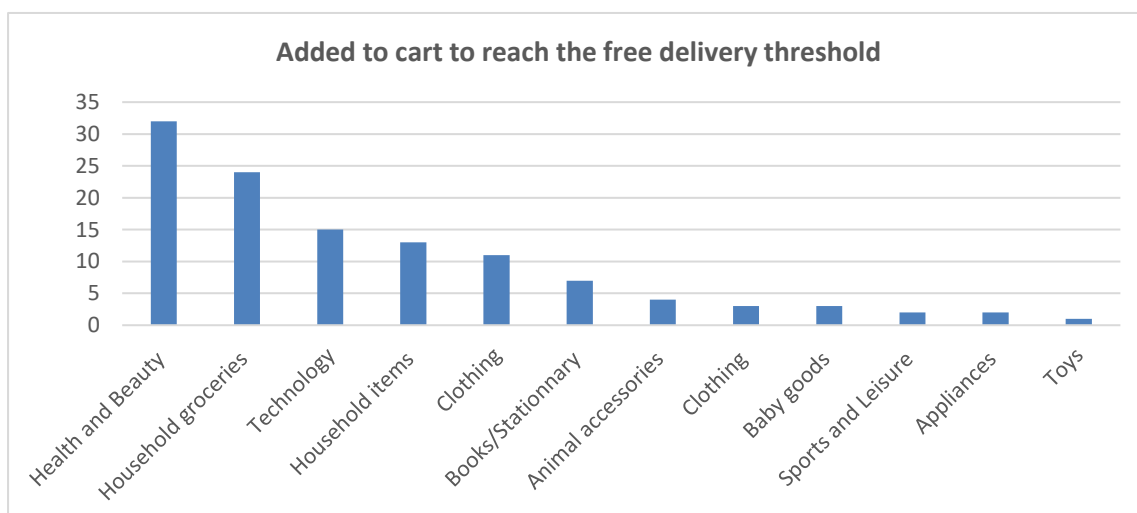


Figure 16: Online purchases by category

Conversely, as indicated in Table 5, the products most frequently added to the cart to reach the free delivery threshold (i.e., cart stacking) in succession include health and beauty items (32), groceries (24), and technology products (15).

Table 7: Cart stacked items to reach free delivery



Items intended for purchase before shopping have a higher average expenditure than cart-stacked items, which generally see a lower spend (see Table 6).

Table 8: Average spend

	Added to cart to reach the free delivery threshold (average spend)	Intended to buy before initiating purchase (average spend)	Added to the cart because you liked the product (average spend)
Health and beauty	ZAR 294.81	ZAR 491.70	ZAR 979.43
Household groceries	ZAR 399.00	ZAR 401.97	ZAR 234.86
Technology	ZAR 149.43	ZAR 1.696.21	ZAR 701.95
Household items	ZAR 222.00	ZAR 770.33	ZAR 1,553.17
Clothing and accessories	ZAR 438.62	ZAR 1.433.70	ZAR 706.43

The majority of the respondents (58%) indicated that they would spend ZAR 300 or less on an item to be cart stacked.

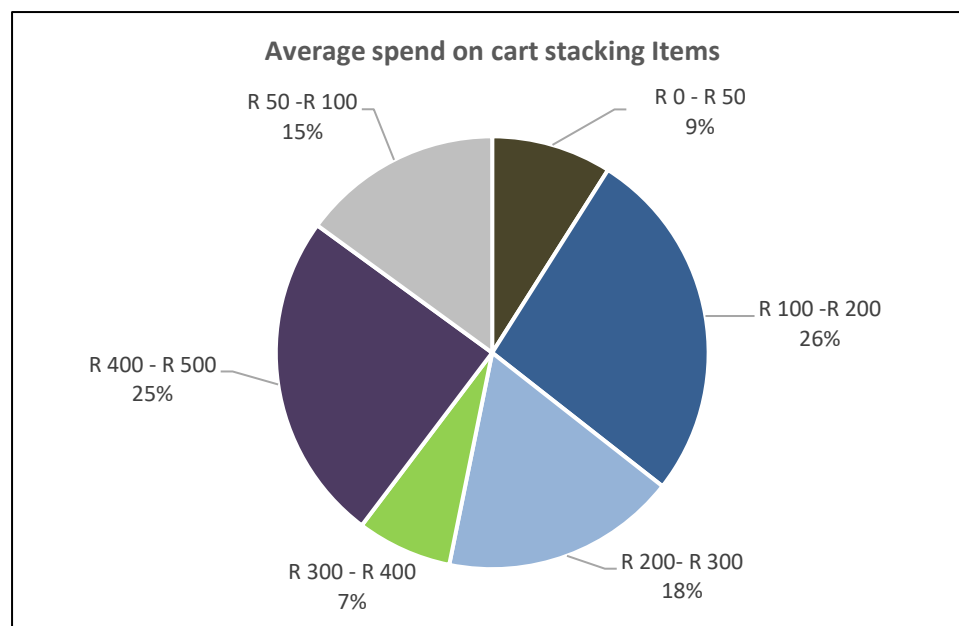


Figure 17: Average cart stacking spend as per the survey

The respondents were also asked how frequently they use online platforms to make repeat purchases. Based on the findings, 50% of the respondents indicated that they agreed with the statement, and 50% of the respondents disagreed with the statement.

Table 9: Repeat purchases

		<i>N</i>	<i>%</i>
Repeat purchases	No	136	50%
	Yes	138	50%

Respondents were also asked to advise which categories of products they would typically include in a basket for the purposes of cart stacking.

Table 10: Product categories

	<i>N</i>	<i>%</i>
Lower priced items	92	19.2%
Similar items you intended to purchase later	82	17.1%
Items on sale	117	24.4%
Items you think you might need in the future	119	24.8%
Items you have purchased before	49	10.2%
Other (please specify)	21	4.4%

4.5.2 Proposition 3 – qualitative results

The qualitative interviews provided a comprehensive view of the cart stacking strategies employed by the respondents. The interviews sought to understand what types of products would be included to reach the free delivery threshold.

The insights gathered from these interviews reveal a multifaceted approach, blending practicality with aspirational shopping, reflecting the customers' adept navigation through online shopping platforms to maximise value and convenience.

Essential household items frequently mentioned include everyday household necessities, such as cleaning supplies, kitchenware, and other domestic goods that maintain the household's smooth operation. These items are typically chosen for

immediate use or future needs, ensuring the respondent's purchase remains practical and justified. Office supplies, including stationery, printer ink, and small electronics, also feature prominently, reflecting the ongoing needs of both home offices and professional environments, reflecting the work-from-home trend.

Groceries have emerged as a significant category in the cart stacking process, with respondents increasingly turning to online platforms for their routine food shopping. The convenience of having staple foods, snacks, and speciality items delivered directly to their homes encourages customers to add these to their carts to meet the free delivery threshold, blending the necessity of grocery shopping with the strategic avoidance of delivery charges.

Small technology items, such as cables, were sometimes used in cart stacks. However, these items were not significantly represented in the interviews.

Beauty products and personal care items also play a significant role, with social media or respondents treating themselves to skincare, makeup, and wellness products as part of their cart stacking strategy. These items, often influenced by the latest trends or social media and seen as a personal indulgence, add an element of personal reward to the practical process of online shopping.

Fashion items, including clothing, shoes, and accessories, represent another significant category. Respondents were drawn to these items for immediate and future needs, strategically adding them to carts to update their wardrobes while benefiting from free delivery. The choice of adding fashion items to the cart was an impulsive decision, and specific trusted sites were used.

The decision-making process behind these selections is complex, balancing immediate needs, future utility, personal desires, and financial considerations. Respondents weigh the cost of adding items against the savings from avoiding delivery fees, often resulting in practical and indulgent purchases. While the frequent shopper feels a negative attitude towards paying for delivery, there is a positive sentiment to getting an item for the equivalent price through the utilisation of cart stacking. This behaviour underscores the savvy nature of the frequent shopper, who

can leverage online shopping platforms to their advantage and perceive paying for the delivery as a loss.

