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# Determinants of South African online consumers' e-loyalty toward curated subscription boxes

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# Determinants of South African online consumers' e-loyalty toward curated subscription boxes

**Deneline Naidoo**

**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**

**Johannesburg, 2022**

# ABSTRACT

Consumer goods subscription boxes are a relatively new phenomenon where consumers pay a recurring fee to get a delivery of goods within a specific category of products according to a set frequency. Subscription box services offer a unique experience to consumers as they no longer need to shop for individual items on their own, and can instead outsource the decision-making process to a specialist. However, these types of businesses find it difficult to attract and retain consumers because of the seemingly long-term buy-in of the subscription mechanism. The purpose of this research paper was to identify the determinants of South African online consumers' e-loyalty toward curated subscription boxes. A survey method was adopted to test the research model which included satisfaction, utilitarian, hedonic and perceived risk motivations. Data was collected using an online questionnaire from a sample of 118 respondents. Data was subjected to tests of reliability and validity, and then correlation and regression techniques were used to test the study hypotheses. The findings showed that satisfaction along with the utilitarian motivations were the most important determinants of e-loyalty. Specifically, product offering, convenience and monetary savings were the most important utilitarian values promoting e-loyalty. Hedonic and perceived risk motivations were secondary. The research findings contribute to the present body of knowledge in online box subscription services, and offers advice for these providers to better their offerings.



# KEY WORDS

E-loyalty, online loyalty, curated subscription boxes, physical goods subscriptions, utilitarian value, product offerings, product information, monetary savings, convenience, hedonic value, adventure, social, gratification, idea, role, value, satisfaction, perceived risk

# DECLARATION

I, Deneline Naidoo, 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: Deneline Naidoo Signature: 

Signed at Cape Town

On the 17 day of June 2022

# DEDICATION AND ACKNOWLEDGEMENTS

*"Work is love made visible" – Kahlil Gibran*

*This research paper is dedicated to my mother, Malini Naidoo, who was there cheering me on when I began this journey, but is with me in spirit as I complete it. Thank you for raising me to become the woman I am today, who continues to strive for excellence in everything I do. My only wish is that I make you proud.*

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# LIST OF ACRONYMS

E-commerce – Electronic commerce

ECT – Expectation Confirmation Theory

E-loyalty – Electronic loyalty

E-tailer – Electronic retailer

eWOM – Electronic Word Of Mouth

Gen Z – Generation Z

LSM – Living Standards Measure

PCA – Principal Components Analysis

SEM – Socio-Economic Measure

SOS – Subscription-based Online services

SPSS – Statistical Program for Social Science

# CHAPTER 1. INTRODUCTION

This chapter covers the purpose of the study (section 1.1), context of the study (section 1.2), research problem (section 1.3), research questions (section 1.4), significance of the study (section 1.5), delimitations of the study (section 1.6), definition of terms (section 1.7), and assumptions (section 1.8).

## 1.1 Purpose of the study

This study will investigate the factors influencing online consumers' e-loyalty toward curated consumer goods subscriptions in South Africa.

Electronic loyalty (e-loyalty) or online loyalty is an established concept in the literature, typically defined as a consumer's favourable attitude toward an online service that results in repeat buying behaviour (Ponirin et al., 2015), or in the context of this study, the continuance of a subscription. Many prior research studies take an in-depth view into online loyalty (Naidoo, 2006; Radionova-Girsa & Batraga, 2019; Ziaullah et al., 2014), however there are not many studies that consider e-loyalty from a subscription service point of view. In addition, the studies that exist are conducted mainly in developed countries with sophisticated e-commerce services (E. Hansen & Jonsson, 2013). There is not much research on e-loyalty conducted in an emerging market like South Africa, where e-commerce subscription services were historically only adopted for content streaming through platforms such as Netflix and Spotify/Apple Music. These streaming services have allowed South Africans to grow accustomed to the idea of paying a monthly fee for content in return. The consumer goods subscription 'box' service, however, is a relatively new concept to which South Africans are only just starting to adopt in its various forms. Consumer goods subscriptions refers to deliveries of tangible products for people to use in categories such as beauty, personal goods or food (Sentance, 2019), and these are often curated subscriptions whereby the box is created taking the consumers personal preferences and tastes into consideration (Graham, n.d.).

This study therefore intends to contribute to an academic body of knowledge on e-loyalty research in the e-commerce consumer goods curated subscriptions context in South Africa. Over and above that, from a practical perspective, this study intends to provide insights into factors motivating e-loyalty for e-commerce start-up or established businesses looking to provide value to consumers through different types of consumer goods subscriptions. It is an area of research that has the potential to boost South Africa's economy through consumers opting for a recurring tailored service instead of sourcing these items individually themselves.

## 1.2 Context of the study

With the introduction of the Internet and digital transformation of the 21st century, people are more connected than ever before, with access to information only a few touch screen taps away (Hoshikawa, 2016). Social media apps have made people aware of the latest trends, and e-commerce platforms have allowed them to purchase those 'must-have' items with the click of a button. This consumer behaviour has been taken to the next level with the invention of e-commerce consumer goods subscription boxes, allowing consumers the opportunity to get what they want without the usual time and effort required to source it, in turn changing people's habits and lifestyles (Woo & Ramkumar, 2018). Subscription-based Online Services (SOS) is a concept created by start-ups in the United States about a decade ago, as a new way for consumers to buy products online. According to a well-referenced McKinsey study from 2018, the concept offered mainly (but not exclusively) young, affluent, and urban consumers a convenient, personalised and cost-effective way to purchase what they wanted through a unique experience (Chen et al., 2018). The experience of receiving a frequent 'surprise box' created a sense of excitement and enjoyment amongst consumers, so much so that they wanted to continue the service (Noorda, 2019). Over and above that, it allowed people to experience a category of products differently, as they could be exposed to new offerings they would not otherwise have purchased in-store or online by themselves, since these boxes are not always prescriptive in what it contains.

The consumer goods subscription market continues to show very promising growth – McKinsey estimates that it has grown by more than 100% year on year for five years to become a $5 billion industry (Chen et al., 2018; Woo & Ramkumar, 2018). More recently, a report by Juniper Research states that physical product subscriptions account for 45% of the global subscription economy and is one of the categories that's grown the most (M. Hansen, 2022). This growth can be attributed to the pandemic, which resulted in people's behaviour changing to have their goods delivered instead of going out shopping. While subscription boxes might only account for a small percentage of the entire retail industry, the McKinsey study shows that a growing number of consumers are willing to sign-up for a subscription within the coming six months if they didn't already have one (Petro, 2019). According to Forbes (2019), start-ups have launched box businesses in a wide range of different categories from the 'standard' alcohol, meal kits and toiletries to the more niche dog treats, plants and even crystals. As of 2019 when the last statistics were documented, there were more than 3500 different SOS businesses in operation in the United States alone and 7000 globally (Gravy, 2019), allowing consumers to frequently obtain almost any product they could think of (Woo & Ramkumar, 2018). The success of these start-ups encouraged established brand retailers to also enter the market with their own subscription services, sometimes buying out the start-ups to get a head-start. Today, retail giants like Amazon, Walmart and Target also offer subscription services to their existing consumer base, while attracting new customers in the process (Woo & Ramkumar, 2018).

These box subscriptions fall into 3 broad services i.e. replenishment, access and curation (Chen et al., 2018). Replenishment subscription services allow consumers to automate the buying of consumer goods, offering the ultimate convenience for the time-starved consumer who wants to stock up on their favourite/necessary items without the hassle of going to the shops. Access subscription services involve consumers paying a set monthly amount to obtain lower prices for 'member only' perks, e.g. Amazon Prime's faster delivery and exclusive deals (Malin, 2021). Curation subscription services surprise and delight by providing consumers with original products through extremely personalised experiences. Each service offering attracts a different type of consumer looking

to get something different out of their subscription, and so they are motivated by either utilitarian or hedonic benefits, or a combination of these. From a utilitarian point of view, these subscription boxes eliminate the number of choices a consumer has to make. In the book 'The Paradox of Choice: Why More is Less', Schwartz (2004) explains that the more choices a consumer has, the less likely they are to actually make a purchase decision. In a world of overwhelming choice, consumers can rest assured that they will be sent items that are in alignment with their personal preferences, encouraging loyalty in the process (Schwartz, 2004). From a hedonic point of view, the boxes have an element of unpredictability to them, creating a rush of dopamine as the consumer awaits their deliveries. This ties in with Burrhus Skinners theory that says that people are more likely to do what you want them to do when there is reward uncertainty (Petro, 2019).

Consumer goods subscription models are a relatively new concept in South Africa, with consumers trying out these services in mainly the food and alcohol categories (Kohler, 2019). These subscription boxes coexist with other hailing services that have emerged during the pandemic, such as Checkers Sixty60 and Woolies Dash which allow on-demand delivery of grocery items (BusinessTech, 2021). Consumer behaviour in South Africa is very different to that of the United Stated where most of the previous studies have been conducted, and so an in-depth study looking into South African consumer behaviours and motivations when it comes to box subscriptions would add value to the research area. This study therefore aims to provide a South African perspective on the topic of e-loyalty in e-commerce consumer goods subscriptions.

Consumer goods subscriptions covers quite an extensive range of variations of boxes (Bischof et al., 2020). Table 1 below illustrates this point by outlining the retailing mechanisms of selected South African subscription providers across various categories. This can be described in terms of: product context, price, delivery interval, items per cycle, degree of surprise, and return options. There doesn't seem to be a one-size-fits-all approach amongst these providers, which makes each service offering unique. As can be seen in the table below, South African consumer goods subscriptions extend from food to gaming products to even a subscription solely for candles, affordable to more premium prices, regular

to infrequent deliveries, varying items per cycle, money back guarantees or no returns at all, and degrees of 'surprise'. Degree of surprise refers to either predefined or curated surprise subscriptions. Predefined surprise means the consumer has some idea of what is going to be delivered to them, and curated surprise means consumers outsource the decision-making process to the subscription provider completely (within a specific category) (Bischof et al., 2020).

**Table 1: Selected Major South African Subscription Providers and Their Retail Mechanisms***

| Subscription firm | Product context | Price | Delivery interval | Items per cycle | Degree of surprise | Return option |
|---|---|---|---|---|---|---|
| **1. Vitie Box** | Supplements | R349 – R649 | Monthly | 2/3 vitamins | Supplements chosen | No returns |
| **2. Ooh! Box** | Lifestyle | R453 – R863 | Monthly/Bi-monthly | Not specified | Surprise box | Money back guarantee |
| **3. UCOOK** | Meal ingredients | R280 – R1440 | Weekly | Between 2– 4 dishes | Preference chosen | No information available |
| **4. Wine of the Month** | Alcohol | R648 – R3996 | Every 2/3/4 months | 6/12 wines | Type chosen | Money back guarantee |
| **5. Lingerie Letters** | Clothing | R249 – R419 | Monthly | 1/2 underwear | Type chosen | No returns |
| **6. Sense.able Play** | Kids | R430 - 2080 | For 1/3/6 months | 8 activities | Age chosen | Money back guarantee |
| **7. Bean Box Club** | Coffee | R299 – R1799 | For 3/6/12 months | 1 coffee | Type chosen | 7 days to return if unused |
| **8. Pawsome** | Pets | R470 – R529 | For 1/6/12 months | 2 toys & 2 treats | Size of dog chosen | Not specified |
| **9. Wick Fragrances** | Candles | R195 – R295 | Monthly | 1 product | Scent of the month | 14 days to return if unused |

*As at June 2022.

## 1.3 Research problem

Within the subscription service industry, the consumer goods model is popular because it gives consumers a whole new experience – instead of committing to one product, consumers can try out different products and find out what their preferences are. It is the businesses job to then use the business model to their advantage by finding a way to capture recurring and hence predictable income from these subscribers. In the South African context, businesses must devote attention to getting consumers to overcome the perceived risk, and opt-in for their first 'box'. Once they've done that successfully, the concern becomes making sure that people continue their subscriptions thereafter. Consumers do not

hesitate to cancel a service that does not deliver a superior experience, through either disappointment with the assortment, poor product quality, or lack of perceived value (Chen et al., 2018). The top ten subscription websites ranked by the number of visitors decreased by 9% from 70% to 61% in a year (Cheng, 2018), showing that consumers choose value over loyalty. This means that finding a way to retain consumers is the priority.

The concept of e-loyalty is broader than just continuance, and it is important as e-loyalty embeds eWOM (electronic Word Of Mouth) and other behaviours that help to grow the subscriber base. Many brands such as Proper Snacks have closed down their businesses, despite promising early reviews, showing that sustaining post-initial adoption appears to be a problem for many subscription model start-ups.

The research problem is therefore that e-loyalty is difficult to achieve and sustain in the consumer goods subscription context. A study looking into South African consumers' e-loyalty behaviour would provide great value to businesses in this field and assist the country in becoming a major player in the space.

## 1.4 Research questions

Since e-loyalty is difficult to achieve and sustain in the subscription context, the research objectives for this study are therefore to explore subscription e-loyalty through the lens of Expectation Confirmation Theory (ECT) and the utilitarian and hedonic motivations for consumers purchasing curated subscriptions.

The overarching research questions are as follows:

- What are the effects of utilitarian and hedonic motivations on consumer satisfaction and e-loyalty in the subscription services context?
- What are the effects of consumer satisfaction and risk perceptions on e-loyalty in the subscription services context?

To address these questions, the study will:

- Review the literature on curated box subscriptions and online consumer e-loyalty.
- Review the literature on utilitarian and hedonic consumer motivations.
- Develop a research model hypothesising the effects of selected utilitarian and hedonic motivations on e-loyalty.
- Test the model by collecting data from a convenience sample of South African consumers.
- Test the model using correlation and regression analysis.
- Conclude on the relative effects of motivations on e-loyalty by identifying which determinants have a stronger effect than others. The study insights will then assist in helping South African businesses better their offerings to consumers.

## 1.5 Significance of the study

An examination of the existing literature in the field indicated that there isn't a lot of research conducted on consumer goods subscriptions. Academic research on SOS is still growing, and the studies that do exist have mostly been conducted in the United States. There is a lack of research exploring this trend within a developing market such as South Africa.

Competition in the retail industry has challenged businesses to create new business models in order to serve the needs of the ever-changing consumer (Xu, 2020). The gain for businesses is two-fold; they receive a form of recurring revenue and access to a wealth of invaluable information about consumers in the data-driven age of 2022 – but only if they do it right (Silberstein, 2017). The exploration of this business model (with the intention to add value to consumer goods curated subscription businesses) is a worthwhile effort, as it could contribute to shaping the future of these services in South Africa. This research will help to inform businesses on what drives/motivates consumers and will outline best-practices on how to retain consumers thereafter.

The idea of automated purchasing fits in well with the Millennial mindset, as it appeals to their need for convenience and increased personalisation. The

majority of subscribers of these services are between the ages of 25 to 39 years old, with an above-average income and education level (Silberstein, 2017). The fact that these consumers' favourite products can be available at the click of a button is very appealing to this generation. With Generation Z's (Gen Z's) also gaining purchasing power, alongside the presence of the Fourth Industrial Revolution, business strategies are being challenged even further (Ayuni, 2019). Thus, the expectation for these businesses to deliver on a high-quality experience every time is vital to ensure that consumers continue their subscriptions, and don't opt out (Chen et al., 2018).

Consumer e-loyalty is one of the most important areas for academics and professionals in marketing and management, because it explores beneficial long-term relationships with consumers, leading to sales and ultimately profits (Buhalis et al., 2020). Online loyalty has generally been studied less than offline loyalty, and even less amongst the most recent generations. E-loyalty extends the traditional definition of 'brand loyalty' to looking at consumer behaviour online; it is an evolution which includes quality customer support, on-time delivery, comprehensive product information, reasonable delivery prices, and trustworthy online privacy policies (IGIGlobal, n.d.-a). Many studies on e-commerce have been assessed, which shows that not much attention has been given to the factors that influence e-commerce consumer e-loyalty. This is despite the fact that consumer loyalty is one of the main ways that businesses can improve the performance of an e-commerce subscription business (Azizi et al., 2020). And so this study aims to fill that important gap.

## 1.6 Delimitations of the study

The study is delimited in the following ways:

a) The study will cover consumer goods curated subscriptions, excluding replenishment and access subscriptions, as there are not that many of these types of businesses in South Africa compared to the United States. It will also not include other streaming subscription services, which fit into a category of their own.

b) The study will focus on multiple categories of consumer goods and product options available to South Africans i.e. food and drink, apparel, personal care etc.
c) The study will explore the behaviours of online consumers, mainly Millennials i.e. 26 to 40 years old, and older Gen Z's i.e. 18 to 25 years old. Younger Gen Z's (5 to 17 years old) act as influencers of purchase decisions within their household. Generation X and Baby Boomers will also be included.
d) The study will only look into the behaviour of those consumers who had (in the last 2 years) or currently have a consumer goods subscription service active.

## 1.7 Definition of terms

Important definitions include:

**E-commerce**: E-commerce has a wide range of definitions, but in its widest form is defined as the "sale or purchase of goods or services between either businesses, households, individuals, governments and other public or private organisations, conducted over a computer network" (Dahbi and Benmoussa, 2019, p.811). It has grown to include a whole range of different industries, including services like online learning courses and banking, as well as digital products like online games, video, and music (Goga et al., 2019).

**E-loyalty**: E-loyalty refers to two concepts (i) the intention or willingness of a consumer to repeat an online purchase of the same product, service or brand or to recommend it through the Internet, mobile device or social media network (even if it is repurchased or recommended through a different platform) i.e. e-loyalty to the specific product, service or brand; and (ii) the intention to repeat the purchase on the same website and recommend it through the Internet, mobile device or social media network (even if it's not the same product, service or brand) i.e. e-loyalty to the platform (Buhalis et al., 2020). It refers to a consumer's positive attitude towards either the product, service, brand, or platform. It takes into account satisfaction, trust, service quality and perceived value (Tunali &

Aytekin, 2018). McKinsey (2018) states that the consumer decision journey includes four phases:

1. Initial consideration – the consumer looks at the options available to them, centred on their existing perceptions and recent exposure to touchpoints.
2. Active evaluation – the consumer adds or subtracts options as they evaluate which one will meet their specific needs.
3. Moment of purchase decision – the consumer selects a single option that will be best for their situation in that given moment.
4. Post-purchase experience – after making a purchase decision, the consumer makes an expectation thereafter to inform their next decision journey (Court et al., 2009).

**Gen Z**: Generation Z are the demographic group succeeding Millennials and preceding Generation Alpha (Ditter, 2020). These young people are known as the ultimate digital natives, because they have been exposed to the Internet, social media and mobile networks from almost birth. They are described as a "hypercognitive generation", who are extremely comfortable with integrating virtual and offline experiences into their current reality (Francis and Hoefel, 2018, p. 2).

Millennials: Millennials were given their name due to their closeness to the new millennium, and being raised in a more digital age to the generations before them. Part of what defines them is the fact that they were raised with the influence of computers and a greater acceptance of non-traditional families and values. Comments about this generation are both positive and negative, but they are known to have a confidence to lead (Nichols & Smith, 2015).

**Subscription box services**: A relatively new occurrence in retailing that allows consumers to receive regular deliveries of consumer goods for a fixed fee per box (Bernstein et al., 2019; Bischof et al., 2020).

## 1.8 Assumptions

It can be assumed that:

- Respondents answered the survey questions honestly and accurately.
- Respondents had enough knowledge/experience on the topic to answer the questions.
- Respondents were consistent users (i.e. once a week, month, quarter etc) of at least one consumer goods curated subscription service, or have used the service within the last 2 years.

## 1.9 Organisation of the Research Report

This chapter introduced the purpose of the study, and outlined the motivation for the study along with its intended contributions.

The next chapter will review the literature on the history of curated consumer goods subscription services, prior research into these subscriptions, the discussion of the theoretical frameworks – utilitarian and hedonic motivations as well as Expectation Confirmation Theory, and ends with a presentation of the research model and hypotheses.

Chapter 3 outlines the study research methodology by looking at the research approach and design, data collection methods, population and sample, the research instrument, procedure for data collection, analysis and interpretation of the data, limitations of the study, validity and reliability, and ethical considerations.

Chapter 4 presents the studies research findings by covering the data cleaning and preparation, response profile, descriptive statistics, reliability and validity, statistical analysis, and hypothesis testing.

Chapter 5 discusses the results looking at the demographic profile of the respondents, and discussion pertaining to each of the hypotheses.

Finally, Chapter 6 concludes the report with conclusions regarding the research questions, recommendations, and suggestions for further research.

# CHAPTER 2. LITERATURE REVIEW

This chapter covers the introduction (section 2.1), history of curated consumer goods subscription services and background discussion (section 2.2.), and prior research into physical goods subscriptions (section 2.3). This is followed by discussion of the theoretical frameworks for the study, including utilitarian and hedonic motivations (section 2.4), and expectation confirmation theory (section 2.5). Thereafter, the research model and hypotheses (section 2.6) are presented, before concluding the literature review (section 2.7).

## 2.1 Introduction

Even though they are very popular amongst consumers, subscriptions, particularly consumer goods subscriptions, have not received much consideration amongst researchers. There has been almost no research conducted looking at how brands attract, retain and get consumers to endorse consumer goods curated subscription boxes (considering at the consumer e-loyalty lifecycle) (Woo & Ramkumar, 2018). This is despite the fact that the two main challenges for consumer goods subscription providers is acquisition and retention (Bernstein et al., 2019).

Beginning with beauty and fashion products, the SOS business has expanded to now include an extensive range of different product-types. Despite its growth, there is little research attempting to understand what motivates consumers to purchase SOS. Understanding the factors that drive consumer behaviour is important, because it allows businesses to adapt their strategies to more effectively appeal to consumers (Woo & Ramkumar, 2018).

## 2.2 History of curated consumer goods subscription services and background discussion

The subscription-based shopping model is not a new phenomenon. Subscription-based delivery services of things like fresh milk and newspapers have been around for the last century, even though their delivery mechanism didn’t contain

an online element back then (Woo & Ramkumar, 2018). The earliest referenced subscription box, however, arrived in 2004. It was called ‘The Sampler’, and it sold consumers a curated box of samples from record labels (Panko, 2019). Thereafter, the subscription box economy grew progressively until 2010 when Birchbox made an appearance in the market, changing the game completely. The business offered consumers the latest beauty samples every month on a flat-rate subscription fee (Woo & Ramkumar, 2018). Birchbox curated their boxes based on the style preferences and skin profiles voluntarily given to them by their consumers. It allowed these consumers to experience the coolest beauty trends or try new products, without being forced to invest in often costly full-sized items. It was seen as a cost-effective solution for consumers, because the box was sold cheaper than the sum of the samples individually. The brand grew rapidly to 45000 members (subscribers) and 25 employees within only a year. After the success of Birchbox, more than 2000 similar online subscription businesses emerged. Brick and mortar retailers then started entering the industry too, recognising the potential growth opportunities within SOS (Woo & Ramkumar, 2018). The SOS business then expanded to include an extensive range of different product types.

Today, subscription commerce offers consumers an assortment of niche and personalised items that are delivered on a subscription remuneration model, where consumers opt-in and pay for a certain time-frame i.e. weekly, monthly, quarterly etc (Noorda, 2019). Subscription boxes challenge the notion that each item in the box requires its own price. Consumers trust that the value they get over a period of time is worth the ongoing investment they’re making. The business model depends on the consumer trusting the long-term value of the service, because companies usually only break-even after five to seven months if the cost to acquire a consumer is considered.

