The influence of user experience and trust on online shopping acceptance by South African consumers

By

Fungile Phindile Gabisile Msibi

726274

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Supervisor: Ayanda Magida

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DECLARATION

I, *Fungile Phindile Gabisile Msibi*, 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: Fungile Phindile Gabisile Msibi Signed: 

Signed at: Midrand, Johannesburg

On the 5th of August 2022

ABSTRACT

Over the years, developing countries like South Africa have seen a sharp rise in the acceptance of online shopping. The growth rate in e-commerce, like the e-commerce penetration rate are attributed to the increase in access to the internet and internet enabled devices that allow South Africans to engage with online retailers and take advantage of the benefits of online shopping. However, the e-commerce penetration in developing countries like South Africa is slower than that of developed countries like China, Germany and the United States of America. This stems from internet and telecommunications infrastructure limitations, lack of online shopping skill, negative online shopping user experiences, scepticism, distrust, and limitations in academic literature understanding the acceptance of online shopping in South Africa. Developed countries have embarked in research efforts in understanding how these barriers in online shopping acceptance can be fixed. Therefore, there was an opportunity for this to be done for a developing country like South Africa.

This research report aimed to contribute to understanding the factors that affect the acceptance of online shopping by South Africans. Additionally, investigating the influence of user experience and trust on online shopping acceptance by South African consumers. These were the primary and secondary research objectives of this research report. The research study was underpinned by the Extended Unified Theory of Acceptance and Use of Technology (UTAUT-2), user experience and trust. It also employed the Structural Equation Modelling (SEM) to determine the relationships between the UTAUT-2 constructs, user experience, trust and behavioural intention (online shopping acceptance).

The research study findings indicate that performance expectancy, effort expectancy and interaction of the online retailing platform's user experience influence the acceptance of online shopping by South Africans. Furthermore, the outcomes also indicate that the sample population's responses to measured factors were positive, indicating that there is a level of online shopping skill and positivity towards online shopping acceptance. However, some of the independent constructs were rejected and therefore excluded as factors that influence online shopping acceptance by South Africans. Specifically, facilitating conditions, social influence, price value, habit, hedonic motivation, trust and the presentation, content and functionality of online retailing platform's user experience do not influence online shopping acceptance by South Africans. As part of the discussion, findings were compared and juxtaposed against literature that guided the literature review. Managerial suggestions were given with a thorough integration with the guiding literature, and practical managerial implications were proposed. The limitations of the current research study and suggestions for future research studies in developing countries like South Africa were also highlighted and proposed.

KEYWORDS

Keywords: Online shopping acceptance, UTUAT-2, user experience, trust, behavioural intention, South Africa

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1.1. Introduction to the study

The rising number of internet ready devices and smartphones has made the internet more accessible to South Africans across all income groups (Makhita, 2019). Internet browsing is making it easier for more South Africans to engage in online activities such as social media networking, online gaming, online communities, retrieving information and online shopping (Lissitsa & Kol, 2016). Online shopping is widely defined as the set of tasks where consumers browse, search, compare, buy and receive goods and services from businesses using the internet on a device (Kashyup & Kumar, 2018). This is also called business to consumer (B2C) e-commerce (Gustavsson & Johansson, 2006). This chapter will introduce the acceptance of online shopping by South Africans by providing a background to the study. It will also unpack how user experience and trust influence online shopping acceptance by South Africans. For the purpose of this study, user experience is defined as the perceived multidimensional experience of an online shopping platform's interface based on the online shopper's expectations and behaviours (Zhijuan, Wu, Huai, & Bin, 2016). Online trust is an online shopper's belief that favourable conditions in the online shopping retailer and the online shopping platform exist to execute a successful online shopping transaction (Cohen, 2021). The problem statement and purpose of the study will then be defined. Finally, the significance of the study, the proposed research questions and the chapter summary will conclude this section.

1.2. The purpose of the study

This study investigates user experience and trust as factors affecting the acceptance of online shopping amongst South Africans. The research methodology of this investigation is a quantitative research approach through an online questionnaire to collect data.

1.3. Background of the study

1.3.1. South African online shopping global performance

South African consumers were initially on the fence about doing everyday tasks such as shopping, mobile banking, scheduling cleaning services and making friends online (Swiegers, 2018). However, the COVID-19 pandemic and the resulting restrictions have motivated South African consumers to change their attitudes towards using the internet for everyday tasks (Ahlfedt, 2020). Mastercard revealed that 68% of South Africans who participated in the study were shopping online since the onset of the COVID-19 pandemic. Out of these participants, 81% purchased data, 56% bought clothing and 54% bought groceries online (Business Tech, 2020). This signifies a shift in South African consumer behaviour towards contributing to the increasing global e-commerce sector.

Table 1.1 indicates that South Africa is ranked 37th globally for e-commerce revenue generation while achieving a 35% e-commerce penetration (ecommerceDB, 2021). A low ranking and low e-commerce penetration are apparent in developing countries like South Africa. It achieves a low gross domestic product (GDP) and low e-commerce revenue. This indicates that e-commerce in South Africa and other developing countries is still in its infancy.

Table 1 also highlights a high compound annual growth rate for the developing countries, which indicates that e-commerce is still growing. This presents an opportunity for businesses to enter the market and create value for their economies through e-commerce. Developed countries are historically known for the usage of economic, technological and infrastructural capabilities to develop markets that all its citizens can use to create significant value in an economy over time. This is evident as the higher e-commerce penetration is associated with higher ranking developed countries. E-commerce is also reaching the maturity phase in its lifecycle as they have a lower and slower compound annual growth rate. Furthermore, most consumers and businesses have embraced e-commerce in online shopping other aspects of the economy (Alyoubi, 2015).

Table 1.1. E-commerce market insights of developing and developed countries (ecommerceDB, 2021)

Countries		Ranking	GDP in 2020	Ecommerce revenue	Compound annual growth rate	Ecommerce penetration
Sample of developed countries	UNITED STATES OF AMERICA	2nd	US$21 trillion	US$432 billion	6% per annum	75%
	JAPAN	3rd	US$5 trillion	US$105 billion	7% per annum	74%
	UNITED KINGDOM	4th	US$2.7 trillion	US$97 billion	7% per annum	82%
	GERMANY	5th	US$3.8 trillion	US$88 billion	7% per annum	72%
Sample of developing countries	CHINA	1st	US$15 trillion	US$1.2 tillion	9% per annum	59%
	INDIA	8th	US$2.6 trillion	US$46 billion	13% per annum	36%
	BRAZIL	14th	US$1.43 trillion	US$21 billion	9% per annum	45%
	NIGERIA	35th	US$588 billion	US$5 billion	16% per annum	36%
	SOUTH AFRICA	37th	US$302 billion	US$4 billion	10% per annum	35%
	MALAYSIA	38th	US$338 billion	US$4 billion	18% per annum	37%

1.3.2. Acceptance of online shopping in South Africa

The upwards global trend of B2C e-commerce in South Africa is attributed to traditional brick-and-mortar businesses such as Makro, Woolworths, The Foschini Group and Mr Price going online to compete with platform-only retailers Takealot, Superbalist, OneDayOnly, Hypereli, Evetech and Loot.

The B2C e-commerce sector in South Africa sees a significant market size growth of 6.6% per annum compared to the traditional store based B2C retail sector growing at 2.3% per annum (Accenture, 2019). According to Accenture (2019), the market size of B2C e-commerce sector makes up only 3.43% of the entire B2C retail industry. Although the B2C e-commerce sector is growing, its growth in size compared to the traditional store-based retail sector is exceptionally low. This low growth of online shopping is attributed to disadvantages faced by existing and potential South African online shopping consumers, namely (Kashyup & Kumar, 2018): (1) lack of disposable income; (2) slow internet speed; (3) high mobile data and Wi-Fi package costs; (4) high consumption of mobile data; (5) lack of trust; (6) high shipping costs; (7) privacy and security concerns; (8) and strong mall culture. Even though the COVID-19 pandemic health restrictions have accelerated the acceptance of online shopping in South Africa, there is also a concern as to whether the user experience of the technology is inclusive enough to accommodate the demographics and behavioural intentions of South Africans (News24, 2021).