Respondents' verbatim comments below on what they cart stacked:

- *“So, I try to anticipate something that I'm going to be asked for in the future and then look at adding that to the basket, nothing that's really too expensive, but something that might come up in the near future. It's always something that's like a like a soccer ball or a something like that for the kids. I don't want to pay for anything that I'm not going to get (Delivery), so I would rather pay for something that I get than pay for a delivery, which gives me nothing.”*
- *“I'll look for something to Cart stack if there's not a product that I can find to order to meet that delivery, I'll buy it in any case and pay for the delivery. I don't necessarily mind if it's a product that I need, if it's stuff that I'm cart stacking like my files and ink and all of that in paper and random candles, and just like a basket of random things, then I don't mind necessarily waiting, but it depends on the need of the product, and the delivery timing “*
- *“I will add an item that the family requires that will assist to get to free delivery threshold. Only If i am close to free delivery will I add. If not, I will select a pick up point. Takealot pick up point is only R30”.*
- *“If products that are cheap and needed on a regular basis le. Nappies, wet wipes etc can be added to the order to make it eligible for free delivery then I will more likely do this then adding for instance an expensive dress on superbalist that I don't actually want to try get free delivery”.*

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

Chapter 5 delves into the discussion of results, examining the demographic profile of respondents engaged in cart stacking. Section 5.3 to 5.6 further explores the implications of the findings related to the three hypotheses posited in the study as they relate to the theories proposed in Chapter 2 shedding light on the nuanced behaviours and decision-making processes of e-commerce customers in South Africa. This chapter aims to synthesise the quantitative and qualitative data presented in the previous chapters, offering insights into the motivations behind cart stacking and its impact on online shopping practices and aligning these with the proposed theories in Section 2.2 to determine if there is a correlation.

5.2 Demographic profile of respondents (cart stacking)

The demographic information from the study indicates that cart stacking behaviour is influenced by factors such as age, income, gender, convenience, and online shopping frequency (see Figures 6, 7, and 8). Key findings include a positive correlation between age and income, indicating that older customers tend to have higher incomes. In the study, 'Does demographics affect purchase frequency in online retail?', (Kalia, 2017) corroborates these findings and indicates that frequent online shoppers are older and have a higher level of income that correlates with a higher level of education.

The data indicates a significant relationship frequency (see Figures 7) between higher income levels and increased online shopping frequency. The data also reveals that women (see Section 4.3.4) are more likely to shop online frequently compared to men. These demographic factors contribute to understanding the patterns and motivations behind cart stacking behaviour among South African e-commerce customers.

Table 11: Cart stacking profile.

Gender	Female
Age	35-44
	45-54
Income	Between ZAR 30,000 and ZAR 45,000
	More than ZAR 45,000
Frequency of online shopping	Very frequently
	Frequently

The above demographics indicate the broader research (Darian, 1987) that suggests that high-income customers have a higher propensity to shop online, as the opportunity cost of going to the stores is higher for higher-income customers. The data indicates that women are also a growing segment in the e-commerce framework. Higher economic earners, as denoted by the data, have a causal effect on online shopping, driving incremental frequency due to the convenience factor of shopping online (Shukla, 2022).

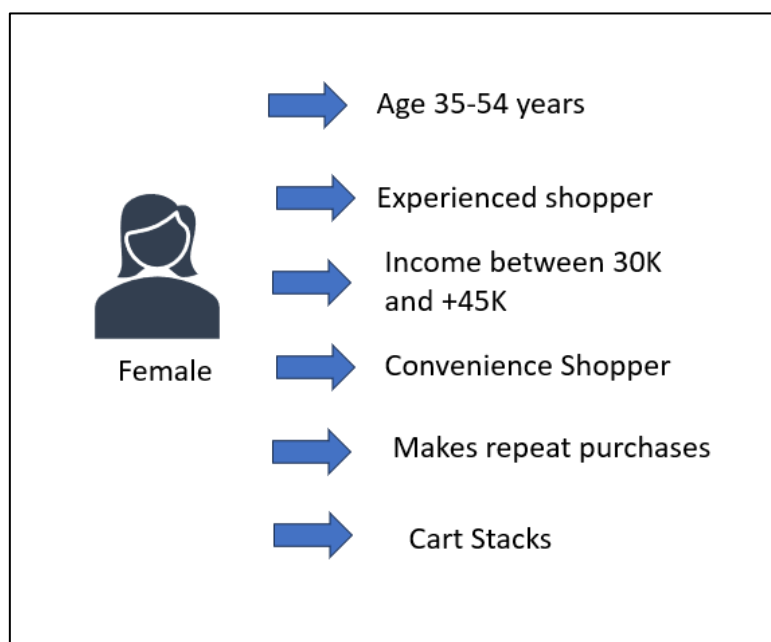


Figure 18: Demographic profile of a Cart Stacker

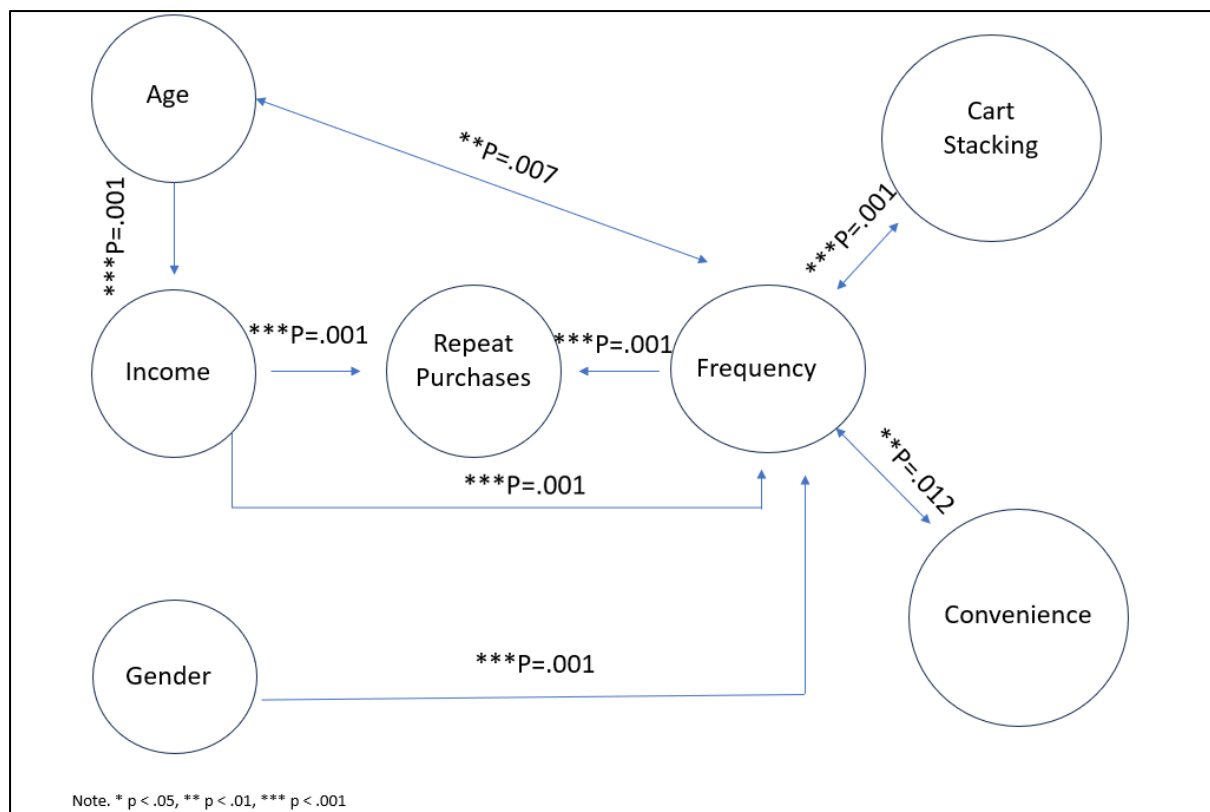
5.3 Discussion about Proposition 1

Q1: Why do e-commerce customers' cart stack to meet the free delivery threshold?