One important aspect within which subscription services are different is the extent to which the content of each subscription box is ‘surprising’. Subscriptions can either be predefined or curated surprise in nature. As of 2018, 55% of all consumer goods subscriptions were curation-based, making it the most popular subscription model globally (Chen et al., 2018). Most SOS providers randomly

select items for the box instead of making consumers pick them out themselves; and so, it becomes like a Christmas present all through the year. The downside of that, however, is that curated surprise subscriptions carry a higher risk for the consumer to receive unsatisfactory products because they have completely outsourced the decision-making process to the subscription provider – a whole new level of trust. Retailers often reduce this perceived risk by implementing a free return policy if the consumer is not happy, or some other sort of compensation to ensure that the customer is ultimately left satisfied (Bischof et al., 2020).

Most consumer goods subscriptions are catered specifically to very direct interests i.e. beauty, food, pets etc. These distinctions allow brands to curate products, content and overall experiences that resonate and excite the consumer. Subscription businesses are known to go above and beyond to cater to consumers very specific needs (Sukhraj, 2019). Competition between these retailers has become aggressive in the new retail era. One of the main challenges these retailers face is creating an experience that will attract and then retain consumers, in a time when consumers are not seen as 'loyal' to any particular brand or product (Xu, 2020). As the name suggests, the surprise box model attracts consumers by eliciting positive emotions through an expected but unexpected delivery. In a time of multi-loyal consumers, establishing long-term relationships with them becomes exceptionally important for consumer goods box retailers. The advantage of having a recurring agreement, ties retailers and consumers closer together by automating consumers' purchase decisions. The subscriber base is seen as an asset, but it comes with a higher barrier to entry than a business based on just once-off purchases. Managing a consumer goods subscription or owning a business in this industry is not an easy task because some product-categories are prone to suffer from higher churn rates than others. This suggests that consumer goods subscription businesses need to better understand consumer behaviour in order to retain them. This is especially important considering competition is growing and consumers can easily cancel their subscription or switch to another brand offering if their expectations are not met, or if they get bored with the service offering (Xu, 2020). The pressure is on these businesses to constantly innovate.

The rapid growth of consumer goods subscription services is altering consumer online purchasing culture, because it contains almost no elements of the traditional model of decision-making and social interaction with others. SOS shopping means that consumers no longer go through the traditional stages of purchasing a product i.e. trends analysis, broad-based information search, comparison of products, product choice, and interaction with sales personnel. Instead, a curator makes an item selection, puts these items in a box, and delivers it to the consumer's home for a fixed agreed-upon subscription fee (Woo & Ramkumar, 2018). SOS has to some extent resolved the modern consumer's "decision fatigue" i.e. tiredness from searching for new products and comparing different prices to make a better more informed decision, as well as tiredness from frequently making shopping trips to brick and mortar stores (Woo and Ramkumar, 2018, p. 123).

## 2.3 Prior research into physical goods subscriptions

Prior research into consumer goods subscriptions shows that the two main issues for businesses with these services is acquiring new subscribers and retaining existing ones (Bernstein et al., 2019). Bernstein (2019) looked at the challenge from the utility that the consumer would be getting (through contents of the box and the overall service). The results of the study show that in order for a business to succeed, they should not allocate the same budget for the boxes equally over the subscriber's journey with them. The best strategy is to either increase or decrease quality over time, to prioritise either acquisition or retention. Even though research shows that people are not loyal to subscriptions overall, the work of Savary & Dhar (2020) shows that people generally do not want to stop a subscription once they have it. Stopping an ongoing subscription could actually threaten the stability and self-concept of an individual, signalling a change in their identity. So consumers who are not sure about their self-concept are more likely to keep a subscription, even if they don't use it or get maximum value from it (Savary & Dhar, 2020). This ties in with Prospect Theory which states that consumers seek benefits, but want to avoid losses (Bischof et al., 2020).

Woo and Ramkumar (2018) set out to understand exactly who the target audience is that subscribes to these boxes, and the characteristics that predict their use. The results showed that SOS consumers were majority female with a high level of e-commerce trust and fashion/trend consciousness, particularly when purchasing beauty products (Woo & Ramkumar, 2018). In an attempt to attract more people to sign-up for SOS boxes, Bischof et al. (2020) looked at the different approaches of doing this i.e. through either a predefined or curated surprise subscription. It was found that the surprise factor is a key ingredient of success in consumer goods subscriptions (Noorda, 2019). Gupta et al. (2020) then explored the idea of self-gifting. Variety-seeking theory says that consumers seek change to decrease boredom or maintain a certain level of excitement from the experience (Gupta et al., 2020). Xu (2020) expanded on the concept of emotion involved in subscription box shopping. Consumers tend to comment in reviews online when they have an extreme emotion after the experience, more likely negative than positive. Websites like Hello Peter in South Africa or social media apps provide a platform for consumers to review brands and share their experiences with a broader community of people who are interested in the same categories of products and services. However, if consumers have a positive experience, they may not always talk about it, or recommend the service to friends or family without being prompted to do so. In addition, the subscription period, purchase experience, and overall satisfaction with the items affects the consumers review behaviour and how likely they are to talk about their experience thereafter (Xu, 2020). The Bischof et al. (2020) study explored the role of risk perception when it comes to these surprises in consumer evaluations of physical goods subscriptions. The degree of perceived risk through the surprise element affects the frequency that consumers are prepared to get a subscription delivery (Bischof et al., 2020).

Mimoun and Marion (2015) looked at how social networks allow consumers to spread e-Word Of Mouth (e-WOM) of a particular subscription box, hence becoming a type of brand ambassador/influencer of the service in the process. There are thousands of “unboxing” videos online where people tune in to watch bloggers unwrap, open and discuss new products that they’ve either purchased by themselves or been gifted. The most popular unboxing video star on YouTube

(10 year old Ryan Kaji) has 32.6 million subscribers as of June 2022, who religiously tune in to watch the next unboxing video on his page called 'Ryan's World' (Kaji, 2022; Panko, 2019). This influences how people feel and respond to a certain brands products and services (Mimoun & Marion, 2015).

Below is a summary table of the key literature examined:

**Table 2: Summary of key literature examined**

| Study | Focus | Methods and context | Main conclusion |
|---|---|---|---|
| (Noorda, 2019). | Children's book subscription boxes. | Semi-structured interviews with owners/managers of children's book subscription boxes in the United States. | Surprise is a key element of the success of children's book subscription boxes. |
| (Woo & Ramkumar, 2018). | Predictors of consumers' use of fashion and beauty SOS. | Survey with consumers in the United States. | SOS consumers are more likely to be female with a high level of e-tailer trust and fashion consciousness. |
| (Bischof et al., 2020). | Curated subscription commerce theoretical conceptualisation. | Experiment with consumers in the United States. | Consumers prefer shorter delivery intervals for predefined subscriptions and longer delivery intervals for curated surprise subscriptions. |
| (Xu, 2020). | Role of emotion in online consumer reviews of | Analysis of reviews from a large e-commerce platform for subscription box | Consumers positive and negative emotions play different roles in affecting the influence of the subscription period, experience, and satisfaction. |

| Study | Focus | Methods and context | Main conclusion |
|---|---|---|---|
| | surprise box shopping. | businesses in the United States. | |
| (Gupta et al., 2020). | Surprise self-gifting. | In-depth interviews with current or past users of subscription boxes in the United States. | In the case of a positive surprise, consumers experience delight and are likely to share their experiences with friends and others close to them. |
| (Savary & Dhar, 2020). | Self-concepts effect on subscription choice. | Survey with consumers in the United States. | Consumers who are uncertain about their self-concept are more likely to keep unused subscriptions than those who are certain about their self-concept. |
| (Mimoun & Marion, 2015). | Values in subscription-based e-commerce. | Observation of consumers YouTube activity in Europe. | The more emotionally charged a YouTube unboxing review is, the more it will be viewed and engaged with. |
| (Bernstein et al., 2019). | Managing content to acquire and retain subscribers. | Model development in the United Kingdom. | Subscription providers should not allocate their budgets equally over time. |

The above review shows that while there has been work into consumer goods subscription boxes generally, there is limited research into subscription e-loyalty and through the combined lenses of Expectation Confirmation Theory (ECT)

and the utilitarian and hedonic motivations. These underpinnings of the research are discussed next.

## 2.4 Theoretical framework: Utilitarian and hedonic motivations

The word ‘motivation’ derives from the verb ‘movere’ in Latin, which means ‘to move’, which extends to mean being ready to perform something. It further expands to how consumer behaviour begins, gains momentum, is maintained, and ultimately ends. It is therefore the basis for all consumer activities, of which there are two types – utilitarian and hedonic (Arisal & Cömert, 2016).

Consumer e-loyalty or repeat purchasing is important for the success and survival of an online store. As the online retail market becomes more competitive, it has become important for e-commerce websites to motivate consumers to purchase over and over again through their channels (Chiu et al., 2014). Humans are motivated towards individual gratification and satisfaction, and so when they shop, they are motivated by either utilitarian (for practical/needs-based use) or hedonic (for luxury/pleasure-seeking use) factors. These motivations are what drives repeat purchase intention and hence e-loyalty. Older research studies only looked into the utilitarian motivations and ignored the equally important hedonic motivations (Chiu et al., 2014). This was because in the past, consumer behaviour specialists believed that consumers would generally make rational choices. This research thinking was subsequently questioned by studies that followed because the earlier studies disregarded the experiential side of purchase decisions (Arisal & Cömert, 2016).

Woo and Ramkumar (2018) analysed utilitarian and hedonic consumer motivations that support receptiveness towards surprise subscriptions. They explained how these motivations affect consumer attitudes towards the given offering. The research study focused on how these motivations could increase the appeal of the subscription (Bischof et al., 2020). While Chiu et al. (2014) might not have specifically mentioned subscriptions, they examined utilitarian and hedonic motivations in the broader e-commerce environment, which can easily

be applied to the subscription context. The research shows that utilitarian motivations slightly surpass hedonic motivations. While these research papers provide respected insights into consumer behaviour toward shopping online/consumer goods subscriptions, they do not offer precise ways for businesses to make their existing offerings more attractive through these motivations, which is what is needed in the South African context (Bischof et al., 2020).

The combined effect of utilitarian and hedonic motivations on e-commerce consumer behaviour is depicted below in Chiu et al.'s (2014) research model. Chiu et al. argue that utilitarian value includes product offerings, product information, monetary savings and convenience, while hedonic value includes, inter-alia, social enjoyment and gratification. They found that both the utilitarian value and hedonic value are positively associated with repeat purchase intention. Moreover, they introduce the notion that perceived risks are important to the repeat purchase decisions in e-commerce. Given its focus on both the utilitarian and hedonic motivations of consumers and its relevance to the study of repeat purchase or loyalty, the Chiu et al. (2014) model is adopted to underpin this study.

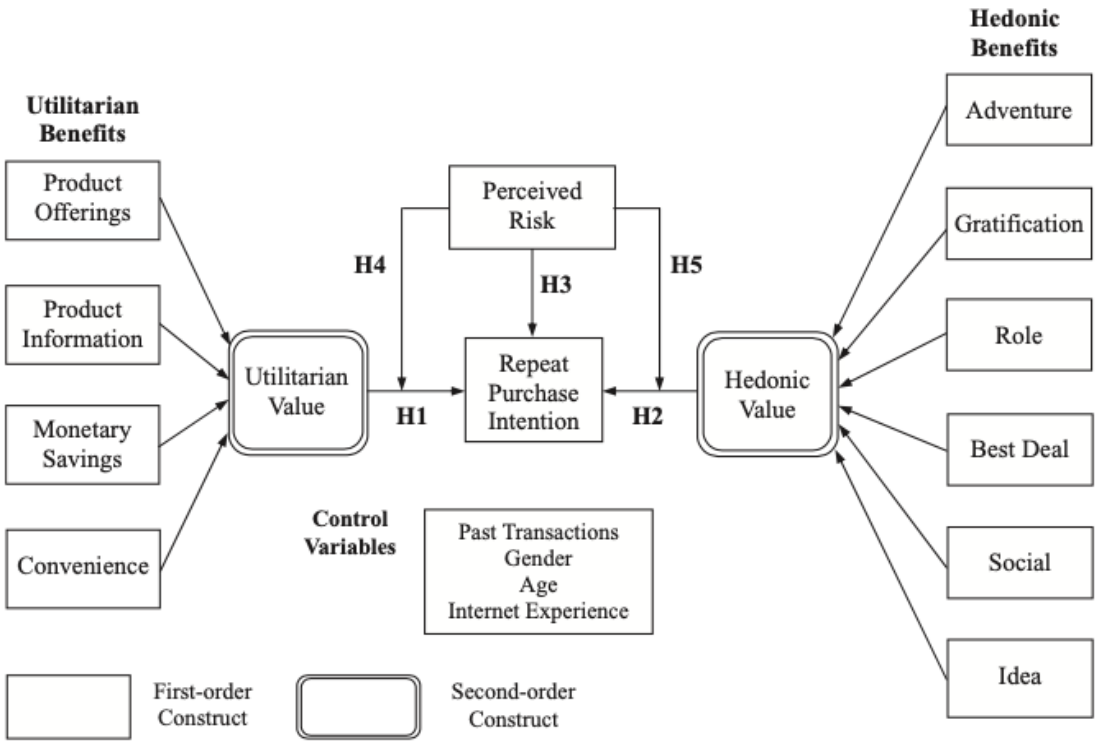

**Figure 1: Theoretical framework – utilitarian and hedonic value model** (Chiu et al., 2014)

## 2.5 Theoretical framework: Expectation Confirmation Theory

Another theory relevant to this study's focus on e-loyalty and continuance is Expectation Confirmation Theory (ECT). This theory proposes that a consumer's intention to continue a service is determined by their satisfaction and perceived usefulness of the product. A consumers satisfaction is influenced by their experience of that product (Bhattacherjee, 2001). So, if a product or service outperforms a consumer's expectations, then post-purchase satisfaction results, with the opportunity for continuance intention. IGI Global (n.d.) describe the theory as one that seeks to explain consumer satisfaction based on the gap between the performance expectation and actual performance as perceived by the consumer (IGIGlobal, n.d.-b). This is captured in the ECT model of Bhattacherjee (2001), depicted in Figure 2. Past studies have suggested that satisfaction is important to continuance in the subscription context (Berg et al., 2019), and consequently ECT is adopted as an additional underpinning for this study.

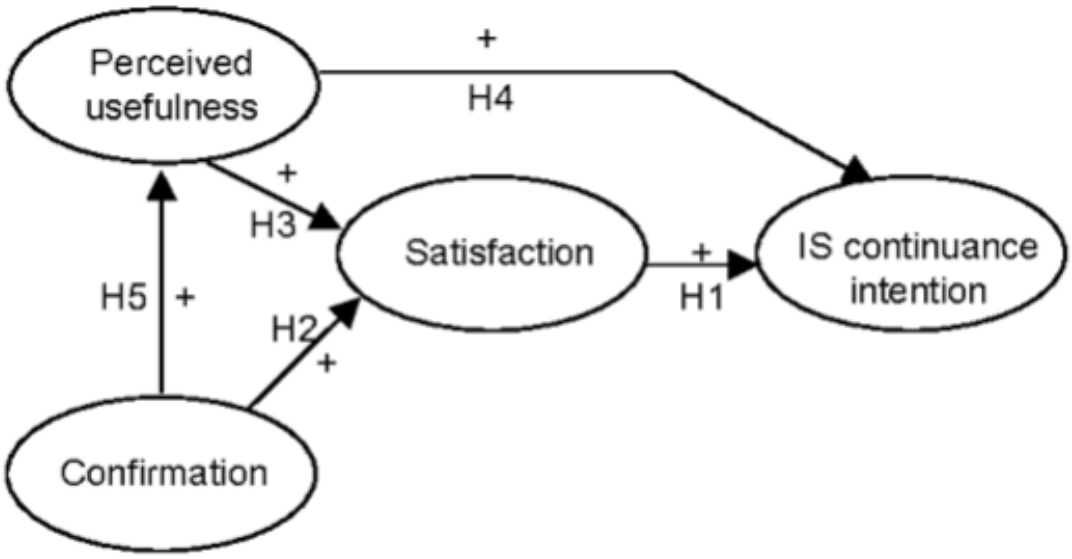


**Figure 2: Theoretical framework – ECT model** (Bhattacherjee, 2001)

By drawing on the Chiu et al. (2014) and Bhattacherjee (2001) models, this study's research hypotheses can be presented next.

## 2.6 Research model and hypothesis

Figure 3 below shows the study's research model that addresses the study's overarching research questions:

- What are the effects of utilitarian and hedonic motivations on consumer satisfaction and e-loyalty in the subscription services context?
- What are the effects of consumer satisfaction and risk perceptions on e-loyalty in the subscription services context?

The model illustrates the effects of selected utilitarian and hedonic motivations on curated consumer goods subscriptions. It further illustrates, based on ECT, that factors such as satisfaction will be important to subscription continuance. The arrows in the model denote the hypothesised relationships that are developed in the subsequent sections:

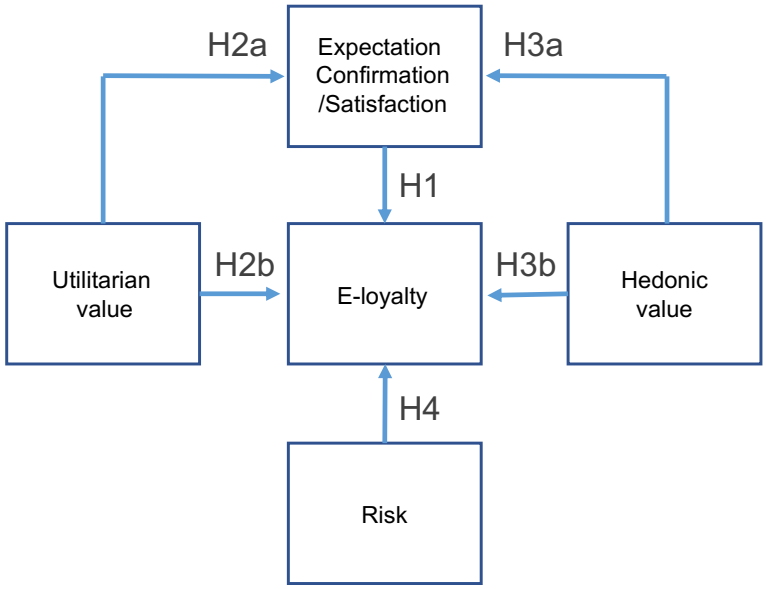


**Figure 3: Curated consumer goods subscriptions research model**

### 2.6.1 *E-loyalty*

Generating loyal consumers is important for businesses of consumer goods subscriptions, and all e-commerce providers in general. Research shows that in order to gain the benefits of loyal consumers, the determinants of e-loyalty needs to be thoroughly investigated and understood (Abu-alhaija et al., 2018). This in-depth knowledge can give businesses a competitive advantage to help them create new ways to appeal to consumers. The dependent variable of the model is e-loyalty. E-loyalty is a commitment for a consumer to reuse or repurchase products or services again in the future, regardless of outside influences and marketing of other brands. It can be described as a well-built feeling of support or faithfulness towards a specific brand, product/service or company (Abu-alhaija et al., 2018). It can also be described as a commitment, continuance intention, repurchase intention or “stickiness” (Azizi et al., 2020).

### 2.6.2 *Satisfaction and e-loyalty*

ECT is used in the consumer behaviour context to examine consumer satisfaction, post-purchase behaviour (through either repurchase or complaining), and marketing. The process leading up to consumers having a repurchase intention is that they first develop an expectation towards a product or service before they buy it. Secondly, they then accept and use the product or service in order to experience it for themselves. After this initial consumption, they form a perception about the product or services performance. Thirdly, they assess the perceived performance against their initial expectation in order to determine if their expectation was met or not. Fourth, they form a satisfaction based on their confirmation level and expectation. Finally, happy consumers develop a repurchase intention and dissatisfied consumers will discontinue its use (Bhattacherjee, 2001). Forming relationships with consumers that ends in satisfaction is extremely important for consumer goods subscription businesses.

According to ECT theory, when a consumer is happy with a product or service, they will continue using it and the business will retain them as part of their loyal base of long-term consumers. In the physical box subscription context, this suggests that when a consumer is satisfied, they are more likely continue the

subscription service and become a loyal consumer. Therefore, it can be hypothesised that:

***H1****: The greater the satisfaction with the subscription service, the greater will be the consumer e-loyalty.*

### 2.6.3 *Utilitarian value*

Consumers purchase goods online because they seek certain utilitarian benefits. These benefits include convenience, broad product offerings, rich product information and monetary savings (Chiu et al., 2014). In the subscription context, these would be the same factors, just tailored to subscriptions.

Convenience is seen as the main utilitarian benefit for getting a consumer goods box subscription. It would seem that consumers these days have a shorter amount of free time than in the past, as they juggle their multi-faceted lives, increasing their need for convenience via online shopping (Panko, 2019). The Covid-19 pandemic has also resulted in people's behaviour shifting to purchase their goods online, since the choice of going into a physical store was no longer an option due to lockdown restrictions. This behaviour has remined for many consumers as restrictions eased, as the benefits complimented their lives positively (M. Hansen, 2022). Subscription boxes allow consumers to receive goods directly to their homes on a regular basis, which is perceived to be more convenient than going into a store and choosing products on their own.

In terms of the product offering, consumers can rest assured knowing that their subscription box will come curated with items that will meet their individual preferences and needs. Buying online has the added advantage that there will be a wide variety of products available, allowing consumers to make comparisons in order to find the 'package/'box' that is best for them (Doghan & Albarq, 2022).

In terms of product information, many boxes like Wine of the Month clubs for example, come with information so that consumers can learn more about the

product while enjoying it. This adds to the overall experience offered to the consumer (Doghan & Albarq, 2022).

In terms of monetary savings, subscription boxes are set up so that consumers save money on the entire box, opposed to if they were to go out and buy each item individually (Doghan & Albarq, 2022). This is seen as a huge benefit for consumers who are looking for value for money.

In the ECT context, satisfaction derives from the perception that expectations for convenience, broad product offerings, rich product information and monetary savings have been confirmed. Therefore, it can be hypothesised that:

***H2a****: The greater the perceived utilitarian value of the subscription service, the greater will be the consumer satisfaction.*

According to Chiu et al (2014), utilitarian motivations are important to the continuance because they positively affect a consumer's intention to make a repeat purchase. Therefore, it can be hypothesised that:

***H2b****: The greater the perceived utilitarian value of the subscription, the greater will be the consumer e-loyalty.*

### 2.6.4 *Hedonic value*

Hedonic motivations are the more emotive aspects of an online shopping experience. These include adventure, social, gratification, idea, role and value (Chiu et al., 2014). In the subscription context, similar hedonic motivations are expected.

Apart from consumers providing the business with their preferences and tastes, many subscribers have no idea what they are going to receive in any given box. The anticipation and suspense created by the 'curiosity gap' makes receiving the box so much more exciting/intriguing. Areas in the brain associated with reward are 'fired-up' when a consumer experiences something pleasurable and new. People love the feeling of receiving a package just for them, as it makes them feel special (Panko, 2019). Adventure refers to the novelty associated with getting

a curated consumer goods subscription box in order to “escape the aversive state of boredom” (Chiu *et al.*, 2014, p. 93). Receiving a subscription box breaks away from the mundaneness of life and adds some excitement to a consumer’s day.

Social motivation refers to a consumer’s tendency to seek acceptance in their relationships, and so belonging to a broader community of people who share the same niche interests has its benefits to them in the subscription context (Doghan & Albarq, 2022).

Gratification refers to the feel-good that comes with receiving a new box frequently, increasing the likelihood that a consumer will continue the subscription (Doghan & Albarq, 2022).

Idea refers to the consumers need for order and knowledge in order to make sense of themselves (Doghan & Albarq, 2022). In the subscription context, this means allowing consumers to discover new products and trends, and ultimately discover what appeals to them.

Role refers to the self-acceptance and joy that consumers get from playing a specific role when shopping online or waiting for their delivery (Doghan & Albarq, 2022).