Furthermore, a consumer's trust is also a concern. It reflects that they are confident that favourable conditions exist for them to successfully make a purchase on the online shopping platform (Cohen, 2021). When online retailers fail to meet the expectations of creating pleasing and inclusive experiences, consumers become sceptical of online shopping and voice their dissatisfaction to others (Darban & Li, 2021). This negative user experience signals distrust and scepticism of online shopping. The consequences are consumers dropping off the online shopping platform and going to a traditional retailer in a mall to do their shopping. Online retailers need to realise that consumers' trust and online shopping user experience are within their control. They must strive for positive user experiences on their online shopping platform to encourage consumers to accept online shopping as a norm. Therefore, it is important to understand which factors must be placed together to influence online shopping among South African consumers.

1.4. Research problem

Developed nations have a matured e-commerce sector with a high consumer penetration rate and it is a significant GDP contributor (Alam, Malik, Hadi, & Gaadar, 2016). They attribute the success of e-commerce, like online shopping, to the maturity of its preconditions, namely (Heng, Creemers, & Verhagen, 2000): (1) it's perceived adequacy by consumers; (2) the number of trusted online retailers with low perceived risks; (3) a logistics and fulfilment infrastructure; (4) a payments infrastructure; (5) a telecommunications and internet network; and (6) satisfaction by its consumers. Developing countries face a number of barriers in accepting online shopping (Nabot, Garaj, & Balachandran, 2014). The potential of online shopping in developing nations is not realised due to the slow implementation of its preconditions such as telecommunications and internet infrastructure for those seeking to go online (Pilik & Kwarteng, 2016).

The lack of robust online customer service, on-time fulfilment, consumer data management by existing online retailers, digital literacy and personal skill to use online shopping deter consumers from accepting online shopping (Alyoubi, 2015; Nabot, Garaj, & Balachandran, 2014). There is literature focusing on understanding the acceptance of online shopping in developing nations like South Africa (Booysen, 2018) however it is limited in certain aspects (Dzimati, 2017).

Over the last few years, studies focusing on the acceptance of online shopping have been conducted. These studies were conducted in the earlier 2000s by researchers in developed nations such as the United States of America, Germany and Taiwan, to name a few (Chiu, Chang, Cheng, & Fang, 2009; Brecht, Baumann, Schafer, & Gunther, 2011; Zhou, Dai, & Zhang, 2007). A few more have also been done recently in developing countries like South Africa such as Brazil, Tanzania, Malaysia and India to name a few (Kashyup & Kumar, 2018; Fang, Liu, & Li, 2015; Petrus, Widjaja, & Santoso, 2019; Ashraf, Thongpapanl, & Auh, 2014; Chiu, Wang, Fang, & Huang, 2014; Makmor, Aziz, & Alam, 2019).

It is stated that South Africa's e-commerce growth is infancy due to lower internet availability compounded with the inflated cost of devices, telecommunication and internet infrastructure implementation (Motshabi, et al., 2011). However, South African consumers are shopping online and there are others prepared to shop online but remain sceptical (Swiegers, 2018). South African consumers are increasingly becoming aware of the perceived risks of online shopping and desire a good experience with an online retailer (Business Tech, 2020; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020). Developing nations with technology adoption that is at its infancy, like South Africa, need scholars and businesses to invest in research aiming to understand suitable factors for its acceptance so that it can meet the inclinations of the prepared consumers in developing nations (Nabaresh, Afful-Dadzie, Kwarteng, & Pilik, 2016)

From an academic perspective, Table 1.2 outlines the outcomes of a preliminary academic literature review of studies conducted between 2017 and 2021, focusing on the acceptance of several types of technology in developing countries. It is evident that the studies focused on determining the acceptance of a technology being influenced by perceived usefulness and perceived ease of use (Jackson, 2018; Pentz, Du Preez, & Swiegers, 2020; Makhita, Van Scheers, & Mogashoa, 2019), perceived risks (Swiegers, 2018), performance expectancy, effort expectancy, facilitating conditions and social influence (Dzimati, 2017). These factors are independent constructs of the Technology Acceptance Model (TAM) (Lallemand, Koenig, & Distler, 2019) and the Unified Theory of Acceptance and Use of Technology (UTAUT), which is considered more robust than the TAM (Venkatesh, Morris, & Davis, 2003).

The study conducted by Dzimati (2017) in South Africa investigated the influences of the acceptance of online shopping to include consumer trust as a factor. However, in the other research studies conducted in South Africa (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017), these studies did not investigate user experience and trust as influencers of online shopping consumer behaviour in one research study.

Further developments have been made to the UTAUT to explore how consumers acclimatise to a technology (Piarna, Fathurohman, & Purnawan, 2020) by including habit, price value and hedonic motivation as factors that influence the acceptance of a technology (Venkatesh, Thong, & Xu, 2012). This is the Extended Unified Theory of Acceptance and Use of Technology (UTAUT-2) (Venkatesh, Thong, & Xu, 2012). Hungilo and Setyohadi (2020), Aswani, Ilavarsan, Kara and Vijayan (2018) and Merha, Honea and Tarhinib (Merhi, Hone, & Tarhini, 2019) focused on determining the acceptance of technology in a developing country is influenced by performance expectancy, effort expectancy, facilitating conditions, social influence, habit, price value, hedonic motivation. All studies included and established that consumer trust influences the acceptance of technology. The study conducted by Aswani et al. (2018) in India investigated the influences of the acceptance of public Wi-Fi to include user experience and trust as factors. Bach, Da Silva and Souza, (2020) and Pohjolainen (2020) also posits that user experience and trust are key influencers of technology acceptance in a developing country.

From an industry perspective, a study conducted by McKinsey and Company Consulting which surveyed 300 publicly listed businesses across several industries and countries in the world over five years found that an active focus on consumer user experience and trust design culture has a significant correlation to high revenues and stakeholder returns (Somos, 2020). This is supported by a study conducted by Herodot Consulting where it was found that customers are extremely sensitive to a bad user experience and lack of trust in a technology (Hyzdik, 2020). The study found the following regarding applications and websites (Hyzdik, 2020): (1) 90% of users are likely to stop using it due to poor performance in interaction; (2) 86% are likely to delete or uninstall it after experiencing problems with its design (presentation and content) or functionality; (3) and 88% are less likely to return to it after a poor user experience or lack of trust. Therefore, the technology's interface must be strategically designed and built to positively impact the consumers perception of online shopping and ensure the appropriate user experience is delivered and trusted enough to shop online confidently (Hungilo & Setyohadi, 2020).

The academic and industry studies above set a precedent for the UTAUT-2 extended with user experience and trust as a framework to determine the acceptance of technology in South Africa, as no similar study has been done, South Africa. Therefore, this research investigated the factors that influence online shopping acceptance and ascertain the significance of user experience and trust on online shopping consumer behavioural intention amongst South Africans. This will give other researchers and businesses in South Africa insight into whether less capital-intensive (Nabaresh, Afful-Dadzie, Kwarteng, & Pilik, 2016) and non-infrastructure related (Pilik & Kwarteng, 2016) measure such as user experience and trust are key in developing the B2C e-commerce sector in a developing and diverse country like South Africa.

1.5. Research questions

This study investigated the influence of user experience and trust on B2C online shopping by South African consumers. The following provided the primary and secondary research questions that this study will aim to answer:

1.5.1. Primary research question

1. What factors influence the acceptance of online shopping by South African consumers?

1.5.2. Secondary research questions

2.1. How does trust influence the acceptance of online shopping by South African consumers?

2.2. How does user experience influence South African consumers' acceptance of online shopping?

1.6. Significance of the study

From an academic lens, this study provides literature towards evaluating the use of the UTAUT-2 to understand the factors that affect online shopping acceptance by South Africans. The systematic literature review indicates a deficiency in the amount of literature discussing online shopping acceptance by South Africans. The proposed conceptual framework introduces five previously untested constructs, namely: (1) habit; (2) hedonic motivation; (3) price value; (4) user experience; and (6) trust to provide an understanding of the factors affecting online shopping acceptance in South Africa.

From an industry lens, results of this study justify as to why South African businesses and academics should consider user experience and trust as factors that affect online shopping acceptance by South Africans. It will give them deeper insights of which factors can stimulate South African online shopper’s behaviours, expectations and trust in purchasing items from online retailing platforms. Furthermore, this study aimed to test the proposed arguments and add them to

the body of knowledge on the influence of user experience and trust on online shopping acceptance by South Africans and emerging e-commerce markets in developing countries.