The quantitative data in Chapter 4 indicates a relationship that links high-income female shoppers with extensive shopping experience. These shoppers use online shopping platforms for convenience. The comfort and convenience that is provided by the online environment have become one of the primary reasons why customers shop online (Dhewayanti & Dahlan, 2023).

These seasoned shoppers tend to have a pre-determined shopping basket and utilise cart stacking to optimise their shopping baskets. The following diagram provides a summary of these data correlations.

Table 12: E-commerce customer correlation



It can, therefore, be presumed that the higher the income of the shopper, the more they shop for convenience and the greater the frequency of online shopping (Close & Kukar-Kinney, 2010). This assertion is supported by a study from 2021 titled "Factors Influencing Online Shopping In South Africa: The Role of Demographic Factors" by A.

Nhlapulo (A. Nhlapulo, 2021), which identified convenience, trust, and usefulness as the primary factors driving the use of online e-commerce platforms. As the shopper gains more experience, they have a higher propensity to cart stack (see figure 9).

According to prospect theory (Abdellaoui et al., 2007) individuals base their decisions on the anticipated value of outcomes, evaluating them in terms of gains or losses and the associated risks. The study's initial hypothesis aimed to demonstrate that individuals view cart stacking as beneficial and positive, influencing their decision-making toward engaging in this behaviour.

The qualitative data (see Table 4) also highlighted the respondent's perception of paying for delivery as a loss, leading to discomfort and a drive to sidestep this expense, this can be attributed to the loss aversion theory (Ma et al., 2016). Achieving free shipping following a pre-intentioned purchase becomes a target for online shoppers, motivating them to add more to their carts to bypass shipping fees, i.e., cart stacking. Filling the cart to avoid shipping fees is seen positively, as customers feel they are getting more for their money, and driving emotional satisfaction when purchasing (Jenkins-Lyttle, 2021). After buying, customers also rationalise their choices (Maslowska et al., 2016), believing the extra items were worthwhile, thus feeling good about obtaining free shipping while reducing the sting of shipping costs. Customers have described cart stacking as "getting something for nothing". Therefore, the customers are more sensitive to the losses than the gains and view cart stacking as a positive outcome.

The interviews underscore hedonistic tendencies (Dhewayanti & Dahlan, 2023) in online shopping, mainly through the joy and satisfaction of avoiding delivery fees and maximising value via cart stacking (see Table 4). This behaviour aligns with seeking pleasure and immediate gratification, critical aspects of hedonism, as customers add more items to their carts for the perceived benefit of free delivery.

Therefore, it can be inferred that prospect theory applies to the decision-making process concerning cart stacking, illustrating its influence on customer behaviour in e-commerce.

5.4 Discussion pertaining to Proposition 2

Q2: What impacts the customer's buying journey when choosing to participate in the cart stacking process?

Proposition 2's research question is related to what impacts the customer's buying journey when choosing to participate in the cart stacking process. The decision-making process behind cart stacking in e-commerce aligns with script theory, which posits that past experiences guide future decisions (Paul et al., 2008). This suggests customers repeat behaviours, like cart stacking, when faced with familiar shopping scenarios (Kohler & Wender, 2008). The research highlighted a high degree of correlation between repeat purchases and frequency ($p=.001$); frequency also had a high degree of correlation to cart stacking ($p=.001$) (see Figure 14), and therefore, it can be inferred that frequent online shoppers make repeat purchases and cart stack.

Qualitative feedback also revealed that customers revisit familiar websites, stacking carts with items from their wish lists or for future needs (see Table 5).

The findings affirm that habitual behaviours, influenced by previous shopping experiences, significantly impact the propensity to engage in cart stacking. Frequent shoppers familiar with e-commerce platforms are likelier to utilise cart stacking as a strategic approach to optimise their purchases, highlighting the importance of understanding customer habits in designing effective e-commerce strategies. (Pal & Kumari, 2023)

The optimal stopping theory in online shopping suggests customers should cease adding items to their cart once the free delivery threshold is met (Musial et al., 2016), encompassing three key stages: exploration (assessing products to meet the free delivery mark), evaluation (weighing product costs against shipping fees), and the stopping point (halting additions when the cart value meets the free shipping criteria), aiming for maximal satisfaction upon checkout (Ferguson, 1989). Most (70%) of the respondents in the online survey had a pre-intentioned cart prior to initiating a purchase (see Figure 11). The data indicates that frequent shoppers and very frequent shoppers are more likely to add an item to the cart for free delivery that they had not

originally intended to purchase and spend more on an Item initially intended to purchase (up-sell) (59%).

Table 3 indicates that experienced shoppers have a propensity to cart stack, whereas occasional and rare shoppers of an increased propensity pay for the delivery.

Regarding the average spend, the data indicates that the spend is lower on cart-stacked items than customers spend on items intended to be purchased. The purchased items vary from the intended purchases and are skewed towards health and beauty and household groceries. The average amount indicated by the respondents (57%) (see figure 16) is below ZAR 300 for cart stacking.

The conclusion drawn from the data and the optimal stopping theory in e-commerce shows that while frequent and very frequent shoppers align their behaviours with the theory by stopping cart additions upon reaching the free delivery threshold, this pattern is less evident among occasional and infrequent shoppers (see Figure 18). The tendency to add to the cart or increase the original order suggests a strategic approach to maximising value, influenced by shopping frequency and the allure of free delivery, particularly for health, beauty, and household groceries.

The research also suggests that the respondents stop shopping after reaching the free delivery point. Although the optimal stopping theory is fundamentally mathematical (H Robbins, 1952), its principles were applied conceptually in this research without delving into the rigorous mathematical computations typically associated with the theory.

5.5 Discussion about Proposition 3

Q3: Which products will e-commerce customers include during the cart stacking process to reach the threshold for free delivery?

The customer decision-making model outlines a series of steps customers take when purchasing, highlighting how they actively participate in this process to enhance their shopping experience and minimise shipping costs (Panwar, 2019). This model, applied to cart stacking, consists of five stages: recognising a need or problem, searching for information, evaluating alternatives (including considering additional

items to meet free delivery thresholds), making the purchase (where factors like total cost and perceived value of added items are considered), and post-purchase satisfaction evaluation.

In analysing 985 transactions, it was found that 70% were planned purchases, 19% were impulsive based on product appeal, and 12% involved cart stacking to meet free delivery minimums (see Table 6). Particularly among frequent shoppers, a higher tendency to stack their carts was noted when they were below the threshold for free delivery.

Customer decision-making process framework theory: This framework shows that cart stacking to achieve free delivery is a strategic decision aimed at optimising shopping outcomes and mitigating the perceived loss associated with shipping fees (Problem awareness, information search, evaluation of alternatives and purchase decision)



Figure 19 Customer decision making theory.

The data analysis reveals a structured approach to online shopping, mainly through cart stacking, which aligns with the stages of the customer decision-making model (Han & Ryu, 2012). Experienced shoppers engage strategically in this process, optimising their carts to avoid shipping costs. Experienced shoppers strategically optimize their carts to bypass shipping fees, engaging in this process almost effortlessly due to its repetitive nature, which aligns with script theory (Erasmus et al., 2010).

The positive feedback (see Table 4) in post-purchase evaluations reflects a successful application of this model, indicating satisfaction and strategic benefit from cart stacking practices.

Rational choice theory can be seamlessly integrated into the customer decision-making framework, suggesting that customers engage in thoughtful and rational decision-making at every stage of the process (Kari, 2014). This involves carefully weighing the costs and striving to maximize the benefits of their purchase, indicating that each decision is made with a clear understanding of optimizing outcomes.

Stage 1 Problem awareness: The need and the recognition of basket optimisation only seem to occur where the shopper is experienced. The awareness of the shopping process drives prevalent cart stacking behaviour rather than paying for shipping. The experienced shopper recognises the need to optimise the cart as a rational response, (rational choice theory) to minimise costs associated with shipping fees. This awareness is a calculated understanding of how to maximize utility by avoiding unnecessary expenses.