Finally, value refers to how consumers react when they feel like they have ‘scored’ a deal, since comparison shopping is possible online and with different subscription boxes (Doghan & Albarq, 2022).

In the ECT context, satisfaction derives from adventure, social, gratification, idea, role and value aspects. Therefore, it can be hypothesised that:

***H3a****: The greater the perceived hedonic value of the subscription service, the greater will be the consumer satisfaction.*

According to Chiu et al (2014), hedonic motivations are important to the continuance because they positively affect a consumer’s intention to make a repeat purchase. Therefore, it can be hypothesised that:

***H3b**: The greater the perceived hedonic value of the subscription service, the greater will be the consumer e-loyalty.*

### 2.6.5 *Perceived risk*

Online commerce or e-commerce is associated with a number of uncertainties that give rise to risk perceptions. These risks include financial risks, privacy risks, delivery risks, performance risks, time risks and even social and psychological risks (Glover & Benbasat, 2010). Researchers have explored the dimensions of these risks, i.e. the different types of risks that could each have a different effect on the buyer. As mentioned above, there is a financial risk where there is typically some kind of potential financial transaction problem, like the buyer being charged more than they need to be charged for a purchase (Glover & Benbasat, 2010). South Africa is extremely risk-averse when it comes to inputting their banking details online, which is why the cash on delivery option is so popular (BizNews, 2019). Then there is a privacy risk, that results from the buyer giving some of their personal information away. This was identified as the risk most likely to occur (Garbarino & Strahilevitz, 2004). Delivery risk is the risk of delivery failure, where in the best case the goods arrive much later than expected, and in the worst case never arrives at all because the seller has taken the buyers money and disappeared. A performance risk is where products may not perform the way that the buyer expected, according to what was portrayed/promised online. There is a time risk as well, where the buyers time is wasted by either having to follow up on delays or sending back goods that they are not satisfied with (Featherman & Pavlou, 2003). It could also include the buyer having to wait in a call-centre queue to get their issue resolved. There is also a social risk, where there is the fear of others thinking poorly of the buyer for purchasing a particular item or reviewing it online. Finally, there is a psychological risk where the buyer's personal self-image is harmed as a result of the product they received, because it might have been advertised to as a particular size but is actually too small for example (Featherman & Pavlou, 2003). It is because of these risks that many South Africans might prefer face-to-face transactions, as that is perceived as the safer option. The behavior of South Africans shows that they search for products online, however, are hesitant to make the final purchase in the digital environment

because it lacks the element of human contact (Rogerwilco, 2019).South Africa still has a decent amount of work to do in order to combat purchase risks online.

Chiu et al. (2014) argued that if consumers are aware that online shopping could produce negative consequences, they will avoid the risk by ceasing to shop online. Subscription context has been associated with other types of risks such as changing consumer habits, new entrants and competitors, and challenges with supply chain distribution to name a few (Resolver, 2022). As consumer habits change, it challenges businesses to come up with new ways of serving consumers in a relevant way. There are a large number of start-ups who enter the market, providing the same/similar services at a lower cost to consumers, giving them a competitive advantage. Automation and the difficulty to retain and attract talent is another risk for these businesses. Each risk comes with its own set of challenges, which must be considered before it can be mitigated (Resolver, 2022). Therefore, it is further hypothesised that:

***H4***: *The greater the perceived risk of the subscription service, the less the consumer e-loyalty.*

### 2.6.6 *Demographics*

Customer age, gender, online shopping experience, and income grouping will be considered important demographics to explore. Younger consumers (specifically woman) may be more willing to shop online for subscription boxes, and these services may appeal to more affluent consumers.

## 2.7 Conclusion of the literature review

Given that there is a lack of research exploring the determinants of e-loyalty in the consumer goods curated subscription context, this study aims to contribute to expanding that understanding in order to assist South African businesses.

### 2.7.1 *Hypothesis 1*

- **H1**: The greater the satisfaction with the subscription service, the greater will be the consumer e-loyalty.

### 2.7.2 *Hypothesis 2*

- **H2a**: The greater the perceived utilitarian value of the subscription service, the greater will be the consumer satisfaction.
- **H2b**: The greater the perceived utilitarian value of the subscription, the greater will be the consumer e-loyalty.

### 2.7.3 *Hypothesis 3*

- **H3a**: The greater the perceived hedonic value of the subscription service, the greater will be the consumer satisfaction.
- **H3b**: The greater the perceived hedonic value of the subscription service, the greater will be the consumer e-loyalty.

### 2.7.4 *Hypothesis 4*

- ***H4***: The greater the perceived risk of the subscription service, the less the consumer e-loyalty.

The methodology that will be used to test the hypotheses and address the research questions is presented next.

# CHAPTER 3. RESEARCH METHODOLOGY

In this chapter, the methodology of the study will be expanded upon. This chapter covers the research approach (section 3.1), research design (section 3.2.), data collection methods (section 3.3), population and sample (section 3.4), research instrument (section 3.5), procedure for data collection (section 3.6), data analysis and interpretation (section 3.7), limitations to the study (section 3.8), validity and reliability (section 3.9), and ethical considerations (section 3.10).

## 3.1 Research approach

There are two main approaches to research i.e. the positivist approach known as quantitative (stating that research must be limited to what can be observed and measured objectively) and the anti-positivist approach known as qualitative (experiencing of human behaviour) (Welman et al., 2005).

In order to explore the determinants of South African online consumers e-loyalty toward curated subscription boxes, this study took a quantitative research approach, which strives to formulate ‘laws’ that apply to populations and that explains the causes of objectively observable and measurable behaviour. This approach was chosen because it would be best suited to test the hypotheses and answer the research questions. It has shown to offer many benefits for prior research studies covering similar topics, because the findings could be generalised to a whole population or sub-population, as it involves a larger sample which is often randomly selected (Rahman, 2017).

## 3.2 Research design

The research design refers to the framework or blueprint for conducting research i.e. the general plan for how research will be conducted (Kabir, 2016). It is the plan according to which research respondents are obtained and data is collected from them (Welman et al., 2005). There are several different types of research designs, each created to make sure it generates the necessary data to answer the research questions.

Research designs include exploratory, descriptive and causal designs (Bhattacherjee, 2012). Exploratory designs are often conducted in new areas of research, where the aim is to first scope out the extent of a particular phenomenon, then generate some initial ideas about the phenomenon, and finally test the feasibility of undertaking a more extensive study of that phenomenon. Descriptive designs aim to make careful observations of a phenomenon of interest. These observations must be based on the scientific method, and are therefore more reliable than casual observations by untrained people. Causal designs aim to find explanations of observed phenomena, problems, or behaviours. While descriptive research examines the what, where and when of a phenomenon, explanatory research seeks to answer the why and how. It attempts to 'connect the dots' by identifying factors and outcomes of the target phenomenon (Bhattacherjee, 2012). Causal designs typically require experimental methods, while exploratory and descriptive designs typically rely on interviews and survey methods. Given this study's research questions and objective to examine e-loyalty of consumer goods subscription services and to test the hypothesis as stated in the prior chapter, the descriptive research design was most appropriate and adopted. This design informed the strategies used for data collection and analysis discussed next.

This study adopted a survey methodology, as part of a descriptive research design. A survey is a means of "gathering information about the characteristics, actions, or opinions of a large group of people, referred to as a population" (Glasow, 2005, p.1). Surveys conducted for research purposes have 3 distinct characteristics. First, the purpose of the survey is to produce quantitative descriptions of some aspects of the study population. Second, the main way of collecting data is by asking people structured and predefined questions. Their answers then become data to be analysed. Third, information is generally collected from only a fraction of the study population i.e. a sample, but it is collected in such a way that it can be generalised to the wider population thereafter. The sample needs to be large enough to allow for extensive statistical analyses (Glasow, 2005).

This study also made use of a cross-sectional research design. Cross-sectional studies are carried out at one point or over a short period of time, hence providing a snapshot of the phenomenon of interest. These types of studies are commonly used for surveys to describe the target population (Levin, 2006). The advantages of a cross-sectional survey study is that it can be used to prove/disprove hypotheses, it is cost-efficient if administered online, it does not require too much time from the respondents, it allows for multiple variables to be considered, and it can generate solid insights (Levin, 2006). It is for these reasons that this approach was chosen. However, some of the disadvantages is that it does not analyse behaviour over a period of time, and it could not be completely representative if data is collected at a 'bad' time (Rivers & Wilson, n.d.). An example of this is if data is collected during a pandemic (such as Covid-19), where consumer behaviour is out of the ordinary or not the norm, and then returns to what it used to be thereafter.

## 3.3 Data collection methods

When generating primary data, there are several ways to collect data to ensure that the research is unique to the study. This means that until the research paper is published, no other researcher will have access to the data (as in the case of secondary data) (Kabir, 2016).

This research study made use of a structured questionnaire as the survey instrument. Questionnaires comprise of a series of questions and other prompts in order to gather information from respondents. The questions flow logically from one to the next. The advantages of questionnaires are that large amounts of information can be collected from a large amount of people in a short period of time simultaneously, in a cost-effective way (Kabir, 2016). The results of questionnaires can be quickly and easily quantified by the researcher by using a software package – this means that it can be used to compare and contrast other research (Kabir, 2016). The results can be objectively analysed compared to other types of research methods.

## 3.4 Population and sample

This section describes who data was collected from:

### 3.4.1 *Population*

A population is the full set of cases from which a sample is taken. Since it is impractical and uneconomical to involve all members of any given population in a research study, data from a sample of the population has to be relied upon. The population is a group of potential respondents within which the results of the study can be generalised (Welman et al., 2005). In order for results to be generalisable, the sample needs to be representative i.e. it has the exact properties from the population it was gathered from.

The target population for this study was therefore:

- **Age**: Respondents had to be adults (i.e. over the age of 18).
- **SOS usage**: Respondents had to subscribe to at least one consumer goods curated subscription service in the last two years.
- **National status**: Respondents had to work or study in South Africa.

### 3.4.2 *Sample and sampling method*

As discussed above, the sample is a smaller set of data collected from a larger population, containing the same characteristics. The larger the sample size, the less likely there is to be an error in generalising to the population (Welman et al., 2005). The intended sample for this study was 300 respondents, from across South Africa.

In terms of the sampling method, the sample can either be a probability or non-probability sample (Bhattacherjee, 2012). This study made use of non-probability sampling, where some units of the population have zero chance of selection or where the probability of selection cannot be accurately determined. These respondents are typically chosen based on non-random criteria, such as quota

or convenience (Bhattacherjee, 2012). It is most often used for its convenience, time efficiency and financial savings.

The research questionnaire was shared with businesses that offer subscription box services, so that they could send out the questionnaire to their databases of consumers. These businesses have different databases for active subscribers, subscribers who's subscriptions have lapsed, as well as people who are interested in the service but haven't quite signed up yet. The research study was interested in those people that have had a delivery of the service within the last two years, and hence meet the requirements in order to take part in the study. A number of businesses were contacted, but declined their participations. The reason for this is that they were afraid of 'spamming' their valuable clients with information that was not directly related to their subscription box. As a result, an alternative non-probability approach was adopted.

The study used self-selection sampling, where respondents could identify their desire to take part in the research. First, the need for respondents was publicised through the appropriate channels, urging them to take part in the study if they met the criteria. The data was then collected from those respondents who showed an interest (Welman et al., 2005). The survey link was posted on social media websites/forums where curated consumer goods subscribers were active. Some of these examples on Facebook included: Subscription Box Fans South Africa and Subscriptions Fanatics South Africa. Refer to Table 3 for a full list. These were sourced through a thorough investigation of online blogs and on the various social media platforms, but it was found that Facebook was the most effective in gathering data. The survey link was also posted on all the subscription service businesses Facebook pages. Most of these pages allowed 'members' to post freely, but there were some instances where posts required approval – approval was in many cases denied, making it more difficult to gather the reach required. Respondents came forward (self-selected) due to their feelings or opinions about the research topic/questions.

Finally snowball sampling was used, in which existing respondents provided 'referrals' to recruit others into the study (Welman et al., 2005). Current users of subscription services were encouraged to share the survey link with others they

knew that also made use of subscription services. This helped to get the desired number of completed questionnaires.

**Table 3: Profile of respondents (by businesses and Facebook pages)**

| Active South African box subscription businesses/groups identified |
|---|

**Businesses:**

- A-Mart
- Amethyst Moon
- Avium
- Bean Box Club
- Bella Vita
- Bluebird Coffee Roastery
- Boxie
- Cocktail Culture
- Date Factory
- Roxie
- Charley's Boxes
- Crate|Ov Clothes
- Daily Dish
- Dried Fruit for Africa
- Girltivity
- Hallo Jane
- Hello Dog
- Le Naturel
- Little B's Bubble Tea
- Lingerie Letters
- Moxie Kids
- My Pet Box
- Night Owl Books
- Ooh! Box
- Pawsome
- Poppet Post
- Rusty Rose
- Saffron's Garden Plant Club
- Sanctum Self Care
- Scrap Affairs
- Secret Tackle Box
- Sense.able Play
- The Box fashion
- The Coffee Crate Company
- The Gin Box
- The Kid Zone
- The Ooh Box
- Tuckles

- UCook
- Vitie Box
- Wackybox
- Wellbox
- Wick Fragrances
- Wine of the Month
- Yours Sincerely

**Groups:**

- Subscription Box Fans South Africa
- Subscription Fanatics South Africa
- How to start a Subscription Box Businesses & Services in South Africa

| | |
|---|---|
| TOTAL number of avenues | 48 |

## 3.5 The research instrument

The research instrument is the actual instrument used to collect the data, which in this case was the self-completed questionnaire, that was fully structured in nature. Structured questionnaires consist of standardised questions in a range of different areas, where respondents answer in sequence (Welman et al., 2005).

The research instrument consisted of six sections. Section 1 contained the screening question; Section 2 consisted of questions on consumer goods subscriptions usage; Section 3 consisted of questions on e-loyalty; Section 4 consisted of questions on utilitarian value; Section 5 consisted of questions on hedonic value; Section 6 consisted of questions on satisfaction, Section 7 consisted of questions on perceived risk, and Section 8 contained the demographic questions. The questionnaire duration was approximately 10 to 15 minutes long to complete. The questionnaire can be found in Appendix A.

Section 1: Screening question

One question was asked to ensure that the respondents qualified to participate in the research – if they have had a curated subscription box delivered in the last 2 years. If they had, they could continue with the questionnaire.

Section 2: Consumer goods subscriptions usage

Once it was established that the respondents qualified to participate in the research, questions were asked to provide context on their usage of consumer goods subscription services.

Section 3: E-loyalty

Thereafter, questions were asked with regards to e-loyalty, the study's dependent variable.

Section 4: Utilitarian value

Then, questions were asked with regards to utilitarian motivations, the study's independent variables.

Section 5: Hedonic value

Then, questions were asked with regards to hedonic motivations, the study's independent variables.

Section 6: Satisfaction

Then, questions were asked with regards to satisfaction, which was an intermediary variable.

Section 7: Perceived risk

Then, questions were asked with regards to perceived risk, another of the model's independent variables.

Section 8: Demographic questions

Finally, demographic questions, including gender, age, work status, education level, province of residence, and income level were asked to provide a descriptive profile of the respondents.

Below is a table of the outline of the questionnaire:

**Table 4: Outline of the questionnaire**

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| **E-loyalty** | E-loyalty is a commitment for a consumer to reuse or repurchase products or services again in the future, regardless of outside influences and marketing of other brands (Augier & March, 2020). | 6 | **Measuring retention:**<br><br>1=very unlikely to 7=very likely<br><br>• How likely are you to *purchase* this curated subscription box *again*?<br>• How likely are you to *repeat purchase* this same curated subscription box when the subscription ends?<br><br>**Measuring advocacy:**<br><br>1=very unlikely to 7=very likely<br><br>• How likely are you to *purchase* curated subscription boxes from this provider in the future?<br>• How likely are you to *recommend* this subscription box provider to friends/family/colleagues?<br><br>**Measuring future purchase intent/continuation:**<br><br>1=very unlikely to 7=very likely | Adapted from:<br><br>(Vijay et al., 2019) |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | | | • How likely are you to *switch* to *another* subscription box provider for the same/similar products?<br>• How likely are you to make a *repeat purchase* of this curated subscription in the next cycle (week/month/quarter etc)? | |
| **Utilitarian value** | Consumers purchase goods online because they seek certain utilitarian benefits. These benefits include convenience, broad product offerings, rich product information and monetary savings (Chiu et al., 2014). | 15 | **Measuring product offerings:**<br>1=strongly disagree to 7=strongly agree<br>• The provider offers a good *number* of different subscription boxes.<br>• The provider offers a good *variety* of different subscription boxes.<br>• The provider offers subscription boxes with *products* that suit my *needs.*<br>• The provider offers subscription boxes that suit my *preferences.* | Adapted from:<br>(Chiu et al., 2014) |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | | | **Measuring product information:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• The provider offers *detailed information* about the products in the subscription boxes.<br>• The provider offers information on a *large number of attributes* for each of the products in the subscription boxes.<br>• The information provided on products in subscription boxes is *up to date.*<br><br>**Measuring monetary savings:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• I *save money* when I purchase curated subscription boxes.<br>• Purchasing curated subscription boxes is cost effective.<br>• I get *purchases cheaper* via subscriptions than if I | |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | | | purchase products individually.<br>• I get *purchases cheaper* via subscriptions from this provider than if I purchased them elsewhere.<br><br>**Measuring convenience:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• Buying subscription boxes *saves me time.*<br>• Buying subscription boxes is a *convenient* way for me to shop.<br>• I can purchase subscription boxes anywhere I am located.<br>• I can purchase subscription boxes *at any time I choose.* | |
| **Hedonic value** | Hedonic motivations are the more emotive aspects of an online shopping | 19 | **Measuring adventure:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• Shopping for and receiving a subscription | Adapted from: (Chiu et al., 2014) |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | experience. These include adventure, social, gratification, idea, role and value (Chiu et al., 2014). | | box feels like an *adventure.*<br>• Shopping for and receiving a subscription box is *enjoyable.*<br>• Shopping for and receiving a subscription box makes me *feel good.*<br><br>**Measuring social:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• Shopping for and receiving a subscription box allows me to *socialise/connect* with friends/family.<br>• Shopping for and receiving a subscription box makes a good impression on others.<br>• Shopping for and receiving a subscription box makes me feel part of a *greater community.*<br><br>**Measuring gratification:**<br><br>1=strongly disagree to 7=strongly agree | |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | | | • Shopping for and receiving a subscription box makes me *feel better* when I am in a low mood.<br>• Shopping for and receiving a subscription box is a way of *relieving stress.*<br>• I go shopping for a subscription box when I want to *treat myself* to something special.<br><br>**Measuring idea:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• Shopping for subscription boxes allows me to *keep up with the trends.*<br>• Shopping for subscription boxes allows me to *keep up with new fashions* or *stay cool.*<br>• Shopping for subscription boxes helps me *see what new products are available.* | |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | | | **Measing role:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• Do you like shopping for or sending this subscription to others, because *when they feel good, you feel good*?<br>• Do you *feel good* when you shop for or send this subscription to the special people in your life?<br>• Do you *enjoy* shopping for and sending this subscription to your friends and family?<br>• Do you enjoy shopping around on this subscription providers offerings to find the perfect gift for someone?<br><br>**Measuring value:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• Do you for the most part go shopping for these subscriptions | |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | | | when there are *sales/a good deal*?<br>• Do you enjoy looking for d*iscounts* when you shop for these subscriptions?<br>• Do you enjoy *hunting for bargains* when you shop for these subscriptions? | |
| **Satisfactio n** | ECT is used in the consumer behaviour context to examine consumer satisfaction, post-purchase behaviour (through either repurchase or complaining), and marketing (Bhattacherje e, 2001). | 7 | **Measuring experience:**<br>1=very dissatisfied to 7=very satisfied<br>• How do you feel about your *overall experience* of using this subscription?<br>**Measuring confirmation:**<br>1=strongly disagree to 7=strongly agree<br>• My *experience* with using this subscription box service is better than what I expected<br>• The *service level* provided by the subscription was better than I expected | Adapted from:<br>(Bhattacherje e, 2001) |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | | | • Overall, most of my *expectations were met* by the subscription service<br><br>**Measuring satisfaction:**<br><br>1=strongly disagree to 7=strongly agree<br><br>• I am *satisfied* with my decision to use this subscription box service.<br>• My *choice* to use this subscription box service is a *wise one.*<br>• Overall, my *experience* with using this subscription box service is s*atisfactory.* | |
| **Perceived risk** | Online or e-commerce is associated with a number of uncertainties that give rise to risk perceptions. These risks include | 4 | **Measuring perceived risk:**<br><br>1=very unlikely to 7=very likely<br><br>• Could the subscription you purchased fail to meet the *performance requirements* originally intended by the purchase?<br>• Could shopping for this subscription cause you | Adapted from:<br><br>(Chiu et al., 2014) |

| Construct | Definition | Number of measure-ment items | Example of measurement item | Literature source(s) for measure-ment items |
|---|---|---|---|---|
| | financial risks, privacy risks, delivery risks, performance risks, time risks or even social and psychological risks (Glover & Benbasat, 2010). | | to lose control over the *privacy of your personal and payment information*?<br>• Could shopping for this subscription cause you to *suffer financial loss* due to the hidden costs, maintenance costs or lack or warrantee in the case of faults?<br>• Could the subscription provider *fail to deliver* the product or make a late delivery? | |

## 3.6 Procedure for data collection

Data collection is a systematic process for gathering observations or measurements. Data collection allows the researcher to gain first-hand, and in-depth knowledge through tailored insights (Bhandari, 2020).

This study made use of an online questionnaire (also called a web survey), administered via Qualtrics. Data was collected over a two-month period i.e. 1 October 2021 to 30 November 2021. People were invited to answer the questionnaire mainly through social media groups where communities of like-minded curated subscription boxers communicate regularly.

Prior to the survey being administered, it was pre-tested by academics and pilot tested with a small sample of online consumers. This helped to establish the face

validity of the survey and ensured it adequately addressed the objective of the study.

## 3.7 Data analysis and interpretation

Data processing involves several steps in order to identify whether or not the empirical data supports the hypotheses. The interpretation involves drawing conclusions that reflect the ideas of the respondents (Welman et al., 2005).

The data gathered from this research study was analysed using the following process. First, data was coded (reduced a wide range of unique items of information into a more narrow set of attributes), then entered (converted the numerical codes assigned and recorded into a format that can be used by a statistical computer package), and finally cleaned (checked for errors that could potentially make the study invalid). For this study, the Statistical Program for Social Science (SPSS) was used to analyse the data.

The data was then tested for reliability and validity. Construct validity is used to determine how well a test measures what it was intended to measure. It is usually verified by comparing the test to other tests that measure similar qualities to see how highly correlated the two are (Bhattacherjee, 2012). Bhattacherjee (2012) specifically draws attention to convergent and discriminant validity as important elements of construct validity, and which affect the degree to which inferences can legitimately be made. For the purposes of establishing construct validity, principal components analysis was used to establish the convergent and discriminant validity of the construct measures prior to hypothesis testing, along with the use of Cronbach's alpha coefficient to determine scale reliability, as recommended by Bhattacherjee.

The sample profile and descriptive statistics of demographics and subscription box usage was also presented visually in tables and graphs.

Finally, hypotheses were tested using correlation and multiple regression analysis using a step-wise procedure. Hypotheses were considered supported if the effect sizes from regression analysis were statistically significant at least at

the $p<0.05$ level. The most important multiple regression equation specified e-loyalty as the dependent variable and utilitarian motivation, hedonic motivation, satisfaction, and risk as independent variables, along with the relevant control variables.