1.7. Delimitations and assumptions of the study

The study will focus on South Africans over the age of eighteen (18) years old as the Protection of Personal Information Act 4 of South Africa (2013) prohibits online retailers from processing the information of persons under the age of 18 (Governement Gazette: Privacy and Personal information Act, 2013) and thus such persons will be excluded from this study. South Africans over the age of 18 without an internet enabled mobile device, desktop, laptop, smart TV, or tablet are also delimited from this study.

1.8. Chapter outline

A brief description of the chapters of this research study will be outlined in this section.

Chapter 1 introduces the research topic and context on what online shopping is highlighting South Africa's performance in the global and local B2C e-commerce market. This was used to establish the research problem focusing on identifying the gaps in the literature and the significance of how this research will aim to fill the gaps identified. Chapter one also introduces the UTAUT-2 and its appropriateness for this research paper to solve the research problem. Lastly, the research questions that will be addressed to provide recommendations for the research problem were defined as such.

Chapter 2 provides a literature review presenting the findings of previous literature studying the acceptance of online shopping and other technology in developing countries. This chapter discusses why the base framework was selected for this study. The literature review also aids in understanding the applicability of the base framework being extended with user experience and trust. The findings of the literature review argue the case of the proposed conceptual model and hypotheses posited for this research report.

Chapter 3 will discuss the research methodology includes the design of the research, sampling frame and resultant population sampling technique for the stipulated sample size, data collection and data analysis techniques for the research instruments employed for this study. This chapter introduces the components of the inferential analysis method chosen, namely the Structured Equation Modelling (SEM). The expectation of SEM is to provide a measurement model, model fit indices and a structural model that is made up of the factors that influence variations in online shopping acceptance.

Chapter 4 discusses the results of the data analysis completed by conducting a descriptive and inferential analyses. More specifically, outcomes of the measurement model and the model fit indices aid in determining if there is any correlation between factors, Finally the path coefficients of the structural model aid in the indication of factors to be includes as influencers of online shopping acceptance in South Africa.

Finally, Chapter 5 answers the research questions and presents the managerial recommendations made to businesses and academic scholars. These are based on the assertions made in chapter four. Lastly, the limitations of the study and suggestion for future studies are made.

2. Chapter 2: Literature review

2.1. Introduction

B2C retailers need to understand what influences online consumer behaviour to purchase various points of their online shopping journey. This understanding becomes important when consumers shop online for the first time. The purpose of this chapter is to analyse and discuss current literature on the acceptance of online shopping and other technology in developing countries through the lens of various technology acceptance frameworks. Secondly, the chapter explores aspects of user experience and trust that can affect consumers' intention to accept online shopping as a norm. Finally, a conceptual framework for evaluating the factors influencing online shopping by South Africans will be proposed.

2.2. B2C e-commerce Background

E-commerce is defined as a business model selling goods and services online by businesses selling to buyers (Traver & Laudon, 2016; May, 2000). Hummel, Kreutzer & Landau (2017) identified different variations of e-commerce, namely: (a) Business to Business (B2B); (b) Business to Consumer (B2C); (c) Consumer to Consumer (C2C); (d) and Mobile Commerce (m-commerce).

Isoraite and Miniotiene (2018) also include 'Business to Government Enterprises' (B2G) as a form of e-commerce. Traver and Laudon (2016) posit that there are variations to B2C e-commerce, namely, (1) the virtual merchant such as Takealot; (2) bricks-and-clicks such as Woolworths; (3) catalogue merchant such as Home Choice; (4) manufacturer-direct merchant iStore; and (5) marketplaces such as Facebook. The success of an online retailing business model is dependent on (Hummel, Kreutzer, & Landau, 2017) (1) product variation; (2) the quality of the user experience managing the direct interactions between businesses and consumers; (3) creating and delivering value to consumers to increase trust between businesses and consumers.

This study focuses on the B2C e-commerce market because online retailers are facing pressures to differentiate themselves at a faster pace employing new technologies and disciplines as part of their digital strategy to meet the changing consumer shopping and buying behaviour and internal performance outcomes. A recent Deloitte retail transformation study describes these pressures experienced by online retailers to be (Deloitte, 2015): (1) lowered barriers to market entry are bring in many new small players and fragmenting the retail landscape; (2) online marketplaces are transcending geographic proximity and expanding market demand for niche offerings; (3) small niche players with niche offerings can reach consumers regardless of physical location; (4) technologies such as on-demand fulfilment are changing how and where retailers hold inventory; (5) and new retail models are arising out of new technologies and new ways to connect with consumer.

Therefore, to compete effectively, online retailers are tasked with reimagining how value is created and captured from their digital channels to best meet business outcomes (Deloitte, 2015). The COVID-19 pandemic has challenged online retailers to accelerate digital initiatives for the online shopping experience to adhere to health safety protocols (Accenture, 2019) . This is evident as new competitors are challenging the traditional retailing norms by introducing value adds that enhances the online shopping experience such as personalised shopping experiences, online showrooms, and online dressing rooms (Kahn, Inman, & Verhoef, 2017).

A clear shift in South African consumer behaviour is contributing to increased global online sales and becoming a significant contributor to South Africa's economy (Makhita, 2019). According to Statista, e-commerce in South Africa was expected to generate R62 million in revenue in 2020, with a 37% penetration in 2020 and 50.8% penetration 2024 (Bayhack, 2020). Kayshup and Kumar (2018) further posit that the popularity of online shopping is attributed to consumers enjoying greater product proliferation, ease of price checking, twenty-four-hour shopping time and a unique shopping experience compared to traditional retail shopping.

Consumers are the main beneficiaries of online shopping through the availability of discounted products on e-commerce platforms in the initial years (Makhita, 2019). An increase in productivity as the time saved using online channels can be put to productive use, on-demand fulfilment, increased geographic proximity and access to niche product offerings to serve their niche needs.

2.3. Online consumer behaviour

The internet has changed consumer demand and how suppliers respond to the change by establishing online retailing with products catering to consumer demand. To gain a competitive advantage over other online retailers, they must understand who the consumers are, how they browse and search for what they want and what motivates them to complete the purchase. Online consumer behaviour has been posited as a framework by Chan et al. (2003). The framework posits five characteristics that influence online behaviour of intention, adoption and continuance, as shown in Figure 2-1. The online consumer's and environmental characteristics are uncontrollable by the online consumer and the product medium and merchant characteristics are controllable by the online consumer (Swiegers, 2018). The framework proposes that online retailers need to get online consumers to perceive the uncontrollable factors as controllable and pleasant enough to encourage online consumer behaviour on their online retailing platform. Online retailers need to provide a compelling experience at every stage of the consumer decision-making process to positively influence their buying decision (Huang & Benyoucef, 2012).

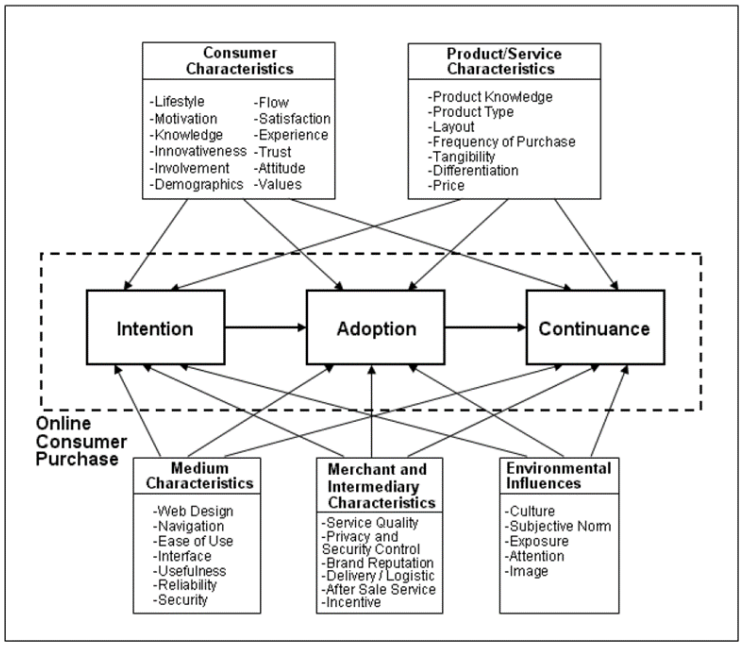

Figure 2.1. The five characteristics of online consumer purchase behaviour

(Chan, Chueng, Kwong, Limayem, & Zhu, 2003)

2.4. Online consumer journey

The online shopping experience is curated by how the online retailers influence the online consumer's decision to purchase or repurchase something online. The online shopping experience is also defined as embracing four components of an online retailing platform: the home page, catalogue page, checkout page and the help tools (Thomas, 2020). It is the act of the consumer searching, browsing, finding, comparing, selecting and buying something from an online retailer (Chan, Chueng, Kwong, Limayem, & Zhu, 2003). Online retailers need to manage the potential complications of online shopping and the online consumers using the technology. Consumers' perception of an online retailer can change easily if they experience pain points when interacting with the online retailing platform, also called an online product, an application or website. If done right, consumers are likely to be loyal and recruit others through word of mouth to engage with the online retailer and do their shopping online.