Stage 2 Information search: When looking at what to stack from an information search perspective, frequent shoppers identify the differential between the pre-intentioned cart and the delivery threshold and make a considered decision. The average spend on cart stacking is approximately ZAR 300 or below. In this stage, shoppers engage in a rational analysis of their current cart contents versus the free delivery threshold. Their decision to add items to the cart is based on a systematic evaluation of how to achieve maximum benefit (free delivery) at the lowest additional cost (ValerieTrifts, 2000) , which is a core principle of Rational Choice Theory.

Stage 3 Evaluation of alternatives: Based on the qualitative research (see Table 6), the purchase decision on the cart stacking item for experienced shoppers is either an item they may need in the future, or an item considered a luxury item for their family. Items on sale were also considered as were items for their wishlist. Here, shoppers' choices reflect a rational assessment of potential future utility (items they may need) versus immediate gratification (luxury items). This stage emphasizes the rational process of evaluating different options to maximize overall utility, considering both current and future needs.

Stage 4 Purchase decision: The items most likely to be cart stacked are health and beauty (average spend of ZAR 294), household groceries (average spend of ZAR

399), and technology (average spend of ZAR 149), as these items would potentially fall under the threshold value (see Table 8).

The above items contrast the pre-determined items generally based on technology, household groceries, clothing and accessories, and household items in descending order.

The average spend value regarding the cart stacked items is lower than the pre-intentioned purchase, as it covers the gap in the pricing.

When looking at the online influencing factors, the respondents answered in an even distribution in terms of the following factors (see Table 10): Items on sale (24%), items they may need in the future (24%), or lower-priced items (19%). There was no statistical correlation between online influencing factors and cart stacking. Therefore, the online elements that influenced the cart stacking purchase cannot be determined accurately.

There is a statistical correlation between repeat shopping, frequency, and cart stacking, indicating that when making their purchasing decision, many experienced shoppers will purchase the same item (Hoyer, 1984) , and these are the same customers who cart stack.

The decision to add specific items to the cart, such as health and beauty products or groceries, is made after a rational evaluation of their costs relative to the benefit of reaching the free shipping threshold. This decision-making is influenced by the rational desire to optimize the balance between the value of the goods and the cost savings from free delivery.

Stage 5 Post-purchase evaluation: The qualitative research interviews reveal a generally positive sentiment towards cart stacking as a strategic and satisfying approach to online shopping. Participants express a sense of accomplishment in avoiding delivery fees by carefully selecting additional items, often influenced by future needs or promotional offers. This strategic behaviour aligns with a desire for value maximisation and efficient shopping experiences, underscoring a positive engagement with the e-commerce environment (Angeline G. Close, 2010).

The in-depth examination of the data indicates a significant correlation between shopping frequency, convenience shopping, repeat purchases, and the propensity to engage in cart stacking. This correlation suggests that customers with greater familiarity and experience with online shopping platforms are likelier to employ cart stacking to optimise their shopping baskets and avoid the perceived loss associated with shipping costs.

The discussion of these findings argues that the behaviours observed align with the principles of rational choice theory and the Customer decision making model framework (Frederiks et al., 2015), demonstrating that customers are not merely passive participants in the online shopping environment but active decision-makers seeking to maximise their utility. The above perspective challenges simplistic views of customer behaviour in e-commerce, suggesting that shoppers employ complex strategies informed by past experiences, anticipated future needs, and the dynamic interplay of costs and benefits.

The broader implications of these findings for e-commerce retailers suggest that understanding the decision-making processes of customers can inform the design of online shopping platforms, promotional strategies, and shipping policies. By aligning these elements with the customer's rational decision-making framework, retailers can enhance customer satisfaction, encourage repeat business, and foster a more engaging and rewarding online shopping experience.

The rational choice theory provides and the customer decision making process provide a valuable lens to view and understand cart stacking behaviour among e-commerce customers. By recognising the rational, calculated nature of this behaviour, the research underscores the importance of considering customer decision-making processes in designing and managing e-commerce strategies, ultimately contributing to a more nuanced understanding of customer behaviour in the digital marketplace.

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

6.2 Conclusions regarding Research Question 1

RQ1: Why do e-commerce customers cart stack to meet the threshold for free delivery?

The premise of the research survey centres around understanding why customers carts stack. The quantitative data reveals that high-income female shoppers with extensive online shopping experience prioritise convenience, leading them to strategically fill their shopping carts to optimise value and avoid shipping fees. In contrast, the infrequent or inexperienced shopper is shown to prefer to pay for delivery rather than cart stack.

Cart stacking behaviour among experienced shoppers is influenced by the desire to maximise gains while minimising losses, a principle outlined in prospect theory. This theory suggests that people make decisions based on the potential value of outcomes, considering the decisions in terms of gains and losses.

The qualitative data supports this by showing that customers perceive the cost of delivery as a loss and thus are motivated to avoid this expense by achieving free shipping, which they see as a gain. This is further reinforced by the positive feelings associated with receiving more for their money and justifying the additional purchases as worthwhile. The behaviour also reflects hedonistic tendencies, where the pleasure derived from avoiding delivery fees and maximising value through cart stacking is a significant motivator.

In conclusion, the decision to engage in cart stacking among experienced female e-commerce customers is significantly influenced by the desire for convenience, the aversion to perceived losses (like shipping fees), and the pursuit of hedonistic pleasure. This behaviour is well-explained by prospect theory, which highlights the impact of perceived gains and losses on decision-making, particularly in the context of online shopping.

6.3 Conclusions regarding Research Question 2

RQ2: What impacts the customer's buying journey when choosing to participate in the cart stacking process?

The experienced online shopper shopping for convenience is seen through the data to make repeat purchases. These shoppers visit the same websites and follow the same online journey, making repeat purchases. These experienced shoppers also cart stack; therefore, the conclusion is drawn that script theory would apply to the cart stacking customer. The correlation between repeat purchases and shopper frequency is shown as statistically significant in the data.

Optimal stopping theory, applied to cart stacking, suggests that customers maximise satisfaction by adding items to their cart until the free delivery threshold is met. While not mathematically conclusive, the research indicates that frequent shoppers are more inclined to add unintended items to their carts or spend more on an intended item (up-sell) to qualify for free delivery, particularly in categories like health, beauty, and household groceries. The data suggests that reaching the free delivery threshold serves as a stopping point for most respondents, aligning with the premise of the optimal stopping theory.

In conclusion, customers' buying journeys in cart stacking are significantly influenced by their shopping frequency, past experiences, repeat purchases, and the strategic desire to maximise value by qualifying for free delivery. Experienced shoppers exhibit a more pronounced tendency towards cart stacking, driven by free delivery benefits and influenced by their habitual shopping behaviours. Customers will stop at the point where the basket is optimised to reach the delivery threshold.

6.4 Conclusions regarding Research Question 3

RQ3: What impacts the customer's buying journey when choosing to participate in the cart stacking process?

The customer decision-making model explains the cart stacking behaviour observed in online shopping. This model, comprising five stages—need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase evaluation—

aligns closely with the observed behaviours of customers, especially experienced online female shoppers, who engage in cart stacking to reach free delivery thresholds.

Typically, the additional items added to reach the free delivery threshold are valued at under ZAR 300, with health and beauty products, household groceries, and small technology items being the most common choices.

The influence behind these added items appears to be evenly distributed across various online factors. The analysis within this context suggests that experienced shoppers focus on convenience, aligning with the customer decision-making model.

According to rational choice theory, these customers strategically fill their carts to maximise personal benefit. The data indicates that frequent shoppers who engage in cart stacking do so as part of a strategic, satisfying approach to shopping aimed at maximising value and avoiding delivery fees.

This strategic behaviour is consistent with the customer decision-making model and the rational choice theory, demonstrating that experienced shoppers tactically navigate their shopping journey to optimise outcomes and reduce perceived losses from shipping fees.