## 3.8 Limitations of the study

The limitations of a study are its flaws or shortcomings. The study has limitations arising from certain biases that occur in surveys. One of the most important things that needed to be avoided was response bias in the form of demand characteristics. This comes from respondents being influenced simply by being a part of the study; respondents could answer in a way that supports what they think the aim of the research is, rather than what they really think or feel, resulting in untruthful or inaccurate responses (Johnson, n.d.). Then, the study was prone to non-response bias where discrepancies between respondents and non-respondents occurs (Jovancic, 2021). Social desirability bias, resulting from respondents answering sensitive questions which are socially desirable, rather than being truthful could also occur; people tend to give the appropriate answer rather than their real view. This could result in either over-reporting or under-reporting of a particular viewpoint, having an effect on the usability of the data gathered. The study was also prone to acquiescence bias where respondents respond in agreement with all the questions in the survey (Johnson, n.d.). Finally, the study was prone to common methods bias where variations in responses are caused by the research instrument, rather than the actual predispositions of the respondents. All of these were taken into consideration.

Also, due to sampling, there were limitations to generalisability. And due to cross-sectional survey design, the study lacked temporal precedence and control of confounds and thus had limitations to causal inferences.

## 3.9 Validity and reliability

This section summarises external and internal validity and reliability:

### 3.9.1 *External validity*

Population validity was used to see the degree to which findings obtained for a sample were generalised to the total population to which the research hypotheses applied (Welman et al., 2005). The fact that research data was collected in more than one area in South Africa helped to obtain a more varied sample and improve generalisability. Nonetheless, convenience sampling was used in the study, and the sample thus did not fully represent the behaviours and characteristics of the broader subscriber population in South Africa.

### 3.9.2 *Internal validity*

Internal validity of survey designs are typically low as it is difficult to ensure that changes in the dependent variable are due to the independent variable, rather than something else (Welman et al., 2005). Since this study utilised a self-administered questionnaire (and the outcomes could not be controlled by the researcher), the casualty between variables could only be inferred and not established. This could be seen as a limitation.

### 3.9.3 *Reliability*

The use of previously validated scales from literature helped to improve the reliability of measures (Bhattacherjee, 2012). As indicated in section 3.7, reliability of the study was tested by assessing the Cronbach's Alpha coefficient values that reflected the internal consistency of measurement items.

## 3.10 Ethical considerations

Ethical behaviour is important in research. There are certain ethical considerations that must be considered when conducting research, especially when it involves humans (Welman et al., 2005).

The general principles that this study followed is ensuring that no harm came upon the subjects, and that subjects could take part freely based on informed

consent. The research was approved by the Wits Ethics Committee. Other important ethical considerations included:

- Overall competence.
- Literature review is sound.
- There is no plagiarism.
- There is no falsification of results.

The survey allowed the respondents to remain anonymous and there was minimal to no risks to completing the survey. The survey requested no personal or identifying questions and only the following details were requested: gender, age, work status, education level, province of residence, and income level. The data was confidential, and was not shared with any third party.

## 3.11 Conclusion to the chapter

This chapter presented the research methodology describing the survey research design, construction of the questionnaire instrument, the non-probability approach was outlined, and methods for analysis, limitations of the study, as well as ethical considerations

The next chapter will show the presentation of the research results.

# CHAPTER 4. PRESENTATION OF RESULTS

This chapter reports the empirical research results. It covers the: data cleaning and preparation (section 4.1), response profile (section 4.2), descriptive statistics (section 4.3), reliability and validity (section 4.4), statistical analysis and hypothesis testing (section 4.5), as well as the conclusion to the chapter (section 4.6).

## 4.1 Data cleaning and preparation

A pilot study was completed in July 2021, after which some amendments were made to the questionnaire. Thereafter, the main survey study commenced and after 2 months (October 2021 – November 2021), a total of 236 questionnaire responses were received. This was below the 300 responses originally intended, but sufficient for analysis nonetheless.

Prior to formal analysis of the data, various data cleaning activities were considered. First, people who opened the questionnaire, but did not answer any of the questions were removed (a total of 53 people) – these can be considered ‘blank’ responses, leaving 183 responses. Then, twenty (20) respondents who clicked ‘no’, meaning that they had never had a recurring subscription service, were removed, leaving 163 responses.

All responses where the respondent had left out more than 10% of the questionnaire were then excluded, as they were unable to be used for hypothesis testing because there would be too much data estimation. From the people who said ‘yes’, 45 did not complete the full questionnaire, with the furthest individual response among the 45 completing only up to question 9d, and were thus removed, leaving 118 responses. Most respondents who got past the first section proceeded to complete the whole questionnaire. At this point, 118 responses were left with sufficient data for meaningful analysis – this then became the sample size.

Of the 118 responses, a check was done for responses that looked suspicious or unusable, such as people who didn’t take the questionnaire seriously or those

evidencing a clear response pattern of agreement with all items, but none were detected, and so no further responses were deleted.

Within the 118 responses, there weren't any missing values/responses left out in the variable sections that needed to be estimated, because all questions required a response to proceed. Responses missing in the demographic section were not estimated, but there were none of these either.

A check was performed to detect outliers. Specifically, standardised scores were reviewed in SPSS to detect any univariate outliers with scores above ±3 (i.e. more than 3 standard deviations above or below the mean). However, no outliers were detected, and no further responses were eliminated. In addition, respondents' gender, age, work status, education level, province of residence and monthly household income were examined, but there was no sense of any demographic outliers. So, the final sample size remained as 118.

## 4.2 Response profile

Following the above steps, 118 responses were available for analysis.

The demographic profile of this useable sample of respondents is summarised as follows:

### 4.2.1 *Gender profile of respondents*

Respondents were primarily female making up 72.88% and male making up 24.58% of the sample. This could be because more females than males generally purchase box subscriptions in their households. A negligible amount preferred not to say (1.69%), or preferred to self-identify (0.85%).

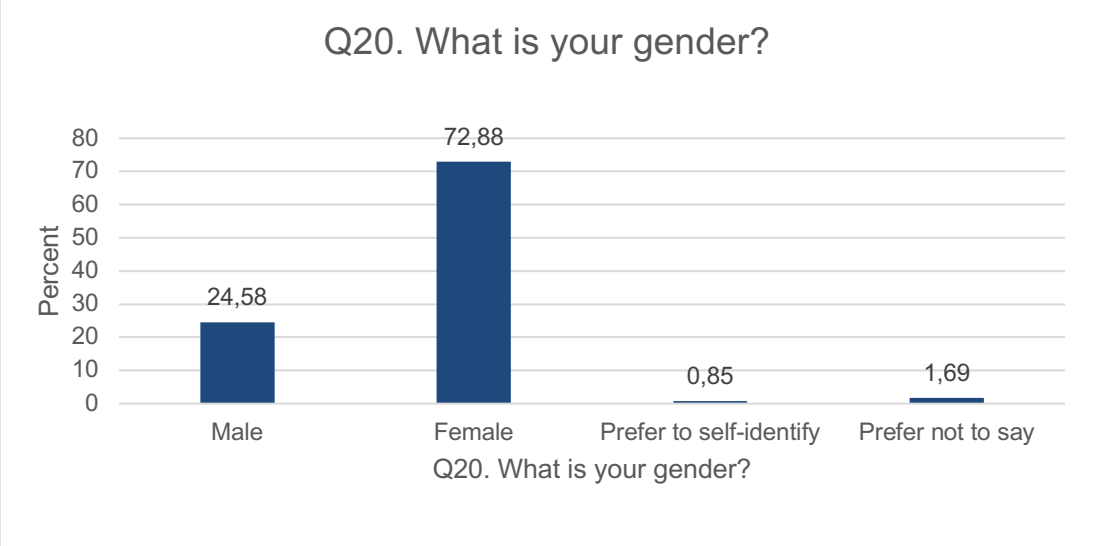


**Figure 4: Gender profile of respondents**

### 4.2.2 *Age group of respondents*

Most respondents fell into the 25 – 34 year age category with 49.15% choosing this option, followed by the 35 – 44 year age category with 36.44%. This makes sense as subscription box services are popular amongst Millennials. The 45 – 54 year age category showed 7.63%, the 18 – 24 year age category showed 4.24%, and the 55 – 64 year age category showed only 2.54%. There were no respondents from the 65 year plus category, and no respondents preferred not to say.

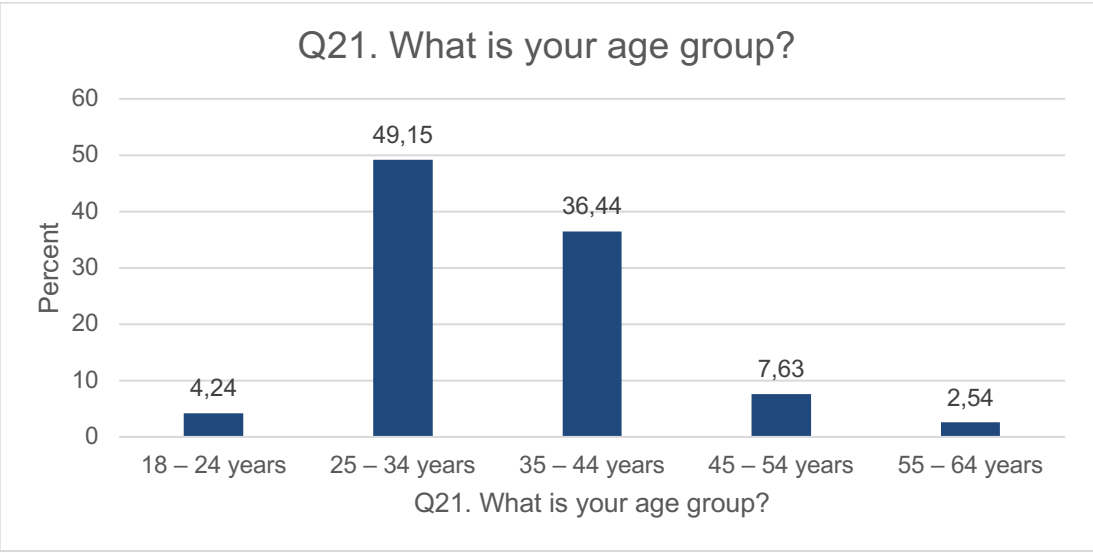

**Figure 5: Age group of respondents**

### 4.2.3 *Current work status of respondents*

Most respondents were working full time with 77.97% choosing this option, followed by working part-time/freelancing with 10.17%. This makes sense as most subscription boxes are pricey and would therefore require an income, specifically expendable cash, in order to purchase them. Only 5.08% were a housewife/househusband, followed by 3.39% unemployed, and 1.69% retired. 1.69% preferred not to say.

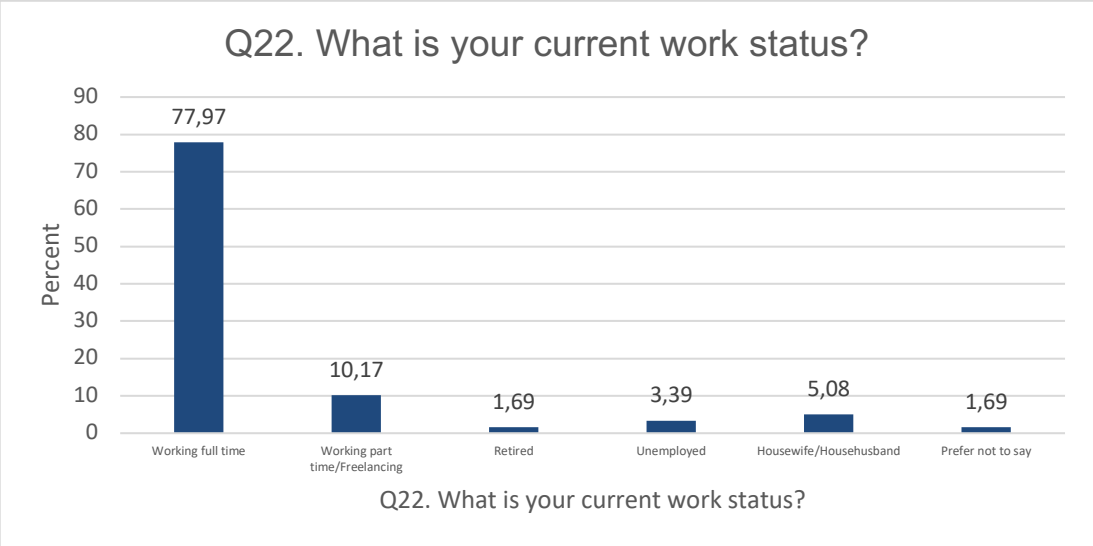


**Figure 6: Current work status of respondents**

### 4.2.4 *Highest level of education of respondents*

Most respondents had a postgraduate degree (honours/master's degree) with 47.46% selecting this option, followed by an undergraduate degree (university/college/technicon) with 29.66%, and post-matric studies (certificate or diploma, some university) with 15.25%. Respondents with a matric came in at 5.08% and some high school with 0.85%. 1.69% preferred not to say. This suggests that the sample is largely well-educated.

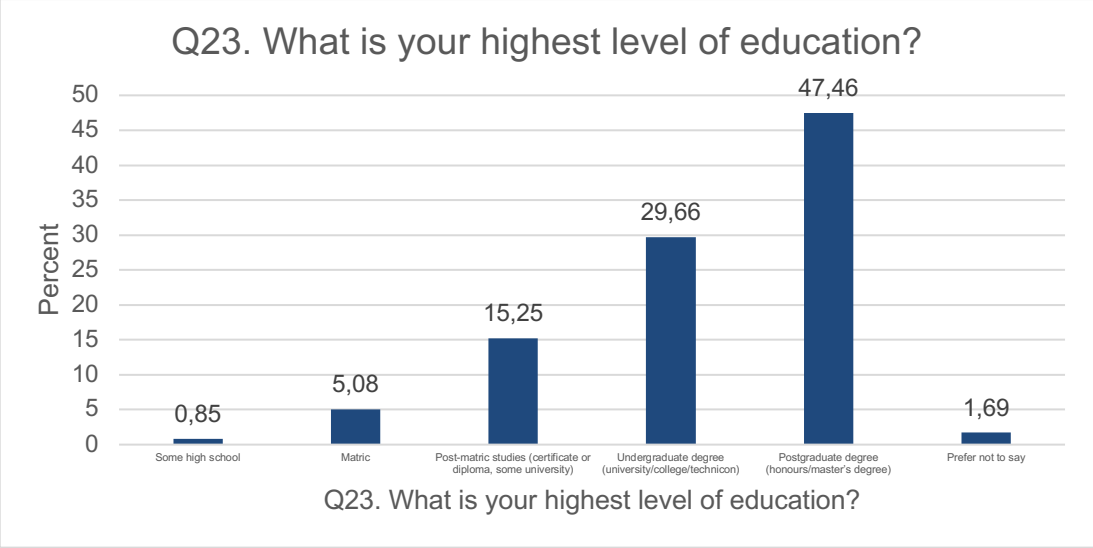


**Figure 7: Highest level of education of respondents**

### 4.2.5 *Province of residence of respondents*

Most respondents were from Gauteng with 46.61% choosing this option. This was followed by KwaZulu-Natal with 26.27%, the Western Cape with 24.58%, Northern Cape with 1.69% and Limpopo with 0.85%. There were no respondents from the Eastern Cape, Free State, Mpumalanga, North West province. None of the respondents preferred not to say.

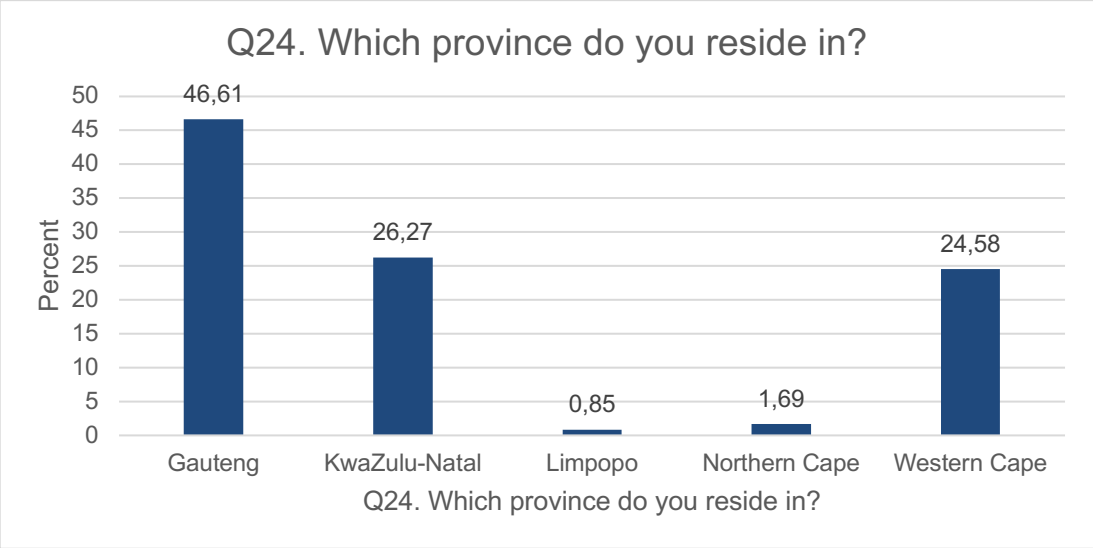


**Figure 8: Province of residence of respondents**

### 4.2.6 *Total monthly household income of respondents*

The total monthly income of respondent's households varied quite a bit, with the majority not knowing/preferring not to say with 16.95%. The main categories that people selected with values was R75 000 – R100 000 and over R100 000 with 13.56% each, followed by the R60 000 – R75 000 category with 11.86%. There was an equal split with R20 000 – R30 000, R30 000 – R45 000 and R45 000 – R60 000 with 11.02%. R10 000 – R20 000 had 6.78%, and less than R10 000 had 4.24% choose this option.

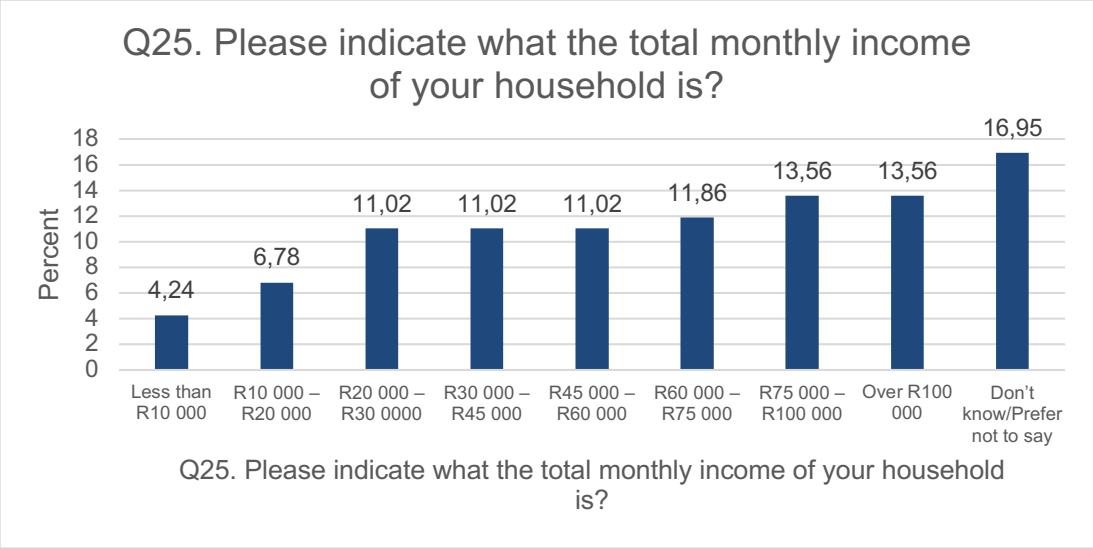


**Figure 9: Total monthly household income of respondents**

### 4.2.7 *Types of curated subscription boxes*

The most popular type of subscription box was the food, drink and snack products category with 49.15% of respondents choosing this option. This was followed by beauty products (23.73%), kids' products (7.63%), books (4.24%), health and fitness/wellness products (3.39%), pet products and other (2.54% each), gaming/tech products and crafts and hobbies products as well as clothing and accessories products (1.69%), lifestyle products and toy products (0.85%). No respondents said that they had purchased home products before.

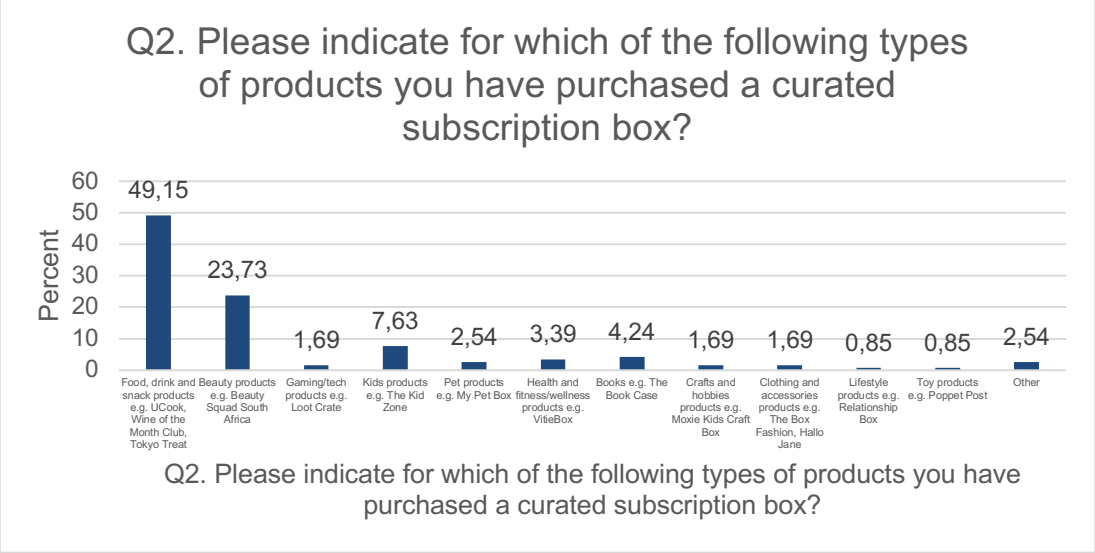


**Figure 10: Types of curated subscription boxes**

### 4.2.8 *Subscription box delivery frequency*

Most buyers of subscription boxes did so on a monthly basis (39.47%). The next most popular option was once-off/whenever they felt like it (28.95%), followed by weekly (14.91%), quarterly (10.53%), other frequency (2.63%). The categories of a couple times a month and yearly were both selected by 1.75% of the sample. No respondents chose a couple times a week.

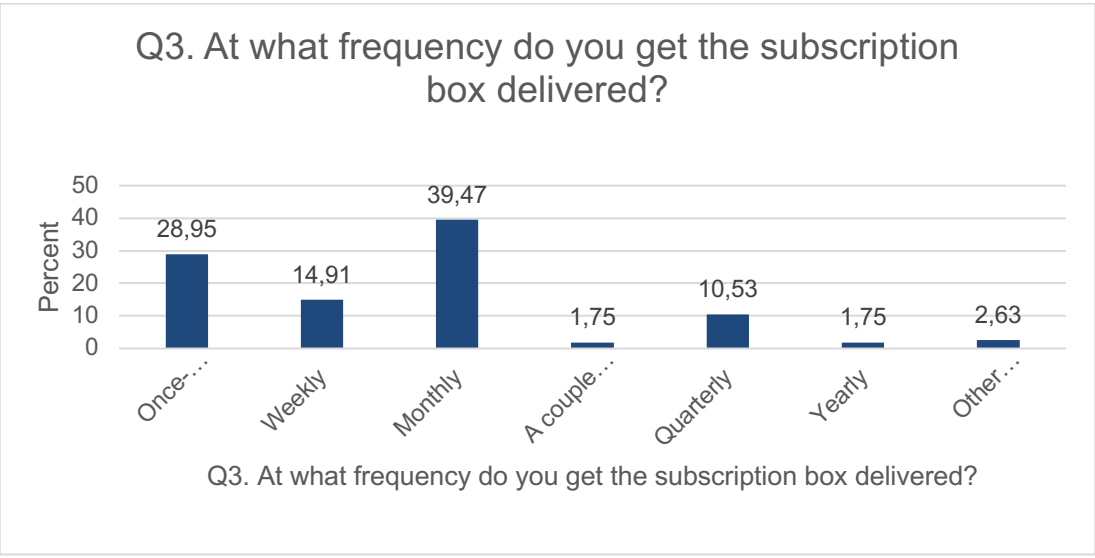


**Figure 11: Subscription box delivery frequency**

### 4.2.9 *Duration of the active subscription*

Most respondents had their subscription active for less than 6 months (25.42%). This was followed by 6 months – 1 year (22.03%), 1 – 2 years (16.10%), it is no longer active (14.41%), more than 3 years (13.56%), and 2 – 3 years being the least (8.47%).