2.5. Types of online consumers

There are two types of online shoppers which are (1) inexperienced and (2) experienced online shoppers. The distinction between the two enables studies to investigate consumers' purchasing and repurchasing behavioural intentions of the two experience levels. Inexperienced online shoppers are online shoppers that have little to no engagement in online shopping (Swiegers, 2018).

These users require high involvement due to high information asymmetries and high sensitivity to perceived risks about online shopping. Online retailers incur higher costs, visually and financially, to acquire these inexperienced users and capture their attention long enough to make a purchase online and to repurchase in future (Jackson, 2018). Experienced online consumers are online consumers that have engaged with online shopping that require low involvement due to low information asymmetries and a low perceived risk about online shopping. These experienced users are skilled in using the technology and advocate for the technology and online retailers that give a pleasant online shopping experience. They are also most likely to make a repurchase in future

2.6. Technology acceptance models

The section conducts an analysis of sampled literature published between 2017 and 2021 in which various models of technology acceptance in developing countries are observed. It aims to find reasons that may contribute to South Africa's low e-commerce penetration and low economic contribution amongst other developing countries and what contributes to the lack of understanding of what influences online shopping in South Africa. Lastly, it aims to propose appropriate measures to bolster South Africa's ability to understand the factors that influence the acceptance of online shopping. Below is a summary of the sampled literature and resultant constructs that influence the acceptance of technology is described in Table 2.

Table 2.1. A summary of research types, technology and constructs influencing the adoption of a technology

Author	Country	Research type	Technology	Frameworks	Constructs influencing acceptance
Kasia Jackson (2018)	South Africa	Quantitative	Online Shopping	TAM	Perceived usefulness; and Perceived ease of use.
Christian Pentz, Ronel du Preez, Liezel Swiegers (2020)	South Africa	Qualitative and quantitative	Online shopping	TAM	Perceived ease of use.
KM Makhitha, L van Scheers, and C Mogashoa (2019)	South Africa	Quantitative	Online shopping	TAM	Perceived ease of use and Perceived usefulness.
Liezel Swiegers (2018)	South Africa	Quantitative	Online shopping	TAM	Perceived psychological; Perceived social risk; and Perceived financial risk.
Sharon Dzimati (2017)	South Africa	Quantitative	Online shopping	UTAUT	Performance expectancy; Effort expectancy; Social Influence; and Trust.
Abdul Jibril, Michael Kwarteng, Michal Pilik, Elsamari Botha and Christian Osakwe (2019)	Ghana	Quantitative	Online shopping	TAM	Perceived ease of use; Perceived usefulness and Trust.
Bahadir Ayar, Öykü Orcan, Tayyip Sabri Erdil (2019)	Turkey	Quantitative	Online shopping	TAM	Perceived usefulness and User experience.
Mohamed Merhia, Kate Honea, Ali Tarhinib (2019)	Lebanon and England	Quantitative	Mobile banking	UTAUT2	Facilitating Conditions; Perceived Security perceived; Privacy; Social Influence; Hedonic motivators; and Trust.
Gilbert Gutabaga Hungilo and Djoko Budiyanto Setyohadi (2020)	Tanzania	Quantitative	Online shopping	UTAUT2	Effort expectancy; Price value; and Trust.
Tatiana Marceda Bach, Wesley Vieira da Silva, Adriano Mendonça Souza, & et al. (2020)	Brazil	Quantitative	Online shopping	None	Trust and User experience.
Rian Piarna, Ferdi Fathurohman, Nunu Nugraha (2020)	Indonesia	Quantitative	Online shopping adoption	UTAUT	Social Influence; Performance expectancy; and Trust.
Sami Pohjolainen (2020)	Indonesia	Quantitative	Assistive technologies for the blind and impaired	None	Trust and User experience.
Reema Aswani, Vigneswara Ilavarasan, Arpan Kumar Kara, Shrihari Vijayana (2018)	India	Quantitative	Public Wi-Fi	UTAUT2	Facilitating Condition; Performance Expectancy; Effort Expectancy; Social Influence Hedonic Motivation; Trust; and User Experience.

2.6.1. Acceptance of technology in other developing countries

Given the literature sample as reflected in Table 2 focusing on the acceptance of technology in developing countries used UTAUT (Venkatesh, Morris, & Davis, 2003) and UTAUT-2 (Venkatesh, Thong, & Xu, 2012) as the base framework for the studies. The studies that used the UTAUT-2 were also employed and extended to include social, economic and psychological constructs to explain a socio-technological phenomenon of a specific group of people (Hungilo & Setyohadi, 2020).

Venkatesh, Thong and Xu (2012) found that the UTAUT can be extended with habit, price value and hedonic motivations to provide an in-depth analysis of the acceptance of technology whereby consumers acceptance it voluntary and purposefully. The latest and most robust theory available to study the factors that influence the acceptance of a technology (Merhi, Hone, & Tarhini, 2019). This framework has been applied to the acceptance of mobile banking (Merhi, Hone, & Tarhini, 2019), online shopping (Hungilo & Setyohadi, 2020) and public Wi-Fi (Aswani, Ilavarsan, Kar, & Vijaya, 2018). The studies have found that performance expectancy, effort expectancy, social influence, habit, hedonic motivations, effort expectancy, price value and facilitating conditions influence the acceptance of technology in a developing country (Merhi, Hone, & Tarhini, 2019; Aswani, Ilavarsan, Kar, & Vijaya, 2018; Hungilo & Setyohadi, 2020).

This means that consumers in a developing country are likely to accept a technology when they see value for money online, derive positive emotions from the online shopping experience and include it in their daily routine. This posits that online retailers need to facilitate pleasant experiences and conditions where consumers can get the information at the right times to shop online successfully. It was also established in Table 2 that user experience and/or trust also influence the acceptance of a technology (Ayar, Orcan, & Erdil, 2019; Pohjolainen, 2020; Aswani, Ilavarsan, Kar, & Vijaya, 2018; Piarna, Fathurohman, & Purnawan, 2020; Hungilo & Setyohadi, 2020; Bach, Da Silva, & Souza, 2020). User experience must be in the form of attractive designs, communication, quality, ease of learning to use the platform positively influences an online shopper to have behavioural intention towards online shopping (Pohjolainen, 2020; Aswani, Ilavarsan, Kar, & Vijaya, 2018; Bach, Da Silva, & Souza, 2020).

2.6.2. Acceptance of technology in South Africa

In the developing countries identified in Table 2, most research focused on TAM as a base framework. TAM is one of the earliest frameworks widely used to study the factors influencing consumers' acceptance and continuous usage of a technology (Ting & Lim, 2012). It was founded on the Theory of Reasoned Action (TRA), which suggests that the acceptance and usage behaviour is formed when behavioural intentions are consciously and repeatedly acted upon (Davis, 1989). It is also founded on the Innovation Diffusion Theory that suggests that a technology's perceived usefulness must be compatible with a consumer's previous experience (Lee, Hsieh, & Hsu, 2011). Davis (1989) posited that technology acceptance is influenced by two constructs: perceived usefulness and perceived ease of use.

The sampled studies investigated the acceptance of online shopping in South Africa and found that the perceived usefulness and perceived ease of use are factors that influence the acceptance of online shopping (Jackson, 2018; Pentz, Du Preez, & Swiegers, 2020; Makhita, Van Scheers, & Mogashoa, Which consumer attributes influence South African consumers to shop online, 2019). This means that South Africans are more likely to shop online when they believe they can do so without feeling anxious (Pishchenko, 2016). Lastly, South Africans are also more likely to shop online if they can easily process what they see on its interface and see whether it improves an aspect of their lives (Lee, Hsieh, & Hsu, 2011).