6.5 Recommendations for practitioners

Card stacking, particularly within the e-commerce sector, is significantly influenced by a specific segment of online shoppers. These individuals frequently shop online, valuing convenience and bringing a wealth of online shopping experience. Delivery fees do not seem to be a hindrance to these customers; however, the practice of cart stacking does allow for a more positive shopping experience overall rather than paying for delivery. These customers, who are characterised by their tendency to make repeat purchases, utilise the element of cart stacking to purchase either for their future needs or current requirements.

The implementation of artificial intelligence (AI) in retail allows for personalised basket recommendations based on a customer's past purchase history. This approach enables retailers to offer discounts on previously purchased items or similar products,

ideally keeping these suggestions within the free delivery threshold to incentivise additional purchases.

E-commerce platforms can further refine their customer engagement strategies through pre-testing and post-testing on their websites. This method helps determine the most effective visuals and deals for individual customers, tailoring the online retail experience to meet their specific needs. As online retail continues to evolve, the key to success lies in providing customers with deals that are precisely tailored to their preferences and requirements.

The phenomenon of cart stacking warrants further exploration by e-commerce providers, as it impacts a notable segment of the online shopping population. Ensuring that product catalogues are conducive to cart stacking is crucial. This involves offering a wide range of products, including smaller, lower-cost items that help customers reach the free delivery threshold. A diverse product and pricing catalogue supports cart stacking behaviour, encouraging customers to add more items to their carts.

For e-commerce providers that currently do not have a minimum spend threshold for free delivery, adopting such a policy could prove beneficial. This strategy could lead to increased average order values and a higher number of items per transaction among customers who engage in cart stacking. When introducing a free delivery threshold, e-commerce platforms should communicate this policy clearly to customers across all touchpoints in the shopping journey, ensuring transparency and understanding.

In summary, cart stacking is a strategic behaviour that e-commerce platforms can leverage to enhance the customer experience. By understanding and catering to the needs of frequent online shoppers through personalised recommendations and incentives to reach free delivery thresholds, e-commerce providers can encourage more substantial and increasingly frequent purchases. The future of online retail lies in the ability to offer optimised, personalised shopping experiences that meet the unique needs of each customer, fostering loyalty and driving sales.

6.6 Recommendations for further research

To comprehensively understand the cart stacking phenomenon in online shopping, extensive research encompassing a diverse audience is imperative. A platform like Takealot could serve as an ideal case study for collecting wide-ranging data, offering insights into real-time customer behaviours and preferences. This approach would not only facilitate the analysis of cart stacking patterns—who stacks and what items are commonly stacked—but also enable the tracking of customer navigation on the site, revealing the thought process behind their final purchasing decisions.

Delving into the purchasing data could unveil potential mathematical models that predict customer spending behaviours, aiming to optimise overall expenditure. Such analysis might reveal the thresholds beyond which customers are likely to add more items to their carts to qualify for incentives like free delivery.

A comparative study of individuals who engage in cart stacking versus those who do not could yield valuable insights. Through qualitative research methods, such as interviews or surveys, researchers can explore the underlying motivations, preferences, and deterrents influencing these two distinct shopper profiles.

Longitudinal research involving follow-up questionnaires or interactions with participants over time could provide a dynamic view of customer behaviour changes, particularly in response to specific interventions or changes in online retail practices. This method's strength lies in its ability to trace causal relationships and the evolving nature of customer habits in the e-commerce landscape.

Exploratory research, employing techniques such as focus groups, could further enrich our understanding of e-commerce customer behaviour. This approach is particularly suited to uncovering the various factors that sway purchase decisions and behaviours in the online shopping context. By identifying key variables and issues, researchers can tailor their investigations to aspects that significantly impact customer behaviour, such as the influence of free delivery thresholds and other promotional strategies.

In conclusion, a multifaceted research approach combining broad data collection, in-depth qualitative analysis, and dynamic longitudinal studies can significantly advance our understanding of cart stacking in e-commerce. This comprehensive strategy will

illuminate the factors driving customer behaviour and offer actionable insights for online retailers to optimise their strategies, enhance customer satisfaction, and ultimately drive sales. By embracing a diverse array of research methodologies, the e-commerce industry can better adapt to the evolving needs and preferences of its customer base, ensuring a more personalised and efficient shopping experience.

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Appendix A – Qualitative Interviews

Annexure 1 – Interview Codification

Interview codification

Table 13: Interview codification

	Positive				Negative
	100	80	60	40	20
Shopping behaviour					
Frequent shopper	100				
Convenience shopper	100				
High income	92,5				
High education		78,75			
Pre-intentioned cart	87,5				
Repetitive purchases	83,75				
Needs-based purchasing	86,25		50		
Browsing purchasing					
Platforms					
Utilisation of multiple online platforms	100				
Cart stacking behaviour					
Cart stacking sentiment	100				
Frequent cart stacking	90				
Sentiment towards cart stacking	86,25				
Satisfaction around not paying for delivery	90				

Attitude towards paying for delivery fee

41,25

Calculated decision-making process for cart Stacking

80

Cart stack items

Future need

70

Essential items

63,75

Luxury item

41,25

Influences

Ratings and reviews

70

Social media

65

Advertising

26,25

Peer review

45

Deals

73,75

Annexure 2 – Qualitative summary of interviews

The core theme from the interviews on cart stacking is a blend of strategic and impulsive online shopping behaviours. Most individuals prefer adding items to reach free delivery thresholds, focusing on future needs or small essentials. The decision-making process is influenced by convenience, product value, and cost-benefit analysis. While some exhibit methodical, need-based shopping, others are more impulsive, swayed by deals and platform suggestions. The satisfaction of avoiding delivery fees plays a significant role, with varying behaviours and thresholds across different platforms. Overall, cart stacking is seen as a way to maximise value and convenience in online shopping.

Respondent 1

35-Year old Female

Frequent online shopper

Earning more than ZAR 45,000pm

In the interview, the respondent is a frequent online shopper and tries as much as she can to do the majority of her shopping online. She shops online for various items, including fashion, beauty, home, and food, using websites like Woolies, Dash, Pick n Pay, Takealot, Superbalist, and Zara. She shops with a pre-intentioned purchase in mind but occasionally browses, especially for clothing and accessories. When close to the free delivery threshold, She prefers adding items to avoid delivery fees, usually choosing familiar or necessary items like household goods; her perception around cart stacking is that “it is almost like money for jam if you will”. Her attitude towards paying for delivery is neutral, recognising that the cost is often incorporated into product prices, where the delivery is free. She acknowledges that delivery fees are part of doing business and that car stacking is a way of getting something for nothing, as she would ultimately pay for delivery.

The decision-making process for cart stacking is not deeply calculated; it is more about convenience and the need for additional items. The respondents' shopping patterns vary across different websites, with household items being more accessible to add for cart stacking compared to fashion items. The overall experience, including the

convenience of delivery and perceived value, influences her shopping behaviour. She does consider Ratings and Reviews when looking at new products.

Shopping Platforms: The respondent prefers online shopping, frequently using platforms like Woolies, Dash, Pick n Pay, Takealot, Superbalist, and Zara for a range of items.

Cart Stacking Behaviour: She engages in cart stacking, particularly on sites like Takealot, adding necessary or future-need household items.

Perception of delivery fees: She feels that cart stacking is like “getting money for jam”, as she feels delivery has to be accounted for. Therefore, through cart stacking, she is essentially getting something for nothing that she would ultimately have to pay for

Decision-making process: Her decision to cart stack is influenced by convenience and the immediate need for her pre-intentioned item rather than a detailed calculation.

Feelings towards free delivery: The respondent prefers receiving a physical item to overpaying for delivery, feeling the perceived value is greater.

Shopping patterns: Her behaviour varies between sites; it is easier to find household items to add on Takealot, while fashion requires more consideration. The respondent is a frequent shopper and shops for convenience.