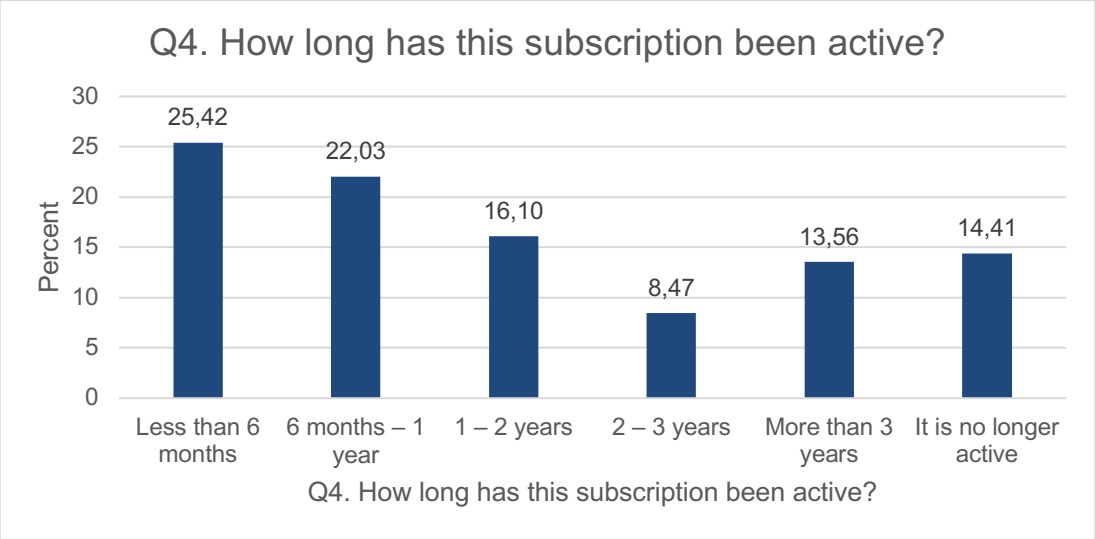


**Figure 12: Duration of the active subscription**

### 4.2.10 *Overall summary narrative*

The data shows that the sample is largely a collective of females, aged 25 – 34 years old, working full time, with a postgraduate degree (honours/master's degree), from Gauteng, earning between R75 000 – over R100 000 per month.

They mainly purchase food, drink and snack products subscriptions, on a monthly basis, and have had these services for less than 6 months.

## 4.3 Descriptive statistics

### 4.3.1 *E-loyalty*

The study's dependent variable is e-loyalty, measured using six items on a 7-point Likert scale (as shown in Table 5 below). Most respondents are neutral

(neither unlikely nor likely) to likely to purchase a curated subscription box (means ranged from 4 – 5.57).

Most respondents are somewhat likely to purchase a curated subscription box again (mean of 5.30). They are also somewhat likely to repeat purchase when the subscription ends (mean of 5.01). Again, they are somewhat likely to purchase curated subscription boxes from the provider in the future (mean of 5.42). They are likely to recommend this subscription box to their friends/family/colleagues (mean of 5.57). Respondents are neutral to switch to another subscription provider (mean of 4.00). They are somewhat likely to make a repeat purchase in the next cycle (mean of 4.77).

Kurtosis values should be between ±3 and skewness values should be between ±1. The values in Table 5 do not suggest any concerns with the distribution.

**Table 5: E-loyalty descriptive statistics**

| Items | Minimum | Maximum | Mean | Std. Deviation | Variance | Count | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|
| 5a. How likely are you to purchase this curated subscription box again? | 1 | 7 | 5.30 | 1.751 | 3.065 | 118 | -0.922 | -0.158 |
| 5b. How likely are you to repeat purchase this same curated subscription box when the subscription ends? | 1 | 7 | 5.01 | 1.888 | 3.564 | 118 | -0.656 | -0.808 |
| 5c. How likely are you to purchase curated subscription boxes from this provider in the future? | 1 | 7 | 5.42 | 1.646 | 2.708 | 118 | -1.069 | -0.364 |
| 5d. How likely are you to recommend this subscription box provider to friends/family/colleagues? | 1 | 7 | 5.57 | 1.677 | 2.812 | 118 | -1.160 | 0.426 |
| 5e. How likely are you to switch to another subscription box provider for the same/similar products? | 1 | 7 | 4.00 | 1.730 | 2.991 | 118 | -0.081 | -1.038 |
| 5f. How likely are you to make a repeat purchase of this curated subscription in the next cycle (week/month/quarter etc)? | 1 | 7 | 4.77 | 2.010 | 4.041 | 118 | -0.579 | -1.001 |

### 4.3.2 *Utilitarian value*

Utilitarian value was considered in the terms of four underlying dimensions. In terms of these utilities that subscription boxes provide, most respondents somewhat agree to agree that it is of value to them (means ranged from 4.82 – 5.94).

The first dimension of utilitarian value was Product offerings. Respondents mainly somewhat agree that the subscription provider offers a good number of options (mean of 4.97). Respondents also mainly somewhat agree that these providers offer a good variety of options (mean of 4.99). Respondents agree that these providers offer options that suit their needs (mean of 5.62), as well as their preferences (mean of 5.56).

The second dimension of utilitarian value was Product information. Respondents mainly agree that these subscription boxes offer detailed information about the products contained within the box (mean of 5.78). Respondents somewhat agree that the provider offers information on a large number of attributes for each of the products in the subscription boxes (mean of 5.48). They agree that the information provided on the products is up to date (mean of 5.71).

The third dimension of utilitarian value was Monetary savings. Respondents mainly somewhat agree that they save money when they purchase these subscription boxes (mean of 4.92). They also somewhat agree that purchasing subscription boxes is cost-effective (mean of 4.82). They again somewhat agree that they get their purchases cheaper in a subscription box than if they purchased them individually (mean of 5.03). Respondents somewhat agree that they get their purchases cheaper in the subscription than if they bought them elsewhere (mean of 4.97).

The fourth dimension of utilitarian value was Convenience. Respondents mainly agree that buying subscription boxes saves them time (mean of 5.75). They also agree that it is a convenient way for them to shop (mean of 5.87). They again agree that they can purchase these subscription boxes from anywhere they are located (mean of 5.86), and agree that they can buy these boxes at any time they choose (mean of 5.94).

In terms of skewness and kurtosis, again the values in Table 6 overall do not suggest any concerns with the distribution.

**Table 6: Utilitarian value descriptive statistics**

| | Items | Minimum | Maximum | Mean | Std Deviation | Variance | Count | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|---|
| Product Offering | 6a.The provider offers a good number of different subscription boxes | 1 | 7 | 4.97 | 1.550 | 2.401 | 118 | -0.784 | -0.354 |
| | 6b. The provider offers a good variety of different subscription boxes | 1 | 7 | 4.99 | 1.516 | 2.299 | 118 | -0.734 | -0.391 |
| | 6c. The provider offers subscription boxes with products that suit my needs | 1 | 7 | 5.62 | 1.226 | 1.503 | 118 | -1.271 | 2.125 |
| | 6d. The provider offers subscription boxes that suit my preferences | 1 | 7 | 5.56 | 1.271 | 1.616 | 118 | -1.151 | 1.096 |
| Product Information | 7a. The provider offers detailed information about the products in the subscription boxes | 1 | 7 | 5.78 | 1.347 | 1.814 | 118 | -1.425 | 1.434 |
| | 7b. The provider offers information on a large number of attributes for each of the products in the subscription boxes | 1 | 7 | 5.48 | 1.483 | 2.201 | 118 | -0.925 | -0.088 |
| | 7c. The information provided on products in subscription | 1 | 7 | 5.71 | 1.213 | 1.472 | 118 | -1.180 | 1.142 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | boxes is up to date | | | | | | | | |
| Monetary Saving | 8a. I save money when I purchase curated subscription boxes | 1 | 7 | 4.92 | 1.626 | 2.642 | 118 | -0.602 | -0.800 |
| | 8b. Purchasing curated subscription boxes is cost effective | 1 | 7 | 4.82 | 1.615 | 2.609 | 118 | -0.498 | -0.627 |
| | 8c. I get purchases cheaper via subscriptions than if I purchase products individually | 1 | 7 | 5.03 | 1.598 | 2.555 | 118 | -0.553 | -0.680 |
| | 8d. I get purchases cheaper via subscriptions from this provider than if I purchased them elsewhere | 1 | 7 | 4.97 | 1.582 | 2.504 | 118 | -0.511 | -0.661 |
| Convenience | 9a. Buying subscription boxes saves me time | 1 | 7 | 5.75 | 1.365 | 1.862 | 118 | -1.576 | 2.445 |
| | 9b. Buying subscription boxes is a convenient way for me to shop | 1 | 7 | 5.87 | 1.173 | 1.377 | 118 | -1.396 | 2.177 |
| | 9c. I can purchase subscription boxes anywhere I am located | 1 | 7 | 5.86 | 1.283 | 1.646 | 118 | -1.703 | 3.156 |
| | 9d. I can purchase subscription boxes at any time I choose | 1 | 7 | 5.94 | 1.127 | 1.270 | 118 | -1.522 | 2.424 |

### 4.3.3 *Hedonic value*

Hedonic value was considered in the terms of six underlying dimensions. Across these hedonic values, most respondents were neutral to agreeing about the hedonic value of subscription service boxes (means ranged from 4.06 – 6.07).

The first dimension of hedonic value was Adventure. Most respondents agree that shopping for and receiving a subscription box feels like an adventure (mean of 5.72). Most respondents also agree that shopping for and receiving a subscription box is enjoyable (mean of 6.07), and makes them feel good (mean of 5.90).

The second dimension of hedonic value was Social. Most respondents are neutral about whether shopping for and receiving a subscription box allows them to socialise/connect with their friends/family (mean of 4.27). They are also neutral on whether shopping for and receiving a subscription box makes a good impression on others (mean of 4.06). They somewhat agree that it makes them feel like they are a part of a greater community (mean of 4.53).

The third dimension of hedonic value was Gratification. Most respondents somewhat agree that shopping for and receiving a subscription box makes them feel better when they're feeling down (mean of 4.81). They also somewhat agree that it helps them relieve stress (mean of 4.58). Respondents somewhat agree that they go shopping for these products when they want to treat themselves to something special (mean of 4.54).

The fourth dimension of hedonic value was Idea. Respondents somewhat agree that shopping for subscription boxes allows them to keep up with trends (mean of 4.77). They were neutral about it helping them keep up with new fashions or stay cool (mean of 4.20). They somewhat agree that shopping for these boxes helps them see what new products are available (mean of 5.41).

The fifth dimension of hedonic value was Role. Respondents somewhat agree that they shop for or send these subscriptions to others because when others feel good, they feel good too (mean of 4.86). They also somewhat agree that they feel good when they shop for or send these subscriptions to the special people in their lives (mean of 5.10). They once again somewhat agree that they enjoy shopping for and sending these subscriptions to friends and family (mean of 4.78). They somewhat agree that they enjoy shopping around on these subscription providers offerings to find the perfect gift for someone (mean of 4.62).

The sixth dimension of hedonic value was Value. Respondents somewhat agree that they go shopping for these subscriptions when there are sales/a good deal (mean of 5.41). They agree that they enjoy looking for discounts when they shop for these subscriptions (mean of 5.69). Finally, they somewhat agree that they enjoy hunting for bargains when they shop for these subscriptions (mean of 5,48).

Kurtosis values are within -3 to +3 suggesting no concerns with the peakedness of the distribution. Kurtosis for many of the items are in the acceptable range ±1, or close enough to be considered acceptable, and so there is not a sense of the data being highly skewed.

**Table 7: Hedonic value descriptive statistics**

| | Items | Minimum | Maximum | Mean | Std Deviation | Variance | Count | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|---|
| Adventure | 10a. Shopping for and receiving a subscription box feels like an adventure | 1 | 7 | 5.72 | 1.233 | 1.519 | 118 | -1.343 | 2.234 |
| | 10b. Shopping for and receiving a subscription box is enjoyable | 1 | 7 | 6.07 | 0.884 | 0.782 | 118 | -1.191 | 1.444 |
| | 10c. Shopping for and receiving a subscription box makes me feel good | 1 | 7 | 5.90 | 1.008 | 1.015 | 118 | -0.915 | 0.246 |
| Social | 11a. Shopping for and receiving a subscription box allows me to socialise/connect with friends/family | 1 | 7 | 4.27 | 1.556 | 2.422 | 118 | -0.214 | -0.717 |
| | 11b. Shopping for and receiving a subscription box makes a good impression on others | 1 | 7 | 4.06 | 1.509 | 2.279 | 118 | -0.148 | -0.168 |
| | 11c. Shopping for and receiving a subscription box makes me feel part of a greater community | 1 | 7 | 4.53 | 1.495 | 2.234 | 118 | -0.442 | -0.294 |
| Gratification | 12a. Shopping for and receiving a subscription box makes me feel better when | 1 | 7 | 4.81 | 1.617 | 2.615 | 118 | -0.580 | -0.220 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | I am in a low mood | | | | | | | | |
| | 12b. Shopping for and receiving a subscription box is a way of relieving stress | 1 | 7 | 4.58 | 1.646 | 2.708 | 118 | -0.465 | -0.226 |
| | 12c. I go shopping for a subscription box when I want to treat myself to something special | 1 | 7 | 4.54 | 1.843 | 3.396 | 118 | -0.377 | -0.974 |
| Idea | 13a. Shopping for subscription boxes allows me to keep up with the trends | 1 | 7 | 4.77 | 1.482 | 2.195 | 118 | -0.479 | -0.199 |
| | 13b. Shopping for subscription boxes allows me to keep up with new fashions or stay cool | 1 | 7 | 4.20 | 1.533 | 2.351 | 118 | -0.248 | -0.353 |
| | 13c. Shopping for subscription boxes helps me see what new products are available | 1 | 7 | 5.41 | 1.296 | 1.679 | 118 | -1.134 | 1.590 |
| Role | 14a. Do you like shopping for or sending this subscription to others, because when they feel good, you feel good? | 1 | 7 | 4.86 | 1.422 | 2.022 | 118 | -0.358 | -0.285 |
| | 14b. Do you feel good when you shop for or send this subscription to the special people in your life? | 1 | 7 | 5.10 | 1.349 | 1.819 | 118 | -0.507 | 0.074 |
| | 14c. Do you enjoy shopping for and sending this subscription to your friends and family? | 1 | 7 | 4.78 | 1.503 | 2.259 | 118 | -0,569 | -0.121 |
| | 14d. Do you enjoy shopping around on this subscription providers offerings to find the perfect gift for someone? | 1 | 7 | 4.62 | 1.574 | 2.477 | 118 | -0.550 | -0.353 |
| Value | 15a. Do you for the most part go shopping for these subscriptions when there are sales/a good deal? | 1 | 7 | 5.41 | 1.526 | 2.329 | 118 | -0.818 | -0.414 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 15b. Do you enjoy looking for discounts when you shop for these subscriptions? | 1 | 7 | 5.69 | 1.338 | 1.790 | 118 | -1.389 | 1.811 |
| | 15c. Do you enjoy hunting for bargains when you shop for these subscriptions? | 1 | 7 | 5.48 | 1.400 | 1.961 | 118 | -0.781 | 0.033 |

### 4.3.4 *Satisfaction*

From expectation confirmation theory, the study was interested in overall experience (one item), confirmation of expectation (three items), and satisfaction with a subscription service (three items). Collectively, considered to represent overall satisfaction. The mean of responses across these items ranged between somewhat agree and agree that they are satisfied with their experience of shopping for subscription service boxes (means ranged from 5.35 – 5.64).

The highest mean was for overall experience, and results suggest respondents are thus satisfied with their overall experience of using subscription services (mean of 5.64).

Respondents agree that they are satisfied with their decision to use these subscription box services (mean of 5.57). They also somewhat agree that their decision to use these services are a wise one (mean of 5.44). They agree that their overall experience using these subscriptions is satisfactory (mean of 5.64).

Respondents somewhat agree that their experience using these services are better than what they expected (mean of 5.40). They also somewhat agree that the service level provided by the subscription is better than what they expected (mean of 5.35). And they agree that most of their expectations were met by the subscription service (mean of 5.57).

In terms of skewness and kurtosis, the values in Table 8 do not suggest any concerns with the distribution.

**Table 8: Satisfaction descriptive statistics**

| Items | Minimum | Maximum | Mean | Std Deviation | Variance | Count | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|
| 16. How do you feel about your overall experience of using this subscription? | 1 | 7 | 5.64 | 1.393 | 1.941 | 118 | -1.557 | 2.287 |
| 17a. I am satisfied with my decision to use this subscription box service | 1 | 7 | 5.57 | 1.453 | 2.111 | 118 | -1.506 | 2.046 |
| 17b. My choice to use this subscription box service is a wise one | 1 | 7 | 5.44 | 1.362 | 1.855 | 118 | -1.050 | 1,041 |
| 17c. Overall, my experience with using this subscription box service is satisfactory | 1 | 7 | 5.64 | 1.344 | 1.806 | 118 | -1.584 | 2.712 |
| 18a. My experience with using this subscription box service is better than what I expected | 1 | 7 | 5.40 | 1.378 | 1.900 | 118 | -0.910 | 0.529 |
| 18b. The service level provided by the subscription was better than I expected | 1 | 7 | 5.35 | 1.329 | 1.767 | 118 | -0.864 | 0.511 |
| 18c. Overall, most of my expectations were met by the subscription service | 1 | 7 | 5.57 | 1.387 | 1.923 | 118 | -1.415 | 1.966 |

### 4.3.5 *Perceived risk*

Perceived risk was measured using four items. Respondents believed that they were somewhat unlikely to neural to be prone to risk while shopping for subscription services (means ranged from 3.05 – 4.17). This makes sense as South Africa is quite risk averse.

Respondents are neutral that the subscription provider could fail to meet the performance requirements originally intended by the purchase (mean of 3.91). They believe that it is somewhat unlikely that shopping for this subscription could cause them to lose control over the privacy of their personal and payment information (mean of 3.45). They believed that it was also somewhat unlikely that it could cause them to suffer financial loss due to hidden costs, maintenance costs or lack of warrantee (mean of 3.05). Finally, they were neutral that the provider would fail to deliver the product or make a late delivery (mean of 4.17).

In terms of skewness and kurtosis, again the values in Table 9 do not suggest any concerns with the distribution.

**Table 9: Perceived risk descriptive statistics**

| Items | Minimum | Maximum | Mean | Std Deviation | Variance | Count | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|
| 19a. Could the subscription you purchased fail to meet the performance requirements originally intended by the purchase? | 1 | 7 | 3.91 | 1.720 | 2.957 | 118 | -0.223 | -1.061 |
| 19b. Could shopping for this subscription cause you to lose control over the privacy of your personal and payment information? | 1 | 7 | 3.45 | 1.718 | 2.950 | 118 | 0.180 | -0.948 |
| 19c. Could shopping for this subscription cause you to suffer financial loss due to the hidden costs, maintenance costs or lack or warrantee in the case of faults? | 1 | 7 | 3.05 | 1.806 | 3.262 | 118 | 0.498 | -0.881 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 19d. Could the subscription provider fail to deliver the product or make a late delivery? | 1 | 7 | 4.17 | 1.614 | 2.604 | 118 | -0.367 | -0.653 |

### 4.3.6 *Overall summary narrative*

Consumer perceptions for e-loyalty tend to be average to high. Perceptions of utilitarian factors tend to be high, but not as high as that of hedonic factors even though it has a larger range of responses. People seem to be satisfied overall with purchasing these subscriptions but are recognising some risk. There are therefore both value and risk that may influence consumers in their decisions on continuing to purchase these subscriptions.

The next step in the data analysis was to test the reliability and validity of responses in preparation for hypothesis testing.

## 4.4 Reliability and validity

Before testing the study's hypotheses, the reliability and validly scales needed to be tested.

Principal Components Analysis (PCA) was used to check for unidimensionality, convergent validity and discriminant validity. This process of checking was to see if some of the items needed to be dropped to get a stronger more meaningful measurement.

Reliability testing using Cronbach's alpha was then completed. The principle of what needed to be achieved was a Cronbrach's alpha of more than 0.7 - once that is achieved, increasing the reliability of the construct isn't necessary because it would mean that the questionnaire is already solid. Because all the Cronbach's alpha measures were more than 0.7, there was no need to delete any additional items.

### 4.4.1 *E-loyalty and Satisfaction*

The six (6) items for E-loyalty and seven (7) items for Satisfaction were subjected to a PCA test together, since their measurement items were converging in the original PCA with the full set of items. Only when they were brought together separate from the rest of the measures was there a stable solution. Two (2) items (Q5d & Q5e) for E-loyalty did not load with the other items, leaving only four (4) items for the measure of e-loyalty. Five (5) items (Q16, Q17a, Q17b, Q17c & Q18c) for Satisfaction did not exhibit a dominant loading and cross-loaded with the other items from E-loyalty, leaving only two (2) items for the measure of Satisfaction. The final stable results from this PCA are as follows:

**Table 10: E-loyalty and Satisfaction PCA**

| **Items** | **PCA loading (E-loyalty)** | **PCA loading (Satisfaction)** |
|---|---|---|
| 5a. How likely are you to purchase this curated subscription box again? | 0.888 | |
| 5b. How likely are you to repeat purchase this same curated subscription box when the subscription ends? | 0.869 | |
| 5c. How likely are you to purchase curated subscription boxes from this provider in the future? | 0.861 | |
| 5f. How likely are you to make a repeat purchase of this curated subscription in the next cycle (week/month/quarter etc)? | 0.844 | |
| 18a. My experience with using this subscription box service is better than what I expected | | 0.854 |
| 18b. The service level provided by the subscription was better than I expected | | 0.921 |

Given that undimensionality and convergent validity is confirmed, the reliability could then be assessed. The full PCA results for the E-loyalty and Satisfaction measurement items can be found in Appendix B.

The four remaining items for E-loyalty had a Cronbach's alpha of 0,931 and the two items for Satisfaction had a Cronbach's alpha of 0.863. The Cronbach's alpha does not increase if any items are deleted, and so all items were kept.

**Table 11: E-loyalty and Satisfaction Cronbach's alpha**

| Dimension | Number of remaining items | Cronbach's alpha |
|---|---|---|
| E-loyalty | 4 | 0.931 |
| Satisfaction | 2 | 0.863 |

**Table 12: E-loyalty item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 5a. How likely are you to purchase this curated subscription box again? | 15.20 | 26.334 | 0.830 | 0.913 |
| 5b. How likely are you to repeat purchase this same curated subscription box when the subscription ends? | 15.49 | 24.406 | 0.877 | 0.897 |
| 5c. How likely are you to purchase curated subscription boxes from this provider in the future? | 15.08 | 26.789 | 0.870 | 0.903 |
| 5f. How likely are you to make a repeat purchase of this curated subscription in the next cycle (week/month/quarter etc)? | 15.73 | 24.490 | 0.794 | 0.928 |

**Table 13: Satisfaction item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 18a. My experience with using this subscription box service is better than what I expected | 5.35 | 1.767 | 0.759 | - |
| 18b. The service level provided by the subscription was better than I expected | 5.40 | 1.900 | 0.759 | - |

### 4.4.2 *Utilitarian value*

The items for the utilitarian values were subjected to a PCA test as part of the overall PCA test (see appendix C). Two (2) of the items measuring Product offerings value (Q6c & Q6d) did not load with the other items, and were dropped. The other items then all loaded as expected onto their theoretical dimensions of utilitarian value. Results are summarised as follows and the pertinent portion of the overall PCA (Appendix C) presented in Table 14:

The first dimension of utilitarian value was Product offerings. The PCA shows that two of its four items all loaded on the same PCA factor.