The extension of TAM involves more people-centric considerations to present a socio-technological phenomenon regarding the acceptance of technology by consumers in developing countries (Pishchenko, 2016). The sampled research papers that used TAM as a base framework were extended with (1) social constructs that evaluate the influence of social pressures to use technology such as social influence, reviews and ratings (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, Which consumer attributes influence South African consumers to shop online, 2019) ; (2) economic constructs that evaluate the utilitarian motivators of using a technology such as financial risk, easy payment facilities, discounts and convenience (Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020) ; and (3) psychological constructs that evaluate the hedonic motivators such as trust, attractive and informative displays and experience (Jibril, Kwarteng, Pilik, & Botha, 2019; Pentz, Du Preez, & Swiegers, 2020). Dzimati (2017) employed an adapted UTAUT model to add trust as a construct to study the factors that influence online shopping by South Africans that live in townships.

Venkatesh, Morris and Davis (2003) founded this framework to provide an improved framework to study the factors that influence technology acceptance. It also effectively predicts expected consumer behaviour towards a technology considered as innovative much better than the TAM model predicts (Popovic, Martins, & Oliveira, 2014). This is because it is a framework that consolidates information technology theories to measure the acceptance of technology. It consolidated and is underpinned by the Theory of Planned Behaviour (TPB), Task-Technology Fit Theory, Theory of Reasoned Action (TRA), Diffusion of Innovation Theory, PC Utilisation Theory, Social Cognitive Theory and the Technology Acceptance Model (Venkatesh, Morris, & Davis, 2003).

This framework's factors that influence technology acceptance are performance expectancy, effort expectancy, facilitating conditions and social influence that affect the acceptance of a technology (Popovic, Martins, & Oliveira, 2014). Dzimati (2017) found that performance expectancy, effort expectancy, social influence and trust influence online shopping acceptance in South African townships. This indicates that South Africans are increasingly becoming aware of online shopping as a new norm (Dzimati, 2017). They are not deterred by its complexity if using the technology had benefits, it adds value to their lives and they can trust it (Dzimati, 2017). The ease of use (effort expectancy) of online shopping did not influence the acceptance of online shopping (Dzimati, 2017).

A key takeaway is that South Africans are susceptible to technology when they trust it (Jibril, Kwarteng, Pilik, & Botha, 2019). They enjoy its benefits and value (Pishchenko, 2016) without too many worries such as spending on mobile data, worrying about the security of personal information, feeling isolated and technologically illiterate or bad connectivity, which are barriers to online shopping for South Africans (Makhita, Van Scheers, & Mogashoa, Which consumer attributes influence South African consumers to shop online, 2019; Swiegers, 2018; Jackson, 2018).

Considering the e-commerce penetration for South Africa displayed in Table 1 and the usage of TAM as an online shopping acceptance model displayed in Table 2, there is an opportunity for local businesses and researchers to employ a rigorous technology acceptance framework to help predict what factors influence the acceptance of online shopping. TAM is only limited to explaining phenomena of the perceived usage of the technology to appeal to consumers (Ting & Lim, 2012). TAM is a renowned and widely used model to examine IT acceptance. However, TAM has drawbacks that must be considered (Pishchenko, 2016).

TAM models avoid investigating the benefit and value of using recent technology and TAM suffers from similar shortcomings as the Theory of Reasoned Action (TRA), which is its source of origin. Pishchenko (2016) further outlines certain limitations of TAM, such as: (1) the lack of a complete theory for identifying consumer's sources of decision making such as perceived usefulness and perceived ease of use, (2) the dependence on over-simplified concepts of affect or emotions, (3), the over-reliance on a merely deterministic framework without consideration of self-regulation procedures, (4) the naïve linkage between intention and actual behaviour and lastly (5) the disregard of group, social and cultural aspects of decision making. This means that there exists a potential gap in understanding factors that influence online shopping in South Africa, which results in its lower performance in the global e-commerce sector. Sampled research reports from developing countries with a higher global e-commerce ranking, like Brazil and India, have a higher e-commerce penetration and economic contribution. Factors influencing the acceptance of technology in those countries are cited using *UTAUT-2* constructs, trust and user experience.

Therefore, there is merit in employing an *extended UTAUT-2* to provide a broader understanding of how technology and its user interface can be manipulated enough to encourage acceptance of online shopping in South Africa. Extending the UTAUT-2 with Trust and Hassenzahl's User Experience Model as constructs of a proposed conceptual model provides a meta-motivational argument to what drives behavioural intent and acceptance of online shopping (Yazid, 2019). This encompasses the strategic software and user interface design changes that can be made to a technology to be deemed trustworthy and pleasant enough for acceptance by its end users.

2.7. UTAUT-2 Model for online shopping acceptance in South Africa

The *UTAUT-2* extends *TAM* and *UTAUT* to include user perceptions of the technology. Venkatesh, Morris and Davis (2012) posit that the *UTAUT* cannot be used to generalise the organisational and individual use context across multiple or different demographics. The *UTAUT-2* in Figure 4 has been theorised by Venkatesh, Thong and Xu (2012) to focus on seven independent constructs that influence the adoption of technology, namely Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Hedonic motivators, Price Value and Habit (Venkatesh, Morris, & Davis, 2003). The *UTAUT-2* includes two dependent constructs, namely Behavioural Intention and Usage Behaviour of a technology (Amra & Almir, 2016). Venkatesh, Morris and Davis (2003) posit that these constructs are stable due to their high-reliability degree of 0.70. The *UTUAT-2* has been deficient in considering technology fit and performance, which are imperative for measuring usage and success.

The constructs are moderated by moderator variables such as age, gender, the experience of usage and voluntariness of use namely to help categorise, strengthen and compare the relationships between constructs (Aswani, Ilavarsan, Kar, & Vijaya, 2018). For the purposes of this study only the seven UTAUT-2 constructs were considered for this study, the moderating variables of age, gender and the experience of usage were not included in this study.

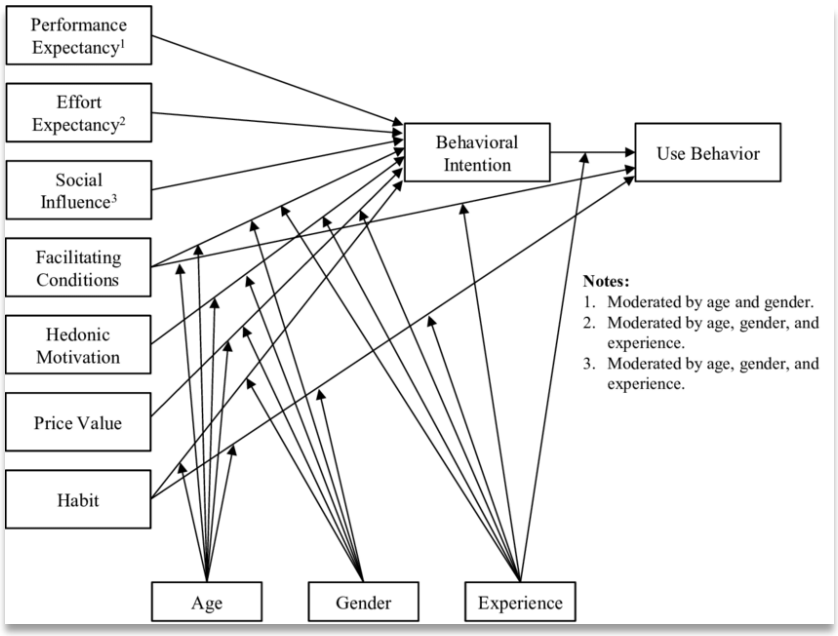

Figure 2.2. The UTUAT2 Model moderated by age, gender and experience (Venkatesh, Thong, & Xu, 2012)

2.7.1. Performance expectancy

Performance Expectancy is the expectation, the consumer's performance in shopping online will improve by using technology's features and functionality (Matsui & Singh, 2017). This construct is used to show how users perceive and benefit from using technology. In particular, the benefits of time convenience, search convenience, access convenience and possession convenience that comes with its acceptance (Jiang, Yang, & Jun, 2013). Performance Expectancy is an advanced measure that can be used in place of TAM's perceived usefulness (Hungilo & Setyohadi, 2020). Performance expectancy is an independent construct of UTAUT-2 (Venkatesh, Morris, & Davis, 2003). It was proven that it significantly effects the behavioural intention of technology users (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring performance expectancy is defined as follows:

H1: *Performance expectancy positively influences the behavioural intent towards South Africans accepting online shopping.*

2.7.2. Effort expectancy

Effort Expectancy is the expectation that the technology is easy to use (Hungilo & Setyohadi, 2020). This construct is an evolved measure of *TAM's* perceived ease of use (Merhi, Hone, & Tarhini, 2019). If the user thinks that online shopping is easier to use and requires less effort than traditional in-store shopping, users could intend on using online shopping more regularly (Matsui & Singh, 2017). Effort expectancy is an independent construct of UTAUT-2 (Venkatesh, Morris, & Davis, 2003). It was proven that it significantly effects the behavioural intention of technology users (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring effort expectancy is defined as follows:

H2: *Effort expectancy positively influences the behavioural intent towards South Africans accepting online shopping*

2.7.3. Social influence

Venkatesh (2003) describes social influence as to how the consumer perceives how others perceive the use of the technology. This construct is an advancement of the Theory of Reasoning and the Theory of Planned Behaviour (Hungilo & Setyohadi, 2020). Consumer behaviour can be influenced by their environment and those around them (Ying, Jianqiu, & Akram, 2021). The primary driver of social influence is the (Liang & Turban, 2011) 1) participation of consumers and online retailers interacting; 2) consumers see other's shopping experiences to 3) share their own experience to assist others. This is done by building social media capabilities such as customer reviews, recommendations, notifications and personal profiles (Huang & Benyoucef, 2012) product features encouraging social interactions (Liang & Turban, 2011). Social Influence is an independent construct of UTAUT-2 (Venkatesh, Morris, & Davis, 2003). It was proven that it significantly effects the behavioural intention of technology users (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring social influence is defined as follows:

H3: *Social influence positively influences the behavioural intent towards South Africans accepting online shopping*

2.7.4. Facilitating conditions

Facilitating Condition is the consumers' perception of the support and resources available to the user to help us the tech (Venkatesh, Thong, & Xu, 2012). It also argues that users actively look for education and help to use the technology and extract the value they need (Fadzil, 2017).

Educational tools built for supporting consumers whiles online shopping are multimedia tutorials, customer support chatbots and help sections on the online shopping platform. Facilitating Conditions is an independent construct of UTAUT-2 (Venkatesh, Morris, & Davis, 2003). It was proven that it significantly effects the behavioural intention of technology users (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring facilitating conditions is defined as follows:

H4: *Facilitating conditions positively influences the behavioural intent towards South Africans accepting online shopping*

2.7.5. Hedonic motivations

Hedonic Motivation is attributed to the intrinsic benefits that make consumers addicted to the technology (Fadzil, 2017)**.** The intrinsic benefits perceived are: (1) exploration and entertainment; (2) escapism; (3) favourite pastime; (4) and gifting others (Merhi, Hone, & Tarhini, 2019)**.** This is the consumer's cognitive trade-offs between the benefits of online shopping and its associated consumption costs (Fadzil, 2017). Hedonic Motivation is an independent construct of UTAUT-2 (Venkatesh, Morris, & Davis, 2003). It was proven that it significantly effects the behavioural intention of technology users (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring hedonic motivations is defined as follows:

H5: *Hedonic motivations positively influences the behavioural intent towards South Africans accepting online shopping*

2.7.6. Price Value

This is the consumer's cognitive trade-off between perceived benefits and the financial implication of using a technology (Hungilo & Setyohadi, 2020). This construct refers to the impact of price and cost of acquiring a product or service online in terms familiar to the shopper. Consumers are always looking for retailers that can provide monetary, time and conveniences in discounts, sales and coupons. Price Value is an independent construct of UTAUT-2 (Venkatesh, Morris, & Davis, 2003). It was proven that it significantly effects the behavioural intention of technology users (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring price value is defined as follows:

H6: *Price value positively influences the behavioural intent towards South Africans accepting online shopping*

2.7.7. Habit

This is the consumers formed behaviour from repeatedly using the technology to fulfil utilitarian and hedonic outcomes (Gumerman, 2014). Habits are formed from continuous usage (Hungilo & Setyohadi, 2020). Habit is an independent construct of UTAUT-2 (Venkatesh, Morris, & Davis, 2003). It was proven that it significantly effects the behavioural intention of technology users (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring habit is defined as follows:

H7: *Habit positively influences the behavioural intent towards South Africans accepting online shopping*

2.7.8. Behavioural intention

Behavioural intention also called a future consumer behaviour or technology acceptance is an individual's strong inclination or motivation to engage or perform tasks that are required for technology usage (Venkatesh, Morris, & Davis, 2003). This measures whether the intended users accept or reject the inclination to engage in the tasks performed to use a particular technology. The variations of behavioural intention depend on controlled inputs that impact the user, these are called independent variables. Therefore, behavioural intention is a dependent variable as it is the outcome of the application of the independent variables (constructs) highlighted above (Venkatesh, Morris, & Davis, 2003).

This study aims to employ the UTAUT-2 as the theoretical framework aiding the determination of the influence of the highlighted constructs on the acceptance of online shopping in South Africa. This study also aims to then extend the UTAUT-2 to determine whether user experience and trust can be additional factors that influence the acceptance of online shopping in South Africa.

2.8. User experience as a platform signal for usage

With the increased internet consumption, there is an increased lens on how the human-computer interaction is curated for users while using the technology. The increased technology usage has led to the importance of evaluating human-computer interactions (Ayar, Orcan, & Erdil, 2019). Such evaluations are called user experience.

2.8.1. Definition of user experience

The International Organization for Standardization 9241-20 defines user experience as an individual's resultant perception and response from using a product, technology, or service (Sippola, 2017). In the case of online shopping, consumers should be able to navigate through the home page, catalogue page, shopping cart and checkout page easily and pleasantly.

2.8.2. Hassenzahl's user experience framework

Hassenzahl's User Experience Model is one of the most cited frameworks in academic research (Varsaluoma, 2018). The framework in Figure 2 posits that user experience is a result of the look, feel and placement of product features on the online retailing platforms to reduce complex user cognition and trigger feelings when using the interface of the product (Zhou, 2015). Hassenzahl (2008) posits that there are do-goals and be-goals that user experience drives when users interact with the interface of a platform. The pragmatic attributes are usability and utility, where the consumer's tasks on the platform by manipulating its environment to fulfil a behavioural intention (Hassenzahl, 2003).

Hassenzahl (2004) posits that pragmatism (utilitarianism) implies that the interface must be easy to use and provide useful ways to fulfilling task goals. The hedonic attributes correspond with the pleasures derived after interacting with the interface of a platform (Hassenzahl, 2003). Hedonism implies that the platform's interface provides a stimulating experience that consumers can identify with (Varsaluoma, 2018). Consumers are then more willing to express their resultant experiences and recruit them to use the technology. Such positive hedonic and utilitarian feedback loops are summed as user experience and are potential motivators for accepting technology.