Respondent 2

36-Year-old – Female

Frequent online shopper

Earning more than ZAR 45,000pm

The respondent's interview reveals that she is a frequent online shopper and shops for convenience. She primarily shops on Takealot and Checkers Sixty60 for various items, including gadgets, beauty products, and groceries. When faced with a delivery charge, she assesses the urgency and uniqueness of the item. If it is not urgent or unique, she prefers cart stacking to achieve free delivery, especially for non-urgent goods like face cream.

On Takealot, she often adds items to reach the free delivery threshold, usually looking for things she will need in the future. When she succeeds in getting free delivery, she feels like she has "**beaten the system.**" Her shopping behaviour varies across platforms, with no specific pattern, but is influenced by her lifestyle and promotional offers. The respondent generally stops adding items once she reaches the free delivery threshold but sometimes goes slightly over. Her maximum threshold for free delivery is around 500 Rand, but it can vary depending on the platform and type of product. Her decision-making is influenced by immediate needs, future requirements, and the convenience and promotions available.

Shopping Platforms: The respondents primarily use Takealot for products and Checkers Sixty60 for groceries.

Cart Stacking Behaviour: She uses cart stacking on Takealot, especially for non-urgent items like beauty products, adding them to reach free delivery.

Perception of delivery fees: The respondent is willing to pay delivery fees for urgent or unique items but prefers cart stacking for general goods.

Decision-making process: Her decision to add more items is influenced by the urgency of the product and its availability.

Feelings towards free delivery: The respondent feels like she has '**beaten the system**' when she achieves free delivery, perceiving it as creating her own discount voucher. She experiences a sense of pleasure at not paying for delivery.

Shopping patterns: Her behaviour varies between platforms. She is more likely to pay for delivery on Checkers Sixty60 regardless of the total, whereas on Takealot, she aims for free delivery.

Respondent 3

45 years

Infrequent shopper online

Earning less than ZAR 15 00 pm

The respondent is not a frequent online shopper but uses platforms like Takealot for specific items. She prefers in-store shopping for household goods and is cautious with

online purchases due to past experiences with quality and delivery times. The respondent shops online for the sake of convenience. She is strict with her spending when shopping online, entering a pre-intentioned list. If the gap between her expenditure and the free delivery threshold is significant, she prefers to pay the delivery charge rather than buy additional items; this is a calculated equation as to which option saves her the most money.

However, she might add items from her 'want' list if the gap is small. The respondent feels that delivery charges are often overpriced and views achieving free delivery **as getting better value for money**. Her cart stacking decisions are often spontaneous, influenced by convenience, seasonality, and the perceived value of the purchase. She acknowledges a lack of logical reasoning in this process, usually getting carried away and spending more than intended. The respondent's behaviour varies across different online platforms. On generalist sites like Takealot, she is more inclined to cart stack compared to specialist sites. She does not have a strict maximum amount she would spend to reach free delivery, but she tries to keep it reasonable.

Shopping Platforms: Prefers Takealot for its delivery reliability and variety.

Cart Stacking Behaviour: Adds items to reach free delivery, choosing from her 'want' list if the gap is small.

Perception of delivery fees: Finds delivery fees high but accepts them as part of online shopping.

Decision-making process: Strict spending, adding items based on a pre-intentioned list of wants, not needs.

Feelings towards free delivery: Feels achieving free delivery offers value for money, likening it to getting a “freebie”.

Shopping patterns: More likely to cart stack on general sites like Takealot compared to specialist sites.

Respondent 4

40 year old

Frequent online shopper

Earning more than ZAR 45,000pm

The respondent's interview delves into her online shopping habits and cart stacking behaviour. She is a frequent online shopper and understands the online environment. She shops online primarily through social media influences or when searching for specific items, valuing convenience and variety. The respondent mainly shops online.

She is predisposed to add items to her cart to meet free delivery thresholds, often surpassing the delivery cost. Her added items are generally non-urgent, future needs rather than necessities. This behaviour is primarily impulsive and driven by the prospect of future requirements. Yougeshree does not have a consistent pattern of repeat purchases, and her shopping behaviour remains similar across various platforms, with brand loyalty playing a minimal role. Her decision-making is influenced by deals, value, and quality of products, as indicated by ratings and reviews. Regardless of the price difference, the respondent consistently opts for cart stacking, overpaying delivery fees.

Platforms: The respondent shops on various online platforms, influenced by social media and specific needs. She Shops at Take a Lot, Superbalist, Zara

Cart stacking behaviour: She often uses cart stacking to reach free delivery thresholds, adding items that might be needed in the future rather than immediate necessities.

Perception of delivery fees: The decision to cart stack is influenced by the desire to avoid delivery fees, preferring to receive additional items instead.

Decision-making process: Her approach to cart stacking is impulsive, focusing on potential future requirements. Quality is essential to her, and she would pay more for a higher-quality item.

Feelings towards free delivery: **Achieving** free delivery through cart stacking is viewed positively, as it enhances the perceived value of her purchases.

Shopping patterns: The respondent's shopping behaviour is consistent across platforms, with decisions driven by deals, product quality, and reviews.

Respondent 5

39-Year-old – Female

Frequent online shopper

Earning more than ZAR 45,000pm

The respondent is an avid online shopper who uses various platforms primarily for convenience. She prefers online shopping to going in-store or into a mall, except for expensive, high-risk goods. She is also knowledgeable about online and how the process works. She engages in cart stacking, particularly on Takealot, adding items like office supplies to reach the free delivery threshold. She prefers to stack her cart with necessary items or those she will need in the future, feeling better about her purchase when she meets the free delivery requirement. Her shopping behaviour is intentionally mainly influenced by product reviews and sales but not much by promotions. She follows a pattern in her purchases, often repeating orders for items like office supplies. The maximum she is willing to spend to meet the free delivery threshold is around 400 Rand, and she often surpasses this amount if she finds products she genuinely needs or wants.

Platforms: She shops across various platforms, from FMCG sites like Checkers 60/60 to Takealot and bespoke brands.

Cart stacking behaviour: She practices cart stacking, particularly on Takealot, adding items like office supplies to reach the free delivery threshold.

Perception of delivery fees: The respondent feels better adding items to avoid delivery fees, even if it means spending more than the minimum required for free delivery.

Decision-making process: Her cart stacking is influenced by immediate needs and future considerations, focusing on items she will eventually use.

Feelings towards free delivery: Achieving free delivery makes her feel like she is getting extra value, enhancing the perceived savings from her shopping.

Shopping patterns: The respondent's shopping is mainly need-based, with occasional browsing influenced by promotions or recommendations such as ratings and reviews. She repeats purchases of office supplies and other regular needs, taking advantage of sales like Black Friday for more significant savings.

Respondent 6

38-Year-old – Male

Frequent online shopper

Earning more than ZAR 45,000pm

The respondent's interview highlights his approach to online shopping and cart stacking. He shops online primarily for convenience and good deals, often visiting sites like Takealot. He typically shops with a specific purpose in mind and rarely shops impulsively. When needing to reach a free delivery threshold, he prefers adding additional products rather than paying for delivery. His purchasing decisions are strategic, and his purchase is generally pre-determined.

The respondent will not pay for delivery but will choose to cart stack. Paying for delivery is seen as a **waste of money**, and his shopping journey is not optimised.

His decisions on what to cart stack are based on whether it is a great deal or a necessity. He exhibits a practical approach, balancing the product's necessity and the deal's perceived value. The respondent's maximum spend to achieve free delivery varies depending on the context and the value he perceives in the additional products. The product quality, website credibility, and the deal's potential value influence his shopping behaviour.

Platforms: The respondent navigates between commercial sites for necessities and second-hand platforms for deals.

Cart stacking behaviour: He strategically adds items to the cart to meet free delivery thresholds, optimising value.

Perception of delivery fees: Delivery fees are a significant factor in his shopping decisions, often leading to cart stacking to avoid them.

Decision-making process: Decisions are influenced by the perceived value, site credibility, and how healthy products are presented online.

Feelings towards free delivery: Free delivery is highly valued and influences his willingness to add more items to the cart.

Shopping patterns: The respondents shopping is deal-driven, balancing immediate needs and potential savings from cart stacking.