The second dimension of utilitarian value was Product information. The PCA shows that all three of its three items loaded on the same PCA factor.

The third dimension of utilitarian value was Monetary savings. The PCA shows that all four of its four items loaded on the same PCA factor.

The fourth dimension of utilitarian value was Convenience. The PCA shows that all four of its four items loaded on the same PCA factor.

Given that unidimensionality and convergent validity of each utilitarian value dimension was confirmed, the reliability could then be assessed.

**Table 14: Utilitarian value PCA**

| Items | PCA loading (Product offerings) | PCA loading (Product information) | PCA loading (Monetary savings) | PCA loading (Convenience) |
|---|---|---|---|---|
| 6a.The provider offers a good number of different subscription boxes | 0.885 | | | |
| 6b. The provider offers a good variety of different subscription boxes | 0.840 | | | |
| 7a. The provider offers detailed information about the products in the subscription boxes | | 0.807 | | |
| 7b. The provider offers information on a large number of attributes for each of the products in the subscription boxes | | 0.889 | | |
| 7c. The information provided on products in subscription boxes is up to date | | 0.866 | | |
| 8a. I save money when I purchase curated subscription boxes | | | 0.791 | |
| 8b. Purchasing curated subscription boxes is cost effective | | | 0.809 | |
| 8c. I get purchases cheaper via subscriptions than if I purchase products individually | | | 0.862 | |
| 8d. I get purchases cheaper via subscriptions from this provider than if I purchased them elsewhere | | | 0.822 | |
| 9a. Buying subscription boxes saves me time | | | | 0.801 |
| 9b. Buying subscription boxes is a convenient way for me to shop | | | | 0.795 |
| 9c. I can purchase subscription boxes anywhere I am located | | | | 0.439 |

| | | | | |
|---|---|---|---|---|
| 9d. I can purchase subscription boxes at any time I choose | | | | 0.743 |

When looking at all 13 remaining items for Utilitarian value combined, the Cronbach's alpha of the overall construct was 0.842. The Cronbach's alphas for each individual dimension were also very high. Only if one (1) measurement item is removed (Q9c on Convenience) does it make a positive difference – the Cronbach's alpha increases to 0.828. Otherwise, if any of the other measurement items are removed, the Cronbach's alpha decreases. Given that the original alpha of 0.809 for Convenience exceeds the generally accepted cut-off of 0.70, all items were retained to preserve the richness of the measure.

**Table 15: Utilitarian value Cronbach's alpha**

| Dimension | Number of remaining items | Cronbach's alpha |
|---|---|---|
| Product offerings | 2 | 0.915 |
| Product information | 3 | 0.879 |
| Monetary savings | 4 | 0.889 |
| Convenience | 4 | 0.809 |
| Overall combined | 13 | 0.842 |

**Table 16: Product offerings item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 6a.The provider offers a good number of different subscription boxes | 4.99 | 2.299 | 0.844 | - |

| | | | | |
|---|---|---|---|---|
| 6b. The provider offers a good variety of different subscription boxes | 4.97 | 2.401 | 0.844 | - |

**Table 17: Product information item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 7a. The provider offers detailed information about the products in the subscription boxes | 11.19 | 6.534 | 0.713 | 0.876 |
| 7b. The provider offers information on a large number of attributes for each of the products in the subscription boxes | 11.49 | 5.500 | 0.798 | 0.805 |
| 7c. The information provided on products in subscription boxes is up to date | 11.26 | 6.708 | 0.808 | 0.803 |

**Table 18: Monetary savings item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 8a. I save money when I purchase curated subscription boxes | 14.82 | 17.874 | 0.758 | 0.857 |
| 8b. Purchasing curated subscription boxes is cost effective | 14.92 | 17.753 | 0.776 | 0.849 |
| 8c. I get purchases cheaper via subscriptions than if I purchase products individually | 14.71 | 17.626 | 0.801 | 0.840 |

| | | | | |
|---|---|---|---|---|
| 8d. I get purchases cheaper via subscriptions from this provider than if I purchased them elsewhere | 14.76 | 18.918 | 0.691 | 0.881 |

**Table 19: Convenience item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 9a. Buying subscription boxes saves me time | 17.67 | 8.309 | 0.696 | 0.725 |
| 9b. Buying subscription boxes is a convenient way for me to shop | 17.55 | 9.104 | 0.730 | 0.713 |
| 9c. I can purchase subscription boxes anywhere I am located | 17.57 | 10.059 | 0.485 | 0.828 |
| 9d. I can purchase subscription boxes at any time I choose | 17.48 | 9.978 | 0.618 | 0.766 |

### 4.4.3 *Hedonic value*

The items for the hedonic values were also part of the overall PCA test. All items loaded as expected onto their theoretical dimensions of hedonic value. Q11c however overlapped with Q13's measurement items (slightly more dominant on Gratification than it is on Social), but was kept in the PCA to add to the richness of the measure. Results pertaining to the hedonic values are highlighted as follows from the appendix:

## Table 20: Hedonic value PCA

| Items | PCA loading (Adventure) | PCA loading (Social) | PCA loading (Gratification) | PCA loading (Idea) | PCA loading (Role) | PCA loading (Value) |
|---|---|---|---|---|---|---|
| 10a. Shopping for and receiving a subscription box feels like an adventure | 0.800 | | | | | |
| 10b. Shopping for and receiving a subscription box is enjoyable | 0.825 | | | | | |
| 10c. Shopping for and receiving a subscription box makes me feel good | 0.768 | | | | | |
| 11a. Shopping for and receiving a subscription box allows me to socialise/connect with friends/family | | 0.776 | | | | |
| 11b. Shopping for and receiving a subscription box makes a good impression on others | | 0.793 | | | | |
| 11c. Shopping for and receiving a subscription box makes me feel part of a greater community | | 0.549 | | | | |
| 12a. Shopping for and receiving a subscription box makes me feel better when I am in a low mood | | | 0.718 | | | |
| 12b. Shopping for and receiving | | | 0.634 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| a subscription box is a way of relieving stress | | | | | | |
| 12c. I go shopping for a subscription box when I want to treat myself to something special | | | 0.670 | | | |
| 13a. Shopping for subscription boxes allows me to keep up with the trends | | | | 0.773 | | |
| 13b. Shopping for subscription boxes allows me to keep up with new fashions or stay cool | | | | 0.686 | | |
| 13c. Shopping for subscription boxes helps me see what new products are available | | | | 0.782 | | |
| 14a. Do you like shopping for or sending this subscription to others, because when they feel good, you feel good? | | | | | 0.808 | |
| 14b. Do you feel good when you shop for or send this subscription to the special people in your life? | | | | | 0.879 | |
| 14c. Do you enjoy shopping for and sending this subscription to your friends and family? | | | | | 0.908 | |
| 14d. Do you enjoy shopping around on this subscription | | | | | 0.794 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| providers offerings to find the perfect gift for someone? | | | | | | |
| 15a. Do you for the most part go shopping for these subscriptions when there are sales/a good deal? | | | | | | 0.757 |
| 15b. Do you enjoy looking for discounts when you shop for these subscriptions? | | | | | | 0.915 |
| 15c. Do you enjoy hunting for bargains when you shop for these subscriptions? | | | | | | 0.883 |

For the Hedonic values, the Cronbach's alpha of the overall construct was 0.888 for the 19 items. If three (3) of the measurement items are removed (Q12c on Gratification, Q13c on Idea, and 15a on Value) the Cronbach's alpha increases. However, because the original alpha of each exceeds the generally accepted cut-off of 0.70, all items were retained to preserve the richness of the measure.

**Table 21: Hedonic value Cronbach's alpha**

| **Dimension** | **Number of remaining items** | **Cronbach's alpha** |
|---|---|---|
| Adventure | 3 | 0.847 |
| Social | 3 | 0.756 |
| Gratification | 3 | 0.836 |
| Idea | 3 | 0.813 |
| Role | 4 | 0.908 |
| Value | 3 | 0.867 |

| | | |
|---|---|---|
| Overall combined | 19 | 0.888 |

**Table 22: Adventure item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 10a. Shopping for and receiving a subscription box feels like an adventure | 11.97 | 3.093 | 0.693 | 0.838 |
| 10b. Shopping for and receiving a subscription box is enjoyable | 11.62 | 4.118 | 0.758 | 0.769 |
| 10c. Shopping for and receiving a subscription box makes me feel good | 11.79 | 3.724 | 0.740 | 0.764 |

**Table 23: Social item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 11a. Shopping for and receiving a subscription box allows me to socialise/connect with friends/family | 8.59 | 6.739 | 0.597 | 0.661 |
| 11b. Shopping for and receiving a subscription box makes a good impression on others | 8.81 | 6.996 | 0.589 | 0.669 |
| 11c. Shopping for and receiving a subscription box makes me feel part of a greater community | 8.33 | 7.180 | 0.570 | 0.691 |

**Table 24: Gratification item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 12a. Shopping for and receiving a subscription box makes me feel better when I am in a low mood | 9.12 | 9.422 | 0.771 | 0.704 |
| 12b. Shopping for and receiving a subscription box is a way of relieving stress | 9.36 | 9.701 | 0.710 | 0.761 |
| 12c. I go shopping for a subscription box when I want to treat myself to something special | 9.39 | 9.283 | 0.624 | 0.853 |

**Table 25: Idea item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 13a. Shopping for subscription boxes allows me to keep up with the trends | 9.61 | 6.001 | 0.743 | 0.657 |
| 13b. Shopping for subscription boxes allows me to keep up with new fashions or stay cool | 10.18 | 5.960 | 0.705 | 0.700 |
| 13c. Shopping for subscription boxes helps me see what new products are available | 8.97 | 7.854 | 0.558 | 0.842 |

**Table 26: Role item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 14a. Do you like shopping for or sending this subscription to others, because when they feel good, you feel good? | 14.50 | 16.167 | 0.763 | 0.892 |
| 14b. Do you feel good when you shop for or send this subscription to the special people in your life? | 14.25 | 16.003 | 0.843 | 0.867 |
| 14c. Do you enjoy shopping for and sending this subscription to your friends and family? | 14.58 | 14.776 | 0.855 | 0.859 |
| 14d. Do you enjoy shopping around on this subscription providers offerings to find the perfect gift for someone? | 14.74 | 15.460 | 0.725 | 0.908 |

**Table 27: Value item-total statistics**

| Items | Scale mean if item deleted | Scale variance if item deleted | Corrected item-total correlation | Cronbach's alpha if item deleted |
|---|---|---|---|---|
| 15a. Do you for the most part go shopping for these subscriptions when there are sales/a good deal? | 11.17 | 6.826 | 0.660 | 0.901 |
| 15b. Do you enjoy looking for discounts when you shop for these subscriptions? | 10.89 | 6.800 | 0.835 | 0.738 |
| 15c. Do you enjoy hunting for bargains when you shop for these subscriptions? | 11.09 | 6.872 | 0.761 | 0.801 |

### 4.4.4 *Perceived risk*

The items for perceived risk were also included in the overall PCA test. All items loaded as expected onto their theoretical dimensions of perceived risk. The pertinent results from the appendix pertaining to the perceived risk items are highlighted as follows:

**Table 28: Perceived risk item-total statistics**

| **Items** | **PCA loading** |
|---|---|
| 19a. Could the subscription you purchased fail to meet the performance requirements originally intended by the purchase? | 0.657 |
| 19b. Could shopping for this subscription cause you to lose control over the privacy of your personal and payment information? | 0.775 |
| 19c. Could shopping for this subscription cause you to suffer financial loss due to the hidden costs, maintenance costs or lack or warrantee in the case of faults? | 0.639 |
| 19d. Could the subscription provider fail to deliver the product or make a late delivery? | 0749 |

In terms of Perceived risk, the Cronbach's alpha of the overall construct was 0.743 from the four (4) items. Removing any of the measurement items would only decrease the Cronbach's alpha and so none were deleted.

**Table 29: Perceived risk Cronbach's alpha**

| **Dimension** | **Number of remaining items** | **Cronbach's alpha** |
|---|---|---|
| Overall combined | 4 | 0.743 |

**Table 30: Perceived risk item-total statistics**

| **Items** | **Scale mean if** | **Scale variance if** | **Corrected item-total correlation** | **Cronbach's alpha if** |
|---|---|---|---|---|

| | item deleted | item deleted | | item deleted |
|---|---|---|---|---|
| 19a. Could the subscription you purchased fail to meet the performance requirements originally intended by the purchase? | 10.67 | 16.360 | 0.521 | 0.692 |
| 19b. Could shopping for this subscription cause you to lose control over the privacy of your personal and payment information? | 11.13 | 15.308 | 0.618 | 0.635 |
| 19c. Could shopping for this subscription cause you to suffer financial loss due to the hidden costs, maintenance costs or lack or warrantee in the case of faults? | 11.53 | 15.841 | 0.519 | 0.694 |
| 19d. Could the subscription provider fail to deliver the product or make a late delivery? | 10.41 | 17.406 | 0.487 | 0.710 |

### 4.4.5 *Summary of validity and reliability tests*

A stable PCA solution emerged with four items for E-loyalty and two items for satisfaction. Except for product offering where two items were dropped, no items were dropped for measures of utilitarian and hedonic motivations, or risk. All Cronbach alphas were acceptable. Composite scores, summarised in Table 31 below, could then be calculated for use if all subsequent analyses.

**Table 31: Table of composite scores**

| Construct | Number of original items | Number of surviving items | Mean | Std Deviation | Cronbach's alpha | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|
| E-loyalty | 6 | 4 | 5.125 | 1.664 | 0.931 | -0.734 | -0.478 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Satisfaction | 7 | 2 | 5.373 | 1.270 | 0.863 | -0.946 | 0.978 |
| Product offering | 4 | 2 | 4.983 | 1.472 | 0.915 | -0.752 | -0.397 |
| Product information | 3 | 3 | 5.658 | 1.214 | 0.879 | -1.091 | 0.693 |
| Monetary savings | 4 | 4 | 4.934 | 1.390 | 0.889 | -0.466 | -0.626 |
| Convenience | 4 | 4 | 5.856 | 0.989 | 0.809 | -1.027 | 0.891 |
| Overall utilitarian value | 15 | 13 | 5.392 | 0.841 | 0.842 | -0.703 | 0.905 |
| Adventure | 3 | 3 | 5.896 | 0.920 | 0.847 | -0.863 | 0.465 |
| Social | 3 | 3 | 4.288 | 1.246 | 0.756 | 0.243 | -0.029 |
| Gratification | 3 | 3 | 4.644 | 1.479 | 0.836 | -0.422 | -0.356 |
| Idea | 3 | 3 | 4.794 | 1.229 | 0.813 | -0.531 | 0.465 |
| Role | 4 | 4 | 4.839 | 1.297 | 0.908 | -0.361 | -0.239 |
| Value | 3 | 3 | 5.525 | 1.266 | 0.867 | 0.887 | 0.340 |
| Overall hedonic value | 19 | 19 | 4.989 | 0.835 | 0.888 | -0.195 | -0.361 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Perceived risk | 4 | 4 | 3.644 | 1.289 | 0.743 | -0.055 | -0.497 |

Results show that the reliability of the scales were satisfactory, and so composites scores were then created for each of the variables for use in subsequent hypothesis testing.

## 4.5 Statistical analysis and hypothesis testing

### 4.5.1 *Correlation analysis*

#### *4.5.1.1 Dependent variable: Satisfaction*

The study hypothesised that Utilitarian value (H2a) and Hedonic value (H3a) would be positively related to Satisfaction. The correlations are reported below:

**Table 32: Satisfaction as the dependent variable**

| | | **Satisfaction** |
|---|---|---|
| **H2a** | Product offerings | 0.241 (p<0.01) |
| | Product information | 0.333 (p<0.001) |
| | Monetary savings | 0.458 (p<0.001) |
| | Convenience | 0.427 (p<0.001) |
| **H3a** | Adventure | 0.258 (p<0.01) |
| | Social | 0.110 (n/s) |

| | | |
|---|---|---|
| | Gratification | 0.208 (p<0.05) |
| | Idea | 0.237 (p<0.01) |
| | Role | 0.261 (p<0.01) |
| | Value | 0.154 (n/s) |

The Utilitarian value that was most strongly correlated with Satisfaction was Monetary savings [r=0.458 (p<0.001)]. This was followed by Convenience [r=0.427 (p<0.001)] and Product information [r=0.333 (p<0.001)], which all had a moderate statistically significant effect. Product offerings had a small statistically significant effect on Satisfaction [r=0.241 (p<0.01)]. This provides support for H2a.

The Hedonic value that was most strongly correlated with Satisfaction was Role [r=0.261 (p<0.01)]. This was followed by Adventure [r=0.258 (p<0.01)] Idea [r=0.237 (p<0.01)], and Gratification [r=0.208 (p<0.05)], which all had a small statistically significant effect. This provides support for H3a. Value [r=0.154 (n/s)] and Social [r=0.110 (n/s)] were not statistically significant.

The three (3) factors most highly correlated with Satisfaction were Monetary savings, Convenience, and Product information – all of them were Utilitarian variables.

#### *4.5.1.2 Dependent variable: E-loyalty*

The study hypothesised that Satisfaction (H1), Utilitarian value (H2b), and Hedonic value (H3b) would be positively related to E-loyalty, while Perceived risk would be negatively related to E-loyalty (H4). The correlations between these relevant composite scores are given below:

**Table 33: E-loyalty as the dependent variable**

| | | **E-loyalty** |
|---|---|---|
| **H1** | Satisfaction | 0.605 (p<0.001) |
| **H2b** | Product offerings | 0.389 (p<0.001) |
| | Product information | 0.266 (p<0.01) |
| | Monetary savings | 0.431 (p<0.001) |
| | Convenience | 0.472 (p<0.001) |
| **H3b** | Adventure | 0.193 (p<0.05) |
| | Social | 0.146 (n/s) |
| | Gratification | 0.040 (n/s) |
| | Idea | 0.018 (n/s) |
| | Role | 0.260 (p<0.01) |
| | Value | 0.142 (n/s) |
| **H4** | Perceived risk | -0.263 (p<0.01) |

Results show that there is a very strong significant relationship between Satisfaction and E-loyalty [r=0.605 (p<0.001)], and H1 is very much supported.

The Utilitarian value that was most strongly correlated with E-loyalty was Convenience [r=0.472 (p<0.001)]. This was followed by Monetary savings

[r=0.431 (p<0.001)] and Product offerings [r=0.389 (p<0.001)], with a moderate statistically significant effect. Product information had a small statistically significant relationship with E-loyalty [r=0.266 (p<0.01)]. This provides support for H2b.

The Hedonic value that was most strongly correlated with E-loyalty was Role [r=0.260 (p<0.01)]. This was followed by Adventure [r=0.193 (p<0.05)], both with a small statistically significant effect. This provides support for H3b. Social [r=0.146 (n/s)], Value [r=0.142 (n/s)], Gratification [0.040 (n/s)], and Idea [0.018 (n/s)] were all not statistically significant.

Results show that there is a small significant relationship between Perceived risk and E-loyalty [r=-0.263 (p<0.01), so H4 is supported.

The three (3) factors most highly correlated with E-loyalty were Satisfaction, Convenience and Monetary savings.

### 4.5.2 *Multiple regression*

#### *4.5.2.1 Step-wise regression for Satisfaction (H2a & H3)*

In order to further test the effects of Utilitarian value (H2a) and Hedonic value (H3a) on satisfaction, a step-wise regression was run to determine the most significant factors influencing satisfaction.

The data shows that the R-squared is 0.304 and the adjusted R-squared is 0.292.

**Table 34: Step-wise regression for Satisfaction model summary**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .458[a] | .209 | .203 | 1.13372 |

| | | | | |
|---|---|---|---|---|
| 2 | .551[b] | .304 | .292 | 1.06826 |

a. Predictors: (Constant), monetary_s_comp

b. Predictors: (Constant), monetary_s_comp, convenience_comp

The overall r-squared for this step-wise regression model was 0.304, which was significant at the p<0.001 level. This implies that the model explained over 30.4% of the variance in satisfaction towards subscription services.

**Table 35: Step-wise regression for Satisfaction ANOVA**

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 39.496 | 1 | 39.496 | 30.728 | <.001[b] |
| | Residual | 149.098 | 116 | 1.285 | | |
| | Total | 188.593 | 117 | | | |
| 2 | Regression | 57.358 | 2 | 28.679 | 25.131 | <.001[c] |
| | Residual | 131.235 | 115 | 1.141 | | |
| | Total | 188.593 | 117 | | | |

a. Dependent Variable: satisfaction_comp

b. Predictors: (Constant), monetary_s_comp

c. Predictors: (Constant), monetary_s_comp, convenience_comp

The step-wise regression looks at which variables are the most important. The variables that are the most important are the ones that are statistically significant in the final model. It can be concluded that the most significant variables for Satisfaction are Monetary savings and Convenience.

Product offerings, Product information, Adventure, Social, Gratification, idea, Role and Value were less important.

**Table 36: Step-wise regression for Satisfaction Coefficents**

**Coefficients[a]**

| Model | | Unstandardized B | Coefficients Std. Error | Standardized Coefficents Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 3.311 | .386 | | 8.570 | <.001 |
| | monetary_s_comp | .418 | .075 | .458 | 5.543 | <.001 |
| 2 | (Constant) | 1.313 | .623 | | 2.109 | .037 |
| | monetary_s_comp | .333 | .074 | .365 | 4.488 | <.001 |
| | convenience_comp | .413 | .104 | .321 | 3.956 | <.001 |

a. Dependent Variable: satisfaction_comp

### *4.5.2.2 Step-wise regression for E-loyalty (H1, H2b, H3b & H4)*

In order to further test the effects of Satisfaction (H1), Utilitarian value (H2b), Hedonic value (H3b) and Risk (H4) on E-loyalty, a second step-wise regression was run with E-loyalty as the dependent variable.

The final R-squared is 0.508, and the adjusted R-squared is 0.487.

**Table 37: Step-wise regression for E-loyalty model summary**

## Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .605[a] | .366 | .361 | 1.33062 |
| 2 | .655[b] | .429 | .419 | 1.26830 |
| 3 | .684[c] | .467 | .453 | 1.23043 |
| 4 | .697[d] | .485 | .467 | 1.21494 |
| 5 | .713[e] | .508 | .487 | 1.19260 |

a. Predictors: (Constant), satisfaction_comp

b. Predictors: (Constant), satisfaction_comp, p_offering_comp

c. Predictors: (Constant), satisfaction_comp, p_offering_comp, convenience_comp

d. Predictors: (Constant), satisfaction_comp, p_offering_comp, convenience_comp, idea_comp

e. Predictors: (Constant), satisfaction_comp, p_offering_comp, convenience_comp, idea_comp, monetary_s_comp

The significance of the R-squared is $p<0.001$, suggesting the factors explain a significant proportion of the variance in E-loyalty. In other words, the model has explained 50,8% of the variance and this is statistically significant at the $p<0.001$ level.