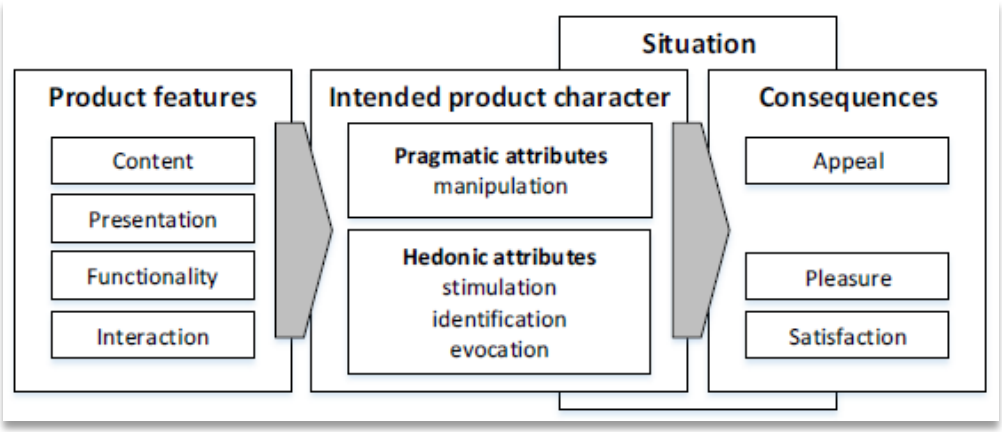

Figure 2.3. Hassenzahl's User Experience Model

(Zhou, 2015)

2.8.2.1. Presentation

Presentation of a platform refers to the design of a platform. Platform design in an online environment refers to the colour, images, shapes and photography expected to elicit emotional appeal from the overall look (Shahzad, 2015). The presentation also referred to as the user interface design, is used to anticipate what users may need to do and ensure that the interface has accessible, understandable and can facilitate the actions (Hassenzahl, 2008). Since the online shoppers will be interacting with the online retailer's platform from their mobile phones, desktops and tablets, the online retailer must show them relevant and personalised content and a well-presented platform to grab the consumer's attention. This study proposed that presentation should be introduced as an independent construct to extend the UTAUT-2 theoretical framework aiding the determination of what factors influence the acceptance of online shopping (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring presentation is defined as follows:

H9a: *Presentation positively influences the behavioural intent towards South Africans accepting online shopping*

2.8.2.2. Content

Hassenzahl's User Experience Model, from the consumer's perspective, explains that content is used to convey pragmatic or hedonic product characters that helps trigger cognition in the user when interacting with the product (Zhou, 2015). Online retailers are tasked with textual information logically and categorically as the consumer navigates through the platform.

A study determining the resultant factors that influence online shopping behaviour in Sweden posits that the designed content and presentation of an online retailing platform is the most influential and significant factor of influencing online shopping behaviour (Shahzad, 2015). This study proposed that content should be introduced as an independent construct to extend the UTAUT-2 theoretical framework aiding the determination of what factors influence the acceptance of online shopping (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring content is defined as follows:

H9b: *Content positively influences the behavioural intent towards South Africans accepting online shopping*

2.8.2.3. Interaction

Interactions are a collection of micro-tasks triggered by consumers acting on the platform interface. This also refers to how a platform is designed to communicate constant feedback to validate, educate, encourage and manipulate how a consumer engages or interacts with a system. Most users experience digital products similarly to how they experience their physical environment (Bongard-Blanchy & Bouchard, 2015).

Traditional shopping often relies on face-to-face interaction with consumers, the perusing of the store floor and walking out immediately with the item purchased (Victor & Ihionkhan, 2019). Online consumers are shopping and browsing through the website or platform all the time and switch between those modes as fast as they can scroll (Thomas, 2020).

Online retailers need to understand user experience factors that encourage consumers to utilize and interact with the platform long enough to convert the consumer's intention into a sale. This study proposed that interaction should be introduced as an independent construct to extend the UTAUT-2 theoretical framework aiding the determination of what factors influence the acceptance of online shopping (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring interaction is defined as follows:

H9c: *Interaction positively influences the behavioural intent towards South Africans accepting online shopping*

2.8.2.4. Functionality

Another point of discussion is considering the ease of use of the platform as experienced by a human (Visser & Weideman, 2011). The platform's design functionality is such a way that helps the user meet their goat and needs of online shopping. Functionality also refers to how a platform is expected to work. The functionality of an online retailing platform can cause a reaction in consumers to be appalled, excited, indifferent or reject the online retail offering (Bongard-Blanchy & Bouchard, 2015). This means that how the platform was built, and its functions can impact the perceived user experience. Therefore, the retailing platform must be able to manage the volume, quality and visibility of its products to one user in relation to the other users that are simultaneously on the website or application (Kharim, 2015). The platform must always be usable with minimized downtime.

This study is proposing that functionality should be introduced as an independent construct to extend the UTAUT-2 theoretical framework aiding the determination of what factors influence the acceptance of online shopping (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring functionality is defined as follows:

H9d: *Functionality positively influences the behavioural intent towards South Africans accepting online shopping*

2.9. Trust as a platform signal to be motivated to use a technology

Previous literature indicates that trust gives consumers an expectation of successful transactions, high-quality goods and services and motivation to accept online shopping (Hungilo & Setyohadi, 2020). Hungilo and Setyohadi (2020) posit that distrust can lead to poor acceptance. Online retailers are faced with alleviating these potential pain points that may prevent consumers from accepting online shopping. The platform signals can be used to convey the information needed to trust a technology (Mavlanova, Lang, & Benbunan-Fich, 2016).

2.9.1. Earning of trust

The low growth of the B2C e-commerce market also means that potential consumers may find it hard to trust in what is being sold online. The *Trust Transfer Theory* posits that trust can be transferred from a source to an observing target (Stewart, 2003). Therefore, a consumer's trust reflects that the conditions to facilitate a successful purchase on the platform are favourable and guaranteed (Cohen, 2021).

The *Signalling Theory* posits this phenomenon using trust signals at important points of the online shopping journey to reduce uncertainties and information asymmetries between online retailers and consumers (Jiang, Klein, & Pee, 2018).Trust aids the consumer to complete online shopping tasks and achieve their goals at each step of the online shopping journey until purchasing (Mou, Shin, & Cohen, 2017). This study is proposing that trust should be introduced as an independent construct to extend the UTAUT-2 theoretical framework aiding the determination of what factors influence the acceptance of online shopping (Venkatesh, Morris, & Davis, 2003). For the purposes of this study the hypothesis measuring trust is defined as follows:

H8: *Trust positively influences the behavioural intent towards South Africans accepting online shopping*

2.10. Strategic implications of user experience and trust

The user experience and trust of technology are based on an individual's perception of it and the resultant knowledge gained and experiences from the interaction with it. Trust can appropriately extend the UTAUT-2 as Figure 3 posits that online shoppers perceive various levels of trust throughout the online shopping journey.

Online retailers can gain trust by strategically placing external trust signals, namely (Dimoka, Pavlou, & Hong, 2012): (1) 3rd party seals of approval;(2) credit card guarantees; (3) and vendor-specific guarantees (Sha, 2009). Furthermore, organisational/internal trust signals namely (1) return and exchange policy; (2) privacy policy; (3) visual and textual product description; and 4) a help section.

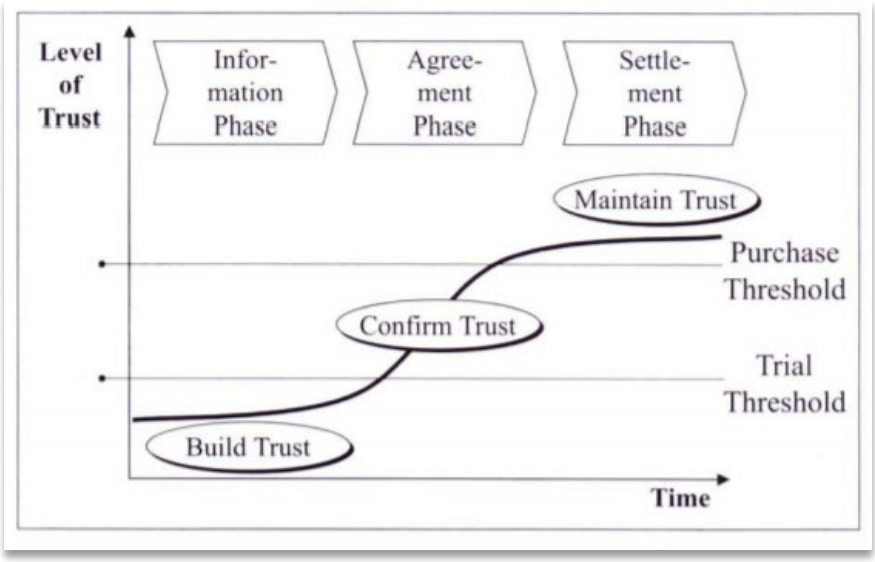

Figure 2.4. Trust in online shopping

(Gustavsson & Johansson, 2006)

Hassenzahl User Experience Model can appropriately extend the *UTAUT-2* as it posits that the interface of the online retailing platform should always be designed with the resultant desired experience of the user in mind. A user experience designer produces user interface product features from the online retailer's perspective without neglecting the online shopping consumer's perspective (Zhou, 2015). There is merit in understanding the impact of the quality of the user experience (Mavlanova, Lang, & Benbunan-Fich, 2016) of the online retailing platform on a consumer. As well as understanding the impact of the consumer perceptions of trustworthiness of the online retailer. Both subsequently affects the online purchase intentions of experienced and inexperienced online shoppers.