Respondent 7

40-Year-old – Male

Frequent online shopper

Earning more than ZAR 45,000pm

The respondent primarily shops online for convenience, often visiting generalist sites like Takealot and Superbalist. His shopping is chiefly pre-intentioned, based on specific needs rather than impulsive browsing, and is researched beforehand.

When close to the free delivery threshold, he prefers adding items to his cart rather than paying for delivery, choosing products based on future needs or good deals. The respondents often choose a gift for their family when adding to the cart to reach free delivery. He feels more satisfied when achieving free delivery through cart stacking. The maximum spent to reach the free delivery threshold is flexible, depending on the value he sees in the additional products. Practical considerations and the perceived value of the deal influence his decision-making process.

Platforms: The interviewee shops online mainly through social media influences or specific needs.

Cart stacking behaviour: Prefers adding items to the cart to reach the free delivery threshold rather than paying for delivery, even if the added item costs more than the delivery fee.

Perception of delivery fees: Sees the addition of items to avoid delivery fees as preferable, indicating a dislike for paying extra for delivery.

Decision-making process: The initial purchase is pre-intentioned, but additional items to meet the free delivery threshold are chosen impulsively based on future needs rather than immediate necessities.

Feelings towards free delivery: Strong preference for avoiding delivery fees, even if it means spending more overall.

Shopping patterns: Shopping behaviour does not change significantly across online platforms, and brand loyalty does not strongly influence purchase decisions. Deals, specials, and the perceived value of products influence decisions.

Respondent 8

45-Year-old – female respondent

Frequent online shopper

Earning more than ZAR 45,000pm

The interview delves into the respondent's online shopping habits, focusing on how she manages her shopping cart and approaches free delivery options. She prefers shopping online for specific needs rather than impulsive buying. She frequents platforms like Takealot and occasionally uses others like Shein for clothing and Checkers 60 for groceries. Her cart stacking behaviour is need-based; she adds items to avoid delivery fees only when it makes sense, often resorting to her wish list for small additions to reach free delivery thresholds. The respondent values time over cost, opting for online shopping for convenience and efficiency, especially with platforms that offer fast delivery and a wide variety of products like Takealot.

Platforms: The Respondents shop on Takealot, Shein for clothing, and Checkers 60 for groceries, driven by specific needs rather than impulsive buys.

Cart stacking behaviour: She stacks her cart strategically, adding items to meet free delivery thresholds when it aligns with her needs, often pulling from her wishlist for small additions.

Perception of delivery fees: The respondent is conscious of delivery fees and employs cart stacking to avoid them, but only when it is practical and aligned with her shopping needs.

Decision-making process: Her decisions are need-based, with a preference for adding valuable items to reach free delivery thresholds, reflecting a thoughtful approach to online shopping.

Feelings towards free delivery: Achieving free delivery is a considered outcome of her shopping strategy, indicating she values the cost savings where it makes sense within her shopping habits.

Shopping patterns: The respondent's online shopping is driven by convenience and time-saving aspects, focusing on platforms that offer a wide range of products and fast delivery.

Respondent 9

30-Year-old – Female

Frequent online shopper

Earning more than ZAR 35,000pm

The respondent shops on Takealot and Superbalist, primarily for tech items, clothing, and household goods. She engages in cart stacking, especially when a small amount is needed to reach free delivery. Her cart additions are impulsive, often based on site suggestions or items she has considered previously. She feels logical in opting for free delivery, overpaying for it. The respondent's behaviour differs across platforms; Superbalist tends to add luxury items like jewellery, whereas Takealot focuses on essential goods. Her maximum spend for free delivery varies depending on the site, but she aims for affordability.

Platforms: The respondent uses various online platforms for shopping, indicating a diverse approach to digital commerce. She looks at Take a Lot and Superbalist

Cart stacking behaviour: She adds items to her cart to avoid delivery fees, choosing between small necessary items or something she has wanted for a while.

Perception of delivery fees: The respondent prefers not to pay for delivery and looks for ways to add items to her cart to qualify for free delivery.

Decision-making process: Her decision-making involves adding small, necessary items or opting for a more oversized, desired item to meet the free delivery threshold.

Feelings towards free delivery: While she feels terrible about spending more than intended, the prospect of free delivery offers some consolation.

Shopping patterns: Her shopping is generally planned with a pre-intentioned purchase in mind, but she adds impulse items to meet the delivery threshold when necessary

Appendix B – Quantitative Questionnaire

Survey Instruction

Thank you for considering participation in this survey.

We are excited to delve into an intriguing aspect of consumer behaviour—specifically, the phenomenon of adding items to the cart to qualify for free delivery. Our aim is to understand the motivations and experiences that drive individuals to engage in cart stacking.

Through this qualitative study, we seek to unravel the complexities surrounding this practice and gain insights into why consumers make certain choices when adding items to their shopping carts, all in pursuit of reaching the threshold for free delivery. Your valuable input will contribute significantly to our exploration of this fascinating consumer behaviour.

Please take a moment to share your thoughts and experiences by completing the survey. Your perspective is essential to enhancing our understanding of cart stacking, and we genuinely appreciate your participation.

End of Block: Block 1

Start of Block: Feedback

Q1 Would you be willing to discuss your last three online purchases

☐ Yes (5)

☐ No (6)

Q2 In your most recent three online purchases, did the total amount spent surpass the minimum delivery threshold for free shipping?

To access your purchase history :

- Go to your account
- Click on orders
- Change your filter to view your last 6 month purchases

☐ Yes (4)

☐ No (5)

Q3 Please provide a list of the items you bought, following the order they appear in your purchase history.

☐ Click to write Choice 1 (1)

☐ Click to write Choice 2 (2)

☐ Click to write Choice 3 (3)

☐ Click to write Choice 4 (4)

☐ Click to write Choice 5 (5)

Q4 Please insert the cost of each item purchased

☐ Click to write Choice 1 (1)

☐ Click to write Choice 2 (2)

☐ Click to write Choice 3 (3)

☐ Click to write Choice 4 (4)

☐ Click to write Choice 5 (5)

Q5 Please categorize, based on your recollection, the decision-making process for each item in your cart.

	Intended to buy before initiating purchase (1)	Added to cart because you liked the product (2)	Added to cart to reach the free delivery threshold (8)
Click to write Choice 1 (x1)	☐	☐	☐
Click to write Choice 2 (x2)	☐	☐	☐
Click to write Choice 3 (x3)	☐	☐	☐
Click to write Choice 4 (x4)	☐	☐	☐
Click to write Choice 5 (x5)	☐	☐	☐

Q6 If your order is less than the minimum threshold for free delivery, did you ?

- ☐ Pay for Delivery (1)
- ☐ Waited until I had several items to purchase to reach the free delivery threshold ? (4)
- ☐ Add an item to my cart that I had not originally intended to purchase to qualify for free delivery ? (5)
- ☐ Spend more on an item than planned in order to qualify for free delivery ? (6)

Q7 Do you make a repeat purchase when shopping ?

- ☐ Yes (1)
 - ☐ No (2)
-

Q8 How frequently do you shop online ?

- ☐ Rarely (1)
 - ☐ Occasionally (2)
 - ☐ Frequently (3)
 - ☐ Very Frequently (4)
-

Q9 When shopping online, which factor is most important to you?

- ☐ Price (1)
 - ☐ Convenience (2)
 - ☐ Variety of product (3)
 - ☐ Brand Reputation (4)
-

Q10 What factors on the website influenced you when adding to cart to reach the free delivery threshold (i.e.: Cart Stacking)

- ☐ I have bought this item before (1)
 - ☐ Added to cart because I liked the product (2)
 - ☐ Added anything to reach free delivery (3)
 - ☐ I planned what I bought and made a decision as to the best basket to get free delivery (4)
-

Q11 As you browsed the website and added items to your cart to meet the free delivery requirement, what factors of the site did you consider?