**Table 38: Step-wise regression for E-loyalty ANOVA**

## ANOVA[a]

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 118.709 | 1 | 118.709 | 67.046 | <.001[b] |
| | Residual | 205.385 | 116 | 1.771 | | |
| | Total | 324.094 | 117 | | | |
| 2 | Regression | 139.105 | 2 | 69.553 | 43.238 | <.001[c] |
| | Residual | 184.989 | 115 | 1.609 | | |
| | Total | 324.094 | 117 | | | |
| 3 | Regression | 151.501 | 3 | 50.500 | 33.356 | <.001[d] |
| | Residual | 172.592 | 114 | 1.514 | | |
| | Total | 324.094 | 117 | | | |
| 4 | Regression | 157.297 | 4 | 39.324 | 26.641 | <.001[e] |
| | Residual | 166.797 | 113 | 1.476 | | |
| | Total | 324.094 | 117 | | | |
| 5 | Regression | 164.795 | 5 | 32.959 | 23.173 | <.001[f] |
| | Residual | 159.298 | 112 | 1.422 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Total | 324.094 | 117 | | | |

a. Dependent Variable: loyalty_comp

b. Predictors: (Constant), satisfaction_comp

c. Predictors: (Constant), satisfaction_comp, p_offering_comp

d. Predictors: (Constant), satisfaction_comp, p_offering_comp, convenience_comp

e. Predictors: (Constant), satisfaction_comp, p_offering_comp, convenience_comp, idea_comp

f. Predictors: (Constant), satisfaction_comp, p_offering_comp, convenience_comp, idea_comp, monetary_s_comp

The results of the step-wise regression suggest that the most important variables for E-loyalty are Satisfaction, Product offerings, Convenience, Idea and Monetary savings. However, Idea reflects as negative suggesting that in the presence of the other variables, the notion of Idea such as 'keeping up with trends' might detract from E-loyalty. This is possible as consumers switch providers in order to get access to the latest offerings and trends.

The variables that were not significant and thus excluded by the step-wise regression procedure were Product information, Adventure, Social, Gratification, Role, Value, and Perceived risk.

**Table 39: Step-wise regression for E-loyalty Coefficents**

## Coefficients[a]

| Model | | Unstandardized B | Coefficients Std. Error | Standardized Coefficiets Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | .862 | .535 | | 1.612 | .110 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | satisfaction_comp | .793 | .097 | .605 | 8.188 | <.001 |
| 2 | (Constant) | -.155 | .584 | | -.265 | .791 |
| | satisfaction_comp | .712 | .095 | .543 | 7.478 | <.001 |
| | p_offering_comp | .292 | .082 | .259 | 3.561 | <.001 |
| 3 | (Constant) | -1.518 | .741 | | -2.050 | .043 |
| | satisfaction_comp | .600 | .100 | .458 | 5.987 | <.001 |
| | p_offering_comp | .252 | .081 | .223 | 3.113 | .002 |
| | convenience_comp | .370 | .129 | .220 | 2.861 | .005 |
| 4 | (Constant) | -.872 | .801 | | -1.089 | .279 |
| | satisfaction_comp | .641 | .101 | .489 | 6.341 | <.001 |
| | p_offering_comp | .253 | .080 | .224 | 3.165 | .002 |
| | convenience_comp | .373 | .128 | .222 | 2.925 | .004 |
| | idea_comp | -.186 | .094 | -.138 | -1.981 | .050 |
| 5 | (Constant) | -1.066 | .791 | | -1.348 | .180 |
| | satisfaction_comp | .557 | .106 | .425 | 5.264 | <.001 |
| | p_offering_comp | .240 | .079 | .212 | 3.053 | .003 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | convenience_comp | .344 | .126 | .204 | 2.730 | .007 |
| | idea_comp | -.217 | .093 | -.160 | -2.327 | .022 |
| | monetary_s_comp | .209 | .091 | .174 | 2.296 | .024 |

a. Dependent Variable: loyalty_comp

## 4.6 Conclusion to the chapter

This chapter presented the analysis and results. It found that the most important variables for Satisfaction are Monetary savings and Convenience.

The most important variables for E-loyalty are Satisfaction, Product offerings, Convenience, Idea and monetary savings. In terms of the hypotheses, results can be summarised as follows:

| **H** | **Hypothesis** | **Results from correlation** | **Results from regression** | **Overall conclusion** |
|---|---|---|---|---|
| H1 | Satisfaction -> E-loyalty | Significant | Satisfaction was amongst those most important. | Supported |
| H2a | Utilitarian -> Satisfaction | All significant | Monetary savings and Convenience were most important. | Supported |

| | | | | |
|---|---|---|---|---|
| H3a | Hedonic -> Satisfaction | Adventure, Gratification, Idea, and Role significant, but Social and Value were not. | None were most important. | Partially supported |
| H2b | Utilitarian -> E-loyalty | All significant | Product offerings, Convenience, and Monetary savings amongst those most important. | Supported |
| H3b | Hedonic -> E-loyalty | Adventure and Role significant, but Social, Gratification, Idea and Value were not. | Idea amongst those most important, but not in the expected direction. | Partially supported |
| H4 | Perceived risk -> E-loyalty | Significant | Was not amongst those most important. | Partially supported |

Next, the discussion of the results will be presented.

# CHAPTER 5. DISCUSSION OF THE RESULTS

This chapter will discuss the results. It covers the introduction (section 5.1), demographic profile of the respondents (section 5.2), discussion pertaining to hypothesis 1 (section 5.3), discussion pertaining to hypothesis 2 (section 5.4), discussion pertaining to hypothesis 3 (section 5.5), discussion pertaining to hypothesis 4 (section 5.6), as well as the conclusion (section 5.7).

## 5.1 Introduction

Before this study was undertaken, it was not clear which were the most important determinants of South African online consumers' e-loyalty toward curated subscription box services. There were a range of utilitarian and hedonic motivators identified in the literature that could be determinants, as well as other factors such as satisfaction and perceived risk, however it was not clear if each of them were significant in this unique context. Moreover, it was not evident which specific dimensions of utilitarian and hedonic value were the most significant, and thus important to e-loyalty in this context. This study aimed to answer those questions.

Therefore, the objective of the study was to conclude on the relative effects of motivations on e-loyalty by identifying which of the determinants had the strongest effects. The intention was for the insights of this study to then assist South African subscription box service providers (a relatively new and upcoming phenomenon in South Africa) with the insights that they need to improve their services and better the offerings they currently have for consumers. Further, the results can give start-ups the tools they need to create a business in this area to boost the South African economy. In order to do this, a research model was developed in Chapter 2 and tested in the previous chapter using the data collected from 118 respondents. The results showed that the hypotheses were either fully supported or partially supported, and are discussed further in this chapter.

## 5.2 Demographic profile of respondents

The demographic profile of the 118 respondents were represented with detailed graphs and tables in chapter 4. These show that the sample was largely a collective of females, aged 25 – 34 years old, working full time, with a postgraduate degree (honours/master's degree), from Gauteng, earning between R75 000 – over R100 000 per month. They mainly purchase food, drink and snack products subscriptions, on a monthly basis, and have had these services for less than 6 months.

In terms of the Living Standards Measure (LSM) or Socio-Economic Measure (SEM) which is still used today as a segmentation tool for South Africans, the profile of the respondents would qualify as LSM 10 or SEM 10 (BusinessLive, 2021; Eighty20, n.d.) i.e. on the higher end of income earners who are also digitally savvy.

This is in line with who the literature from global studies says is the usual target demographic of subscription box services. In a world of overwhelming choice, what these consumers are really looking for is benefits without the decision-making process (Bischof et al., 2020; Sappi, n.d.), and so the decisions on what goes into their boxes can be outsourced to a specialist.

While it is important to identify and acknowledge the demographics of these users, focus must also be given to the psychographic profile of these users i.e. their attitudes, lifestyles, and behaviours. The people who purchase subscription boxes are not your average shopper who religiously go to the brick and mortar shops to purchase their goods – these people are looking for a unique experience that the traditional shopping experience does not or cannot offer them (Bray et al., 2021), particularly in the digital age.

## 5.3 Discussion pertaining to Hypothesis 1

According to ECT theory, when a consumer is happy with a product or service, they will continue using it, and the business will retain them as part of their loyal base of long-term consumers (Bhattacherjee, 2001). In the physical box

subscription context, this suggests that when a consumer is satisfied, they will likely continue the subscription service and become a loyal consumer. Therefore, it was hypothesised that:

***H1****: The greater the satisfaction with the subscription service, the greater will be the consumer e-loyalty.*

It was hypothesised that satisfaction would be an important driver of E-loyalty. This is based on arguments from the literature that states that satisfaction has a significant positive impact on a consumers continuance intention. Continuance intention as the consumers decision to continue using a product/service has been examined in the e-commerce context. Bhattacherjee (2001) proposed the ECT model to predict users continuing behaviour in a system to explore the factors affecting their continence intentions, and hence loyalty (Han et al., 2018) ,which shows that there is a relationship between satisfaction and e-loyalty.

This is further based on the argument that people need to be satisfied with their online purchases in order to continue a subscription service, or else they will cancel/end the subscription altogether or switch to another provider. If businesses cannot add value and keep consumers satisfied, then the nature of consumer behaviour is that they move on to another option that does provide them with the value that they are looking for (Han et al., 2018). Consumers these days hold much of the power when it comes to their purchase decisions, since it is them that must give up their hard-earned money in order to make these purchases – especially in the South African context where people often do not have as much expendable income.

This hypothesis was supported from the correlation analysis. Results showed that there was a very strong significant relationship between Satisfaction and E-loyalty [$r=0.605$ ($p<0.001$)], and H1 was very much supported. Satisfaction was also the most important variable for E-loyalty from the step-wise regression.

Results imply that Satisfaction theories of e-commerce hold in the subscription box service context. When consumers perceive themselves to be satisfied with (and getting sufficed value from) the offering/curated box service they are getting,

they are more likely to adopt and continue a subscription box service with that provider.

Therefore, hypothesis H1 is supported.

## 5.4 Discussion pertaining to Hypothesis 2

### 5.4.1 *Hypothesis 2a*

In the ECT context, satisfaction derives from the perception that utilitarian expectations for broad product offerings, rich product information, monetary savings, and convenience have been confirmed (Bhattacherjee, 2001). Therefore, it was hypothesised that:

***H2a****: The greater the perceived utilitarian value of the subscription service, the greater will be the consumer satisfaction.*

It was hypothesised that utilitarian value would be an important driver of Satisfaction. This is based on arguments in the literature that states that utilitarian value influences satisfaction in the online context since consumers gain comfort from the functional benefits that it offers them (Lee & Kim, 2018; Lee & Overby, 2004).

This is further based on the argument that people need to find utilitarian value in a subscription box in order for them to be satisfied enough to purchase a recurring subscription box service. If these functional benefits are not met, consumers are not likely to continue the service (Chiu et al., 2014).

This hypothesis was supported from the correlation analysis as well. Results showed that there was a low to moderate significant relationship between the utilitarian measurement items and Satisfaction, but that all four (4) dimensions of Utilitarian value were significant.

The Utilitarian value that was most strongly correlated with Satisfaction was Monetary savings [$r=0.458$ ($p<0.001$)], with a moderate statistically significant effect. This implies that when people perceive themselves to be saving money,

they are more likely to adopt a subscription service, as this is the benefit that they most value.

This was followed by Convenience [r=0.427 (p<0.001)], also with a moderate statistically significant effect. When people find that purchasing a subscription box adds an element of convenience to their lives, they are more likely to adopt the service.

This was followed by Product information [r=0.333 (p<0.001)], which also had a moderate statistically significant effect. When information about the items within the box is easy to find/understand, then people are more likely to adopt a subscription service. This is a value-add that consumers appreciate since purchasing items online can sometimes be confusing.

Product offerings had a small statistically significant effect on Satisfaction [r=0.241 (p<0.01)], but was still significant. This means that having a variety of offerings/products within a subscription box will result in consumers choosing to continue the service.
The step-wise regression results further showed that some of the most important variables for Satisfaction were Monetary savings and Convenience. Therefore, hypothesis H2a is supported.

### 5.4.2 *Hypothesis 2b*

Then, according to Chiu et al (2014), utilitarian motivations are important to the continuance because they positively affect a consumer's intention to make a repeat purchase. Therefore, it was hypothesised that utilitarian value would be an important driver of E-loyalty:

***H2b****: The greater the perceived utilitarian value of the subscription, the greater will be the consumer e-loyalty.*

This hypothesis was based on arguments in the literature that utilitarian value has a significant role because consumers are motivated on cognitive activities and goal-orientated tasks – it makes these purchases "logical, rational, planned and part of a routine" (Doghan & Albarq, 2022).

This is further based on the argument that people need to find utilitarian value in a subscription box in order for them to be loyal enough to continue a subscription box service.

This hypothesis was supported from the correlation analysis. Results showed that there was a low to moderate significant relationship between the utilitarian values and E-loyalty, with all four (4) dimensions of Utilitarian value being significant.

The Utilitarian value that was most strongly correlated with E-loyalty was Convenience [r=0.472 (p<0.001)], with a moderate statistically significant effect.

This was followed by Monetary savings [r=0.431 (p<0.001)], also with a moderate statistically significant effect.

Product offerings then followed [r=0.389 (p<0.001)], with a moderate statistically significant effect.

Product information had a small statistically significant effect on E-loyalty [r=0.266 (p<0.01)].

The step-wise regression showed that some of the most important variables for E-loyalty were Product offerings, Convenience, and Monetary savings.
Therefore, hypothesis H2a is supported.

Results imply that utilitarian theories of e-commerce hold in the subscription service context. When consumers perceive themselves to be getting utilitarian value, they are more likely to adopt a subscription box service.

## 5.5 Discussion pertaining to Hypothesis 3

### 5.5.1 *Hypothesis 3a*

In the ECT context, satisfaction derives from adventure, social, gratification, idea, role and value aspects (Chiu et al., 2014). It was hypothesised that:

***H3a****: The greater the perceived hedonic value of the subscription service, the greater will be the consumer satisfaction.*

It was hypothesised that hedonic value would be an important driver of Satisfaction. This is based on arguments in the literature that states that hedonic value influences satisfaction in the online context since consumers also desire joy, pleasure and excitement from their shopping experience over and above the functional benefits (Doghan & Albarq, 2022). Chiu et al (2014) refers to it as consumers seeking “multisensory, fantastic and emotive aspects of the shopping experience” (Chiu et al., 2014, p.92).

This is further based on the argument that people need to find hedonic value in a subscription box in order to be satisfied enough to purchase a recurring subscription box service.

This hypothesis was supported from the correlation analysis. Results showed that there was a significant relationship between four (4) of the hedonic dimensions and Satisfaction.

The Hedonic value that was most strongly correlated with Satisfaction was Role [$r=0.261$ ($p<0.01$)], with a small statistically significant effect. Role is defined as the enjoyment that shoppers derive from shopping for others, and the influence that this has on the shoppers feelings and emotions; the intrinsic joy felt when finding the perfect gift for someone else (Chiu et al., 2014). This means that consumers are satisfied when they perform an act of service for people they care about.

This was followed by Adventure [$r=0.258$ ($p<0.01$)], also with a small statistically significant effect. Adventure is defined as shopping for stimulation, and the feeling of “being in another world” (Chiu et al., 2014, p.93). Online shopping experiences have a way of delighting the consumer to the extent that they escape into another world of possibilities. This means that consumers are satisfied when they have an interesting experience of shopping online for subscription services.

Idea [$r=0.237$ ($p<0.01$)] had a small statistically significant effect too. Idea is defined as shopping to keep up with trends and new fashions (Chiu et al., 2014). This means that consumers want to stay on top of the latest trends. However, Idea reflects as negative, suggesting that in the presence of the other variables,

the notion of Idea might detract from E-loyalty. This is possible as consumers switch providers in order to get access to the latest offerings and trends.

Finally, Gratification [0.208 ($p<0.05$), which also had a small statistically significant effect. Gratification is defined as shopping for stress relief, to get out of a bad mood or as a special treat (Chiu et al., 2014). This means that consumers get satisfaction from spoiling themselves every now and again.

However, the step-wise regression showed that none of the Hedonic factors were the most important variables for Satisfaction. Therefore, hypothesis H3a was considered only partially supported. This implies that hedonic factors might complement utilitarian factors only marginally in driving consumer Satisfaction, but they cannot substitute for utilitarian values as those are foremost among the consumer's expectations.

### 5.5.2 *Hypothesis 3b*

According to Chiu et al (2014), hedonic motivations are important to the continuance because they positively affect a consumer's intention to make a repeat purchase. Therefore, it was hypothesised that:

***H3b****: The greater the perceived hedonic value of the subscription service, the greater will be the consumer e-loyalty.*

It was hypothesised that hedonic value would be an important driver of E-loyalty. This is further based on the argument that people need to find hedonic value in a subscription box in order for them to be loyal enough to continue a subscription box service (Chiu et al., 2014).

This hypothesis was supported from the correlation analysis. Results showed that there was a significant relationship between two hedonic dimensions and E-loyalty.

The Hedonic value that was most strongly correlated with e-loyalty was Role [0.260 ($p<0.01$)], with a small statistically significant effect.

This was followed by Adventure [0.193 ($p<0.05$), also with a small statistically significant effect.

The step-wise regression showed that one of the most important variables that were hedonic in nature for E-loyalty was Idea.
Therefore, hypothesis H3b is considered only partially supported from the correlation results.

Results imply that utilitarian theories of e-commerce largely hold in the subscription service context with hedonic values being less important. When consumers perceive themselves to be getting utilitarian value, they are more likely to adopt a subscription box service. Hedonic values do not appear to be most significant for e-loyalty. Interesting, the step-wise results suggest that some hedonic values, such as Idea, might actually detract from loyalty and might motivate consumers to switch to alternate offerings in an effort to fulfil their hedonic desires to access latest trends and offerings.

## 5.6 Discussion pertaining to Hypothesis 4

The subscription context has been associated with risks such as changing consumer habits, new entrants and competitors, and challenges with supply chain distribution to name a few (Resolver, 2022). Each risk comes with its own set of challenges, which must be considered in order for them to be mitigated. Therefore, it was further hypothesised that:

***H4***: *The greater the perceived risk of the subscription service, the less the consumer e-loyalty*.

It was hypothesised that perceived risk would be an important driver of e-loyalty. This is based on arguments from the literature that states that one of the vital things in e-commerce is the consumers perception of the security within online transactions – if consumers do not believe that their transactions are secure, they are not likely to continue with those online purchases (Hatane et al., 2019). This is even more prevalent in the South African context (Makhitha & Ngobeni, 2021).

This is further based on the argument that risk is a deterrent of consumer online purchases. Product risk and privacy risk have an impact on consumers attitudes towards purchasing subscription boxes online (Makhitha & Ngobeni, 2021).

This hypothesis was supported from the correlation analysis. Results showed that there was a low significant relationship between Perceived risk and E-loyalty [-0.263 ($p<0.01$)]. Perceived risk was not amongst those variables most important to E-loyalty from the step-wise regression. Therefore, hypothesis H4 is partially supported.

Results imply that perceived risk theories of e-commerce hold in the subscription box service context. However, in the presence of satisfaction and benefits, particularly utilitarian benefits, risks are not a sufficiently significant deterrent.

## 5.7 Conclusion

Satisfaction along with the Utilitarian motivations were the most important determinants of E-loyalty. Results thus confirm the importance of ECT theory for understanding E-loyalty in the subscription box context. Moreover, theories of Utilitarian value as applied in e-commerce settings are shown to also be salient in the subscription box context with Monetary savings, Convenience and Product offering as the most important values. Hedonic values do not substitute for Utilitarian factors in promoting Satisfaction and E-loyalty.

The overall conclusions and recommendations will be presented next.

# CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

This chapter will show the conclusions and recommendations. It covers the introduction (section 6.1), conclusions regarding the research objective (section 6.2), recommendations (section 6.3), limitations and suggestions for further research (section 6.4), and conclusion (section 6.5).

## 6.1 Introduction

This study examined the determinants of South African online consumers' e-loyalty toward curated subscription boxes. E-loyalty is defined in the literature as a consumer's favourable attitude toward an online service that results in repeat buying behaviour (Ponirin et al., 2015). Curated subscription boxes are defined in the literature as recurring deliveries of products for people to use in categories such as beauty, personal goods or food (Sentance, 2019).

The research objective was to develop a model hypothesising the effects of selected utilitarian and hedonic motivations on e-loyalty, as well as other variables such as satisfaction and perceived risk. The model development drew on expectation confirmation theory (Bhattacherjee, 2001) and literature on hedonic and utilitarian values (Chiu et al., 2014), along with risk in e-commerce (Glover & Benbasat, 2010). The model was then tested by collecting data from a sample of 118 South African consumers.

## 6.2 Conclusions regarding the research questions

The study's two overarching research questions were as follows:

- What are the effects of utilitarian and hedonic motivations on consumer satisfaction and e-loyalty in the subscription services context?
- What are the effects of consumer satisfaction and risk perceptions on e-loyalty in the subscription services context?

This study included four (4) utilitarian factors and six (6) hedonic factors. Results show most having statistically significant relationships. However, satisfaction

along with the utilitarian motivations were the most important determinants of e-loyalty. This was followed by the hedonic motivations and perceived risk.

The step-wise regression showed the utilitarian values that were the most important for Satisfaction were Monetary savings and Convenience. It also showed that the utilitarian values most important for E-loyalty were Satisfaction, Product offerings, Convenience, and Monetary savings. The research objective was thus fulfilled.

As a result of this research study, it has shown that theories of utilitarian, hedonic and theories of satisfaction and perceived risk are important in the e-commerce context, and also for subscription providers.

The study has demonstrated the usefulness of this theory to identify factors most important for the success of online subscription services.

## 6.3 Recommendations

Since Monetary savings emerged as one of the most important determinants, subscription providers must make sure that consumers feel as if they are spending less and saving money when purchasing a subscription box service. Since this is a key determinant for online loyalty, subscription businesses need to allow consumers to compare prices easily and offer lower costs/good deals when possible (Chiu et al., 2014).

Since Convenience emerged as one of the most important determinants, subscription providers must make sure that they show consumers that they are saving time and effort through the purchase of these subscription boxes i.e. there is less time spent in restricted physical shop locations, since the purchase is set up and delivered easily and effortlessly on a recurring basis (Chiu et al., 2014). Subscription providers should allow consumers to shop anywhere, at any time, through offering 24/7 online support.

Since Satisfaction emerged as one of the most important determinants, subscription providers must make sure that they meet post-purchase behaviour required from consumers (Bhattacherjee, 2001). These subscription box

providers cannot just deliver a box and walk away – they need to be available for any follow-ups and provide a compelling and engaging experience throughout the customer journey to retain consumers.

Since Product offerings emerged as one of the most important determinants, subscription providers must make sure that they offer both the breadth and depth of products within their specific category of goods (Chiu et al., 2014). Subscription boxes need to offer a wide range of boxes or include a wide range of products within these boxes for the amount consumers pay. This includes novelty 'one of a kind' items.

Since Idea emerged as one of the most important determinants, subscription providers must make sure that they keep up with trends and new fashions and offer these innovations to their consumers (Chiu et al., 2014).

## 6.4 Limitations

It is important to note some of the limitations of this study. The study was limited in the fact that data could only be collected from some social media (Facebook groups), as permission settings did not allow for the study to be posted more broadly. The study was also limited in that data was collected mainly from the three main provinces in South Africa, as respondents in the others weren't as easily accessible.

## 6.5 Suggestions for further research

Future research could consider the following:

- Pursue case study research of a particular subscription box service and gain a more in-depth understanding of consumer motivations.
- Extend beyond the four utilitarian and six hedonic factors considered in this study to look at other kinds of utilitarian and hedonic factors that were not considered in this study.

- Compare results obtained here with particular types of subscriptions i.e. only clothing subscriptions, to see if the motivations are any different, or if risks are more or less salient.
- Consider the problem through other technology adoption theories, such as TAM or UTAUT models.
- Use qualitative methods to gain deeper insights into consumer perceptions, especially around the factors that were found to be the most important.