- ☐ Upgrade options (1)
- ☐ What other people bought (2)
- ☐ What matched my pre-intended purchase (3)
- ☐ Nothing (4)

Q12 What gender do you identify as

- ☐ Male (1)
 - ☐ Female (2)
 - ☐ Non-Binary (3)
 - ☐ Prefer not to say (4)
-

Q13 What is your Age

- ☐ 18-24 (1)
 - ☐ 25-34 (2)
 - ☐ 35-44 (3)
 - ☐ 45-54 (4)
 - ☐ 55 and above (5)
 - ☐ Prefer not to say (6)
-

Q14 Please specify your ethnicity

- ☐ Black (1)
 - ☐ White (2)
 - ☐ Colored (3)
 - ☐ Asian (4)
 - ☐ Indian (5)
 - ☐ Other (6)
-

Q15 Monthly income

- ☐ Less than R 5000 (1)
- ☐ Between R 5000 and R 15 000 (6)
- ☐ Between R 15 000 and R 30 000 (7)
- ☐ Between R 30 000 and R 45 000 (8)
- ☐ More than R 45 000 (10)
- ☐ Prefer not to say (11)

Q16 On a scale from very unlikely to very likely, how inclined are you to engage in cart stacking (adding items to your cart to qualify for free delivery) when you have a predetermined purchase in mind, but the delivery is not free?

- ☐ Extremely unlikely (1)
 - ☐ Somewhat unlikely (2)
 - ☐ Neither likely nor unlikely (3)
 - ☐ Somewhat likely (4)
 - ☐ Extremely likely (5)
-

Q17 Which categories of products do you typically include in your cart for the purpose of cart stacking to reach free delivery threshold ? (Choose all that are relevant)

- ☐ Lower priced items (1)
 - ☐ Similar items you intended to purchase later (2)
 - ☐ Items on sale (3)
 - ☐ Items you think you might need in the future (4)
 - ☐ Items you have purchased before (5)
 - ☐ Other (please specify) (6)
-

Q18 On average, how much do you typically spend on products in your cart to reach a free delivery threshold?

- ☐ R 0 - R 50 (5)
- ☐ R 50 -R 100 (6)
- ☐ R 100 -R 200 (7)
- ☐ R 200- R 300 (8)
- ☐ R 300 - R 400 (9)
- ☐ R 400 - R 500 (10)

Q19 Would you be more inclined to purchase from a retailer that offers lower free delivery thresholds?

- ☐ Yes (1)
- ☐ Maybe (2)
- ☐ No (3)

Q20 Does your selection of a retailer influence your decision to add items to your cart in order to meet the free delivery threshold? In simpler terms, would you be more likely

to pay for delivery on a platform like Superbalist compared to meeting the delivery threshold on a site like Takealot?

- ☐ Yes i cart stack on selected sites only to reach a free delivery threshold (1)
- ☐ No the site does not alter when i cart stack to reach a free delivery threshold (2)

Q21 In your own words, please share your thoughts and opinions regarding the practice of adding items to the cart in order to qualify for free delivery? What drove your decision to add specific items to your cart?

Q22 Could you offer any recommendations to online retailers on how they can enhance the shopping experience when customers are trying to meet the free delivery threshold?

Appendix C – Qualitative Questionnaire

Topic

The assessment of Cart stacking as a response to free delivery thresholds within South Africa e-commerce

General Questions

- Can you describe what you normally buy online
- Where would you normally shop ?
- Can you describe your experiences with cart stacking or adding to cart to reach a free delivery thresholds in e-commerce?
- What motivates you to engage in cart stacking when shopping online, especially to qualify for free delivery?
- How would you define the concept of cart stacking in your own words, and what significance does it hold for your online shopping behaviour?

Question 1

Why do e-commerce consumers cart stack to meet the free delivery threshold?

H1: If a consumer perceives paying for shipping as a loss he will be driven to cart stack to meet the free delivery threshold

- How would you describe your perception of paying for shipping when making online purchases? What goes through your mind regarding the cost of shipping ?
- Can you share specific instances where you felt that paying for shipping was a lodd leading you to engage in cart stacking ?
- Have you ever engaged in cart stacking to meet the free delivery threshold? If yes, can you elaborate on the factors that influenced this decision?
- How do you feel when you have car stacked not paid for delivery

Question 2

What impacts the consumers buying journey when choosing to take part in the cart stacking process?

H2: A customer will engage in a consumer decision making process to make a choice as to whether they engage in cart stacking or pay the delivery fee. The consumer will make undergo a cost benefit analysis in determine the optimal strategy for Cart stacking. The process that is the most rational will ultimately drive the consumers decision to cart stack..

- When engaging in cart stacking or paying for delivery , what thought process do you go through to make your descion
- Can you describe the process you go through in making a decision about whether to cart stack or pay for delivery? What aspects do you weigh in your cost-benefit analysis?
- Would you say that you follow a rational decision-making process when choosing between cart stacking and paying for delivery?

Question 3

Which products will e-commerce consumers include during the cart stacking process to reach the threshold for free delivery?

H3. A customer That has a framed script model would likely follow the same script as he had done previously. This would indicate that purchases would likely be products that have been purchased before to meet the minimum threshold. Customers would stop buying at a point where they have reached the minimum free delivery threshold

- Do you find that your online shopping behavior follows a pattern especially when it comes to reaching the free delivery threshold?
- How likely are you to repeat previous cart stacking behaviours for products you have purchased before to meet the minimum free delivery threshold? What factors influence this decision
- At what point during your shopping process do you consider that you've reached the minimum free delivery threshold, prompting you to stop cart stacking?

General Research Question:

- Are there specific demographic factors (age, income, etc.) that you believe influence your decision to engage in cart stacking?
- Do you notice any differences in your cart-stacking behaviour based on the type of products you are purchasing?
- Is there a difference in behaviour when shopping at different retail outlets ?
- What would be the maximum you would spend when adding to cart to reach free delivery ?

Appendix D – Participant consent form

The assessment of Cart stacking as a response to free delivery thresholds within South Africa e-commerce

Name of researcher Gia Girard

I,, agree to participate in this research project.

I agree to the following:

The research study was explained to me. I understand what this study is about.	YES	NO
--	-----	----

I understand that I can volunteer to take part in the study	YES	NO
---	-----	----

I agree that the interview may be audio recorded	YES	NO
--	-----	----

I agree that direct quotations from my interview/ may be used by the researcher in their research report	YES	NO
--	-----	----

I agree that my participation will remain anonymous (my name or other identifying data will not be used by the researcher in their research	YES	NO
---	-----	----

I agree that other researchers may use the information I provide in my interviewv (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on	YES	NO
---	-----	----

..... (signature)

..... (name of participant)

..... (date)

..... (signature)

..... (name of researcher/person seeking consent)

..... (date)

Appendix E Declaration form

DECLARATION

I, _____ Gia Girard declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: Gia Girard

Signature: Gia Girard

Signed at Bryanston

On the26th Feb 2024

Appendix F – Participant consent form

Dear Sir / Madam

My name is Gia Girard I am a Masters in Digital Business at the University of the Witwatersrand, Johannesburg. My supervisor is Prof Greg Lee I am conducting a research study about Cart stacking . The study title is The assessment of Cart stacking as a response to free delivery thresholds within South Africa e-commerce

I am inviting you to take part in an interview or answer a questionnaire . If you decide to take part, your participation in this research study will last about 45 min The interview will take place at.....

With your permission, I would like to audio record the interview/focus group/other activity. This data will be stored in a secure cloud account for 1 year . Only the researcher will have access to the data.

During the research activity, I will need to ask for some personal information about you, including name, Surname , geographical location, age and Race

The interview will be confidential and anonymous. When I share the results of the research study, I will not include your name or anything else that could identify you

If you decide to take part in the research study, it should be because you want to volunteer. You do not have to take part. You can stop being in the study at any time. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to join the research study. You will not lose any services, benefits or rights you would normally have if you decide not to join. Taking part in the research study will not cost you anything. You will not be paid for being in this research study..

This research study will be written up as a research report. The report will be available on the university library website. If you would like to receive a summary of this report, I will be happy to send it to you.

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

Yours sincerely,

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