## 6.6 Conclusion

The purpose of this research paper was to identify the determinants of South African online consumers' e-loyalty toward curated subscription boxes. A survey method was adopted to test the research model which included satisfaction, utilitarian, hedonic and perceived risk motivations from a sample of 118 respondents. The findings showed that satisfaction along with the utilitarian motivations were the most important determinants of e-loyalty. Hedonic and perceived risk motivations were secondary. The research findings contribute to the present body of knowledge in online box subscription services and offers advice for these providers to better their offerings.

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# APPENDIX A: Research questionnaire (online)

Dear Sir/Madam,

**Questionnaire: Online consumers' e-loyalty toward curated subscription boxes**

Thank you for your time to review this academic questionnaire. I am currently studying towards a Master of Management in Digital Business at the Wits Business School, Johannesburg.

As such, I am conducting research for my dissertation entitled: *Determinants of South African online consumers' e-loyalty toward curated subscription boxes.*

A curated subscription box is a recurring delivery of niche products (usually within a specific category of goods) packaged in a box, designed to create an experience, and offer additional value over and above the actual items contained within the box. It is a combination of the products and the experience it brings that makes a curated subscription box special and popular amongst consumers.

It is worth noting that your participation is voluntary, and you have the right to withdraw at any time. You will not be asked to provide any identification information, which means that your identity and responses will remain anonymous. This research will be used for academic purposes only, and the information obtained will be kept strictly confidential.

The questionnaire will take approximately **10-15 minutes** to complete.

**Instructions**: Please record your responses by placing an X in the relevant answer box.

This study was approved by the Wits Business School Ethics Committee (Ethics protocol number: WBS/DB460806/458). Should you have any queries relating to the research, please feel free to email me (460806@students.wits.ac.za). Alternatively, you may contact my dissertation supervisor, Dr Jason Cohen (Jason.Cohen@wits.ac.za).

Sincerely,

**Deneline Naidoo**

## SECTION 1: SCREENING QUESTION

To reiterate, a curated subscription box is an offering that provides consumers with a unique experience by carefully picking and sourcing items that appeals to their specific interests, lifestyles, or values. It brings these items together in a way that adds value to their lives over purchasing the items individually once-off.

**Q1**. Have you purchased a curated subscription box in the last 3 years for physical goods such as food, drink and snack products; beauty products; gaming/tech products; and kids products, among others? (This does **NOT** refer to streaming subscriptions such as Netflix/Spotify).

(**Please note**: If you have not purchased a subscription box in the last two years, please do **NOT** continue with the rest of this questionnaire).

*Please select the appropriate response:*

| | |
|---|---|
| Yes | |
| No | |

## SECTION 2: CONSUMER GOODS SUBSCRIPTIONS USAGE

**Q2**. Please indicate for which of the following types of products you have purchased a curated subscription box?

*Please check all that apply:*

| | |
|---|---|
| Food, drink and snack products e.g. UCook, Wine of the Month Club, Tokyo Treat | |
| Beauty products e.g. Beauty Squad South Africa | |
| Gaming/tech products e.g. Loot Crate | |
| Kids products e.g. The Kid Zone | |
| Pet products e.g My Pet Box | |
| Health and fitness/wellness products e.g. VitieBox | |
| Books e.g. The Book Case | |
| Crafts and hobbies products e.g. Moxie Kids Craft Box | |
| Home products e.g. Wick Fragrances | |
| Clothing and accessories products e.g. The Box Fashion, Hallo Jane | |
| Lifestyle products e.g. Relationship Box | |

| | |
|---|---|
| Toy products e.g. Poppet Post | |
| Other | |

Please answer the remaining questions with reference to the curated subscription box that you most recently purchased.

**Q3**. At what frequency do you get the subscription box delivered?

*Please select the appropriate response:*

| | |
|---|---|
| Once-off/whenever I feel like it | |
| Weekly | |
| A couple times a week | |
| Monthly | |
| A couple times a month | |
| Quarterly | |

| | |
|---|---|
| Yearly | |
| Other frequency | |
| Not applicable | |

**Q4**. How long has this subscription been active?

*Please select the appropriate response:*

| | |
|---|---|
| Less than 6 months | |
| 6 months – 1 year | |
| 1 – 2 years | |
| 2 – 3 years | |
| More than 3 years | |
| It is no longer active | |

## SECTION 3: E-LOYALTY

E-loyalty can be defined as consumer satisfaction of an online product/service that results in them coming back to purchase those same products/services again.

**Q5**. The following questions relate to your e-loyalty with respect to your most recently purchased subscription box. There are no right or wrong answers.

*Please select the appropriate responses:*

| | | Very unlikely | Unlikely | Somewhat unlikely | Neither unlikely nor likely (neutral) | Somewhat likely | Likely | Very likely |
|---|---|---|---|---|---|---|---|---|
| 5a. | How likely are you to *purchase* this curated subscription box *again*? | | | | | | | |
| 5b. | How likely are you to *repeat purchase* this same curated subscription box when the subscription ends? | | | | | | | |
| 5c. | How likely are you to *purchase* curated subscription boxes from this provider in the future? | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 5d. | How likely are you to *recommend* this subscription box provider to friends/family/colleagues? | | | | | | | |
| 5e | How likely are you to *switch* to *another* subscription box provider for the same/similar products? | | | | | | | |
| 5f. | How likely are you to make a *repeat purchase* of this curated subscription in the next cycle (week/month/quarter etc)? | | | | | | | |

## SECTION 4: UTILITARIAN VALUE

Thinking of your most recently purchased subscription box, please indicate the extent to which you agree with each of the following statements related to the subscription box provider.

*Please select the appropriate responses:*

| | | Strongly disagree | Disagree | Somewhat disagree | Neither agree nor disagree (neutral) | Somewhat agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6a. | The provider offers a good *number* of different subscription boxes | | | | | | | |
| 6b. | The provider offers a good *variety* of different subscription boxes | | | | | | | |
| 6c. | The provider offers subscription boxes with *products* that suit my *needs* | | | | | | | |
| 6d. | The provider offers subscription boxes that suit my *preferences* | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7a. | The provider offers *detailed information* about the products in the subscription boxes | | | | | | | |
| 7b. | The provider offers information on a *large number of attributes* for each of the products in the | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | subscription boxes | | | | | | | |
| 7c. | The information provided on products in subscription boxes is *up to date* | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8a. | I *save money* when I purchase curated subscription boxes | | | | | | | |
| 8b. | Purchasing curated subscription boxes is cost effective | | | | | | | |
| 8c. | I get *purchases cheaper* via subscriptions than if I purchase products individually | | | | | | | |
| 8d. | I get *purchases cheaper* via subscriptions from this provider than if I purchased them elsewhere | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9a. | Buying subscription boxes *saves me time* | | | | | | | |
| 9b. | Buying subscription boxes is a *convenient* way for me to shop | | | | | | | |
| 9c. | I can purchase subscription boxes anywhere I am located | | | | | | | |
| 9d. | I can purchase subscription boxes *at any time I choose* | | | | | | | |

## SECTION 5: HEDONIC VALUE

Thinking of your most recently purchased subscription box, please indicate the extent to which you agree with each of the following statements.

*Please select the appropriate responses:*

| | | Strongly disagree | Disagree | Somewhat disagree | Neither agree nor disagree (neutral) | Somewhat agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10a. | Shopping for and receiving a subscription box feels like an *adventure* | | | | | | | |
| 10b. | Shopping for and receiving a subscription box is *enjoyable* | | | | | | | |
| 10c. | Shopping for and receiving a subscription box makes me *feel good* | | | | | | | |
| 11a. | Shopping for and receiving a subscription box allows me to *socialise/connect* with friends/family | | | | | | | |
| 11b. | Shopping for and receiving a subscription box makes a good impression on others | | | | | | | |
| 11c. | Shopping for and receiving a subscription box makes me feel part of a *greater* | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *community* | | | | | | | |
| 12a. | Shopping for and receiving a subscription box makes me *feel better* when I am in a low mood | | | | | | | |
| 12b. | Shopping for and receiving a subscription box is a way of *relieving stress* | | | | | | | |
| 12c. | I go shopping for a subscription box when I want to *treat myself* to something special | | | | | | | |
| 13a. | Shopping for subscription boxes allows me to *keep up with the trends* | | | | | | | |
| 13b. | Shopping for subscription boxes allows me to *keep up with new fashions* or *stay cool* | | | | | | | |
| 13c. | Shopping for subscription boxes helps me *see what* | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *new products are available* | | | | | | | |
| 14a. | Do you like shopping for or sending this subscription to others, because *when they feel good, you feel good*? | | | | | | | |
| 14b. | Do you *feel good* when you shop for or send this subscription to the special people in your life? | | | | | | | |
| 14c. | Do you *enjoy* shopping for and sending this subscription to your friends and family? | | | | | | | |
| 14d. | Do you enjoy shopping around on this subscription providers offerings to find the perfect gift for someone? | | | | | | | |
| 15a. | Do you for the most part go shopping for these subscriptions when there are | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *sales/a good deal*? | | | | | | | |
| 15b. | Do you enjoy looking for d*iscounts* when you shop for these subscriptions? | | | | | | | |
| 15c. | Do you enjoy *hunting for bargains* when you shop for these subscriptions? | | | | | | | |

## SECTION 6: SATISFACTION

Thinking of your most recently purchased subscription box, please indicate to what extent you agree with each of the following statements reflecting your satisfaction with the subscription box service.

*Please select the appropriate responses:*

| | | Very dissatisfied | Dissatisfied | Somewhat dissatisfied | Neither dissatisfied nor satisfied (neutral) | Somewhat satisfied | Satisfied | Very satisfied |
|---|---|---|---|---|---|---|---|---|
| 16. | How do you feel about your *overall experience* of using this subscription? | | | | | | | |

| | | Strongly disagree | Disagree | Somewhat disagree | Neither agree nor disagree (neutral) | Somewhat agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|---|
| 17a. | I am *satisfied* with my decision to use this subscription box service | | | | | | | |
| 17b. | My *choice* to use this subscription box service is a *wise one* | | | | | | | |
| 17c. | Overall, my *experience* with using this subscription box service is s*atisfactory* | | | | | | | |
| 18a. | My *experience* with using this subscription box service is better than what I expected | | | | | | | |
| 18b. | The *service level* provided by the subscription was | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | better than I expected | | | | | | | |
| 18c. | Overall, most of my *expectations were met* by the subscription service | | | | | | | |

## SECTION 7: PERCEIVED RISK

Thinking of your most recently purchased subscription box, please indicate to what extent you agree with each of the following statements related to your perceptions of risk.

*Please select the appropriate responses:*

| | | Very unlikely | Unlikely | Somewhat unlikely | Neither unlikely nor likely (neutral) | Somewhat likely | Likely | Very likely |
|---|---|---|---|---|---|---|---|---|
| 19a. | Could the subscription you purchased fail to meet the *performance requirements* originally intended by the purchase? | | | | | | | |
| 19b. | Could shopping for this subscription cause you to lose | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | control over the *privacy of your personal and payment information*? | | | | | | | |
| 19c. | Could shopping for this subscription cause you to *suffer financial loss* due to the hidden costs, maintenance costs or lack or warrantee in the case of faults? | | | | | | | |
| 19d. | Could the subscription provider *fail to deliver* the product or make a late delivery? | | | | | | | |

## SECTION 8: DEMOGRAPHICS

**Q20**. What is your gender?

*Please select the appropriate response:*

| | |
|---|---|
| Male | |
| Female | |

| | |
|---|---|
| Prefer to self-identify | |
| Prefer not to say | |

**Q21**. What is your age group?

*Please select the appropriate response:*

| | |
|---|---|
| 18 – 24 years | |
| 25 – 34 years | |
| 35 – 44 years | |
| 45 – 54 years | |
| 55 – 64 years | |
| 65 years plus | |
| Prefer not to say | |

**Q22**. What is your current work status?

*Please select the appropriate response:*

| | |
|---|---|
| Working full time | |

| | |
|---|---|
| Working part time/Freelancing | |
| Retired | |
| Unemployed | |
| Housewife/Househusband | |
| Prefer not to say | |

**Q23**. What is your highest level of education?

*Please select the appropriate response:*

| | |
|---|---|
| Some high school | |
| Matric | |
| Post-matric studies (certificate or diploma, some university) | |
| Undergraduate degree (university/college/technicon) | |

| | |
|---|---|
| Postgraduate degree (honours/master's degree) | |
| Prefer not to say | |

**Q24**. Which province do you reside in?

*Please select the appropriate response:*

| | |
|---|---|
| Eastern Cape | |
| Free State | |
| Gauteng | |
| KwaZulu-Natal | |
| Limpopo | |
| Mpumalanga | |
| Northern Cape | |

| | |
|---|---|
| North West | |
| Western Cape | |
| Prefer not to say | |

**Q25**. Please indicate what the total monthly income of your household is?

*Please select the appropriate response:*

| | |
|---|---|
| Less than R10 000 | |
| R10 000 – R20 000 | |
| R20 000 – R30 0000 | |
| R30 000 – R45 000 | |
| R45 000 – R60 000 | |
| R60 000 – R75 000 | |

| | |
|---|---|
| R75 000 – R100 000 | |
| Over R100 000 | |
| Don’t know/Prefer not to say | |

**THANK YOU FOR YOUR PARTICIPATION IN THIS ACADEMIC RESEARCH**

For any questions or to request a copy of results please email me at 460806@students.wits.ac.za. Alternatively, you may contact my dissertation supervisor, Dr Jason Cohen (Jason.Cohen@wits.ac.za).

# APPENDIX B: Ethics clearance certificate

**Graduate School of Business Administration**
**University of the Witwatersrand, Johannesburg**

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

## Ethics Clearance Certificate

**Ethics protocol number:** WBS/DB460806/458
*This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).*

This certificate is only valid if accompanied by formal permission from the relevant stakeholder(s).

| | |
|---|---|
| **Project title** | Determinants of South African online consumers' e-loyalty toward curated subscription boxes |
| **Investigator / Researcher** | Miss Deneline Naidoo |
| **Nature of Project** | MM (Digital Business) |
| **Decision of the Committee** | Approved unconditionally |
| **Issue Date of Certificate** | 2021-02-10 |
| **Expiry date** | Date of submission of the project report |
| **Chairperson** | Prof Anthoyn Stacey<br>☎ +27 11 717 3587<br>+27 82 880 4531<br>Anthony.Stacey@wits.ac.za |

**Declaration by Researcher**

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

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

Signature

Date:

# APPENDIX C: E-loyalty and Satisfaction PCA

**Rotated Component Matrix[a]**

| | Component | |
|---|---|---|
| | 1 | 2 |
| 5a. How likely are you to purchase this curated subscription | .888 | |
| 5b. How likely are you to repeat purchase this same curate | .869 | |
| 5c. How likely are you to purchase curated subscription boxes from this provider in the future? | .861 | |
| 5f. How likely are you to make a repeat purchase of this curated subscription in the next cycle (week/month/quarter etc)? | .844 | |
| 18a. My experience with using this subscription box service is better than what I expected | | .854 |
| 18b. The service level provided by the subscription was better than I expected | | .921 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Key

- 1 – E-loyalty
- 2 – Satisfaction

**Rotated Component Matrix[a]**

| | Component | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 5a. How likely are you to purchase this curated subscription | .875 | | | | | | | | | | | |
| 5b. How likely are you to repeat purchase this same curate | .836 | | | | | | | | | | | |
| 5c. How likely are you to purchase curated subscription boxes from this provider in the future? | .895 | | | | | | | | | | | |
| 5f. How likely are you to make a repeat purchase of this curated subscription in the next cycle (week/month/quarter etc)? | .808 | | | | | | | | | | | |
| 6a.The provider offers a good number of different subscription boxes | | | | | | | | | | | | .885 |
| 6b. The provider offers a good variety of different subscription boxes | | | | | | | | | | | | .840 |
| 7a. The provider offers detailed information about the products in the subscription boxes | | | | .807 | | | | | | | | |
| 7b. The provider offers information on a large number of attributes for each of the products in the subscription boxes | | | | .889 | | | | | | | | |
| 7c. The information provided on products in subscription boxes is up to date | | | | .866 | | | | | | | | |
| 8a. I save money when I purchase curated subscription boxes | | | .791 | | | | | | | | | |
| 8b. Purchasing curated subscription boxes is cost effective | | | .809 | | | | | | | | | |
| 8c. I get purchases cheaper via subscriptions than if I purchase products individually | | | .862 | | | | | | | | | |
| 8d. I get purchases cheaper via subscriptions from this provider than if I purchased them elsewhere | | | .822 | | | | | | | | | |
| 9a. Buying subscription boxes saves me time | | | | | | | | .801 | | | | |
| 9b. Buying subscription boxes is a convenient way for me to shop | | | | | | | | .795 | | | | |
| 9c. I can purchase subscription boxes anywhere I am located | | | | | | | | .439 | | | | |
| 9d. I can purchase subscription boxes at any time I choose | | | | | | | | .743 | | | | |
| 10a. Shopping for and receiving a subscription box feels like an adventure | | | | | | | .800 | | | | | |
| 10b. Shopping for and receiving a subscription box is enjoyable | | | | | | | .825 | | | | | |
| 10c. Shopping for and receiving a subscription box makes me feel good | | | | | | | .768 | | | | | |
| 11a. Shopping for and receiving a subscription | | | | | | | | | | | .776 | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| box allows me to socialise/connect with friends/family | | | | | | | | | | | | |
| 11b. Shopping for and receiving a subscription box makes a good impression on others | | | | | | | | | | | .793 | |
| 11c. Shopping for and receiving a subscription box makes me feel part of a greater community | | | | | | .572 | | | | | .549 | |
| 12a. Shopping for and receiving a subscription box makes me feel better when I am in a low mood | | | | | | .718 | .440 | | | | | |
| 12b. Shopping for and receiving a subscription box is a way of relieving stress | | | | | | .634 | | | | | | |
| 12c. I go shopping for a subscription box when I want to treat myself to something special | | | | | | .670 | | | | | | |
| 13a. Shopping for subscription boxes allows me to keep up with the trends | | | | | | | | | | .773 | | |
| 13b. Shopping for subscription boxes allows me to keep up with new fashions or stay cool | | | | | | .456 | | | | .686 | | |
| 13c. Shopping for subscription boxes helps me see what new products are available | | | | | | | | | | .782 | | |
| 14a. Do you like shopping for or sending this subscription to others, because when they feel good, you feel good? | | .808 | | | | | | | | | | |
| 14b. Do you feel good when you shop for or send this subscription to the special people in your life? | | .879 | | | | | | | | | | |
| 14c. Do you enjoy shopping for and sending this subscription to your friends and family? | | .908 | | | | | | | | | | |
| 14d. Do you enjoy shopping around on this subscription providers offerings to find the perfect gift for someone? | | .794 | | | | | | | | | | |
| 15a. Do you for the most part go shopping for these subscriptions when there are sales/a good deal? | | | | | .757 | | | | | | | |
| 15b. Do you enjoy looking for discounts when you shop for these subscriptions? | | | | | .915 | | | | | | | |
| 15c. Do you enjoy hunting for bargains when you shop for these subscriptions? | | | | | .883 | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19a. Could the subscription you purchased fail to meet the performance requirements originally intended by the purchase? | | | | | | | | | .657 | | | |
| 19b. Could shopping for this subscription cause you to lose control over the privacy of your personal and payment information? | | | | | | | | | .775 | | | |
| 19c. Could shopping for this subscription cause you to suffer financial loss due to the hidden costs, maintenance costs or lack or warrantee in the case of faults? | | | | | | | | | .639 | | | |
| 19d. Could the subscription provider fail to deliver the product or make a late delivery? | | | | | | | | | .749 | | | |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 12 iterations.

**Key**

- 1 – E-loyalty
- 2 – Role
- 3 – Monetary savings
- 4 – Product information
- 5 – Value
- 6 – Gratification
- 7 – Adventure
- 8 – Convenience
- 9 – Perceived risk
- 10 – Idea
- 11 – Social
- 12 – Product offerings

# APPENDIX D: Full PCA (excluding Satisfaction)

# Total Variance Explained

| Component | Initial Eigenvalues | | | Total Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Extraction Total | % of Variance | Cumulative % | Total | % of Variance | Cummulative % |
| 1 | 8.959 | 22.397 | 22.397 | 8.959 | 22.397 | 22.397 | 3.623 | 9.058 | 9.058 |
| 2 | 4.952 | 12.381 | 34.778 | 4.952 | 12.381 | 34.778 | 3.491 | 8.729 | 17.786 |
| 3 | 3.238 | 8.095 | 42.873 | 3.238 | 8.095 | 42.873 | 3.237 | 8.092 | 25.878 |
| 4 | 2.597 | 6.493 | 49.366 | 2.597 | 6.493 | 49.366 | 2.641 | 6.602 | 32.480 |
| 5 | 2.102 | 5.255 | 54.621 | 2.102 | 5.255 | 54.621 | 2.604 | 6.510 | 38.989 |
| 6 | 1.903 | 4.758 | 59.379 | 1.903 | 4.758 | 59.379 | 2.602 | 6.504 | 45.493 |
| 7 | 1.865 | 4.661 | 64.040 | 1.865 | 4.661 | 64.040 | 2.593 | 6.482 | 51.975 |
| 8 | 1.556 | 3.890 | 67.930 | 1.556 | 3.890 | 67.930 | 2.473 | 6.183 | 58.158 |
| 9 | 1.360 | 3.400 | 71.330 | 1.360 | 3.400 | 71.330 | 2.393 | 5.982 | 64.140 |
| 10 | 1.186 | 2.966 | 74.296 | 1.186 | 2.966 | 74.296 | 2.238 | 5.595 | 69.735 |
| 11 | 1.122 | 2.805 | 77.101 | 1.122 | 2.805 | 77.101 | 1.990 | 4.975 | 74.710 |
| 12 | .931 | 2.328 | 79.429 | .931 | 2.328 | 79.429 | 1.888 | 4.719 | 79.429 |
| 13 | .887 | 2.218 | 81.647 | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 14 | .668 | 1.669 | 83.316 | | | | | | |
| 15 | .629 | 1.572 | 84.888 | | | | | | |
| 16 | .582 | 1.456 | 86.344 | | | | | | |
| 17 | .493 | 1.232 | 87.576 | | | | | | |
| 18 | .466 | 1.165 | 88.742 | | | | | | |
| 19 | .416 | 1.039 | 89.781 | | | | | | |
| 20 | .389 | .973 | 90.754 | | | | | | |
| 21 | .373 | .933 | 91.687 | | | | | | |
| 22 | .335 | .838 | 92.525 | | | | | | |
| 23 | .326 | .814 | 93.339 | | | | | | |
| 24 | .289 | .722 | 94.061 | | | | | | |
| 25 | .273 | .682 | 94.743 | | | | | | |
| 26 | .249 | .623 | 95.366 | | | | | | |
| 27 | .232 | .580 | 95.946 | | | | | | |
| 28 | .207 | .519 | 96.465 | | | | | | |
| 29 | .183 | .457 | 96.923 | | | | | | |
| 30 | .181 | .451 | 97.374 | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 31 | .166 | .415 | 97.789 | | | | | | |
| 32 | .151 | .377 | 98.165 | | | | | | |
| 33 | .145 | .362 | 98.528 | | | | | | |
| 34 | .107 | .268 | 98.796 | | | | | | |
| 35 | .105 | .262 | 99.058 | | | | | | |
| 36 | .100 | .250 | 99.308 | | | | | | |
| 37 | .088 | .221 | 99.529 | | | | | | |
| 38 | .081 | .202 | 99.730 | | | | | | |
| 39 | .059 | .147 | 99.877 | | | | | | |
| 40 | .049 | .123 | 100.000 | | | | | | |

Extraction Method: Principal Component Analysis.