2.11. Conceptual model

Given the qualitative document analysis findings and resultant conceptual framework, the following model was proposed for further analysis in this research paper. The study employed the Extended Unified Technology Acceptance and Use of Technology (UTAUT-2) Model as a base framework. This aided in including user experience and trust in determining the acceptance of online shopping while paying attention to the technology built and the consumer's context of the technology (Woollard & Alomary, 2015).

The research model for this research paper was founded on the *UTAUT-2* independent constructs, namely Performance Expectancy, Effort Expectancy, Social Influence, Habit, Hedonic Motivation, Price Value and Facilitating Conditions. These are the same constructs that Venkatesh, Thong and Xu (2012) posit independently influence behavioural intentions. The *UTAUT-2* also posits that continuous technology usage is independently influenced by behavioural intentions (Venkatesh, Thong, & Xu, 2012). Therefore, this research will also observe how behavioural intention influences the variations of motivations or inclinations to use technology. Finally, the proposed research model will explore user experience and trust as constructs as part of the conceptual framework.

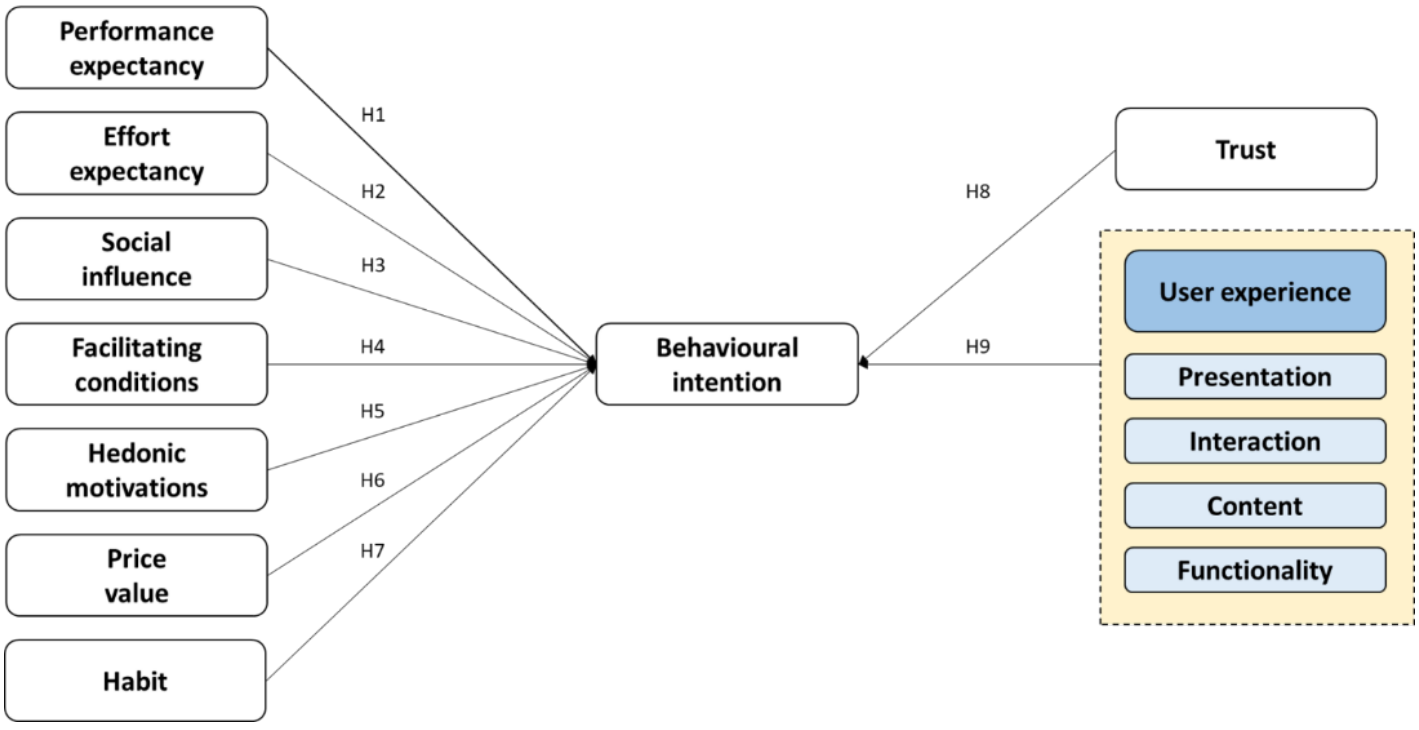

Figure 2.5. Proposed Research Model or Conceptual Framework of the Research Study

Below are the pair constructs proposed conceptual framework will be analysed in the form of the following hypotheses:

(i) H1: Performance expectancy positively influences the behavioural intent towards South Africans accepting online shopping.

(ii) H2: Facilitating Condition positively influences the behavioural intent towards South Africans accepting online shopping

(iii) H3: Effort expectancy positively influences the behavioural intent towards South Africans accepting online shopping

(iv) H4: Social influence positively influences the behavioural intent towards South Africans accepting online shopping

(v) H5: Hedonic motivations positively influences the behavioural intent towards South Africans accepting online shopping

(vi) H6: Price value positively influences the behavioural intent towards South Africans accepting online shopping

(vii) H7: Habit positively influences the behavioural intent towards South Africans accepting online shopping

(viii) H8: Trust positively influences the behavioural intent towards South Africans accepting online shopping

(ix) H9a: Presentation positively influences the behavioural intent towards South Africans accepting online shopping

(x) H9b: Content positively influences the behavioural intent towards South African consumers over accepting online shopping

(xi) H9c: Functionality positively influences the behavioural intent towards South Africans accepting online shopping

(xii) H9d: Interaction positively influences the behavioural intent towards South Africans accepting online shopping

2.12. Chapter summary

Online retailing platforms has transformed retail, creating opportunities for retailers reach a wider range of consumers. Chapter two reviewed literature indicating that the fundamentals of consumer behaviour aid researchers and online retailers to understand online consumer behaviour. Online retailers and researchers need to understand how to make online shopping controllable and pleasant enough for consumers to encourage acceptance. These considerations must be made throughout the online shopping journey navigation across the home page, catalogue page, checkout page and the help tools.

Results from the literature review of the acceptance of online shopping in developing countries indicated that user experience and trust as constructs that can extend the *UTAUT-2*. Online retailers can attain a consumer's trust by strategically placing trust signals along the online shopping journey. These signals are embedded in the user experience such that the consumer still attains pleasantries and information when using online shopping technology.

Given the literature review, the UTAUT-2 is a suitable model to examine the predicators of online shopping in South Africa. It provides a socio-technological framework that considers the build of the technology and the consumer's socio-economic and psychological surroundings that can influence their acceptance of technology. An extended UTAUT-2 conceptual framework has been applied to other developing countries and not in South Africa. Therefore, this research aims to focus on the adoption of online shopping by determining the predicators of online shopping using the UTAUT-2 extended with user experience and trust as constructs.

3. Chapter 3: Research Methodology

3.1. Chapter Introduction

Chapter three will outline the research methodology that will be undertaken in this study. This chapter outlines the research paradigm, the research approach and the research design for this study — a discussion on the target population and sample will be done. Thereafter, the research instruments used as part of the survey of this research report will be identified and discussed. Finally, issues pertaining to ethics will conclude this section.

3.2. Research paradigm

Research paradigms are how social occurrences are evaluated and described using science philosophies (Saunders, Lewis, & Thornhill, 2009). Positivism, interpretivism, realism and pragmatism are the four research paradigms used (Bryman & Bell, 2019) to guide scientific research by shaping (Park, Konge, & Artino, 2020) (1) the observations of reality; (2) the characteristics of knowledge devised ; (3) the merit of the research process; (4) the paradigm defining the research process; (5) and the qualifying criteria of the paradigm.

The positivism research paradigm applies natural science philosophies and methodologies to study a social occurrence (Bryman & Bell, 2019). This research paradigm applies a quantitative research methodology of positing theory, collecting data using questionnaires and finding relationships between posited theory and data to assess the data (Bhattacherjee, 2012). The extended *UTAUT-2* employed a set of hypotheses evaluated empirically amongst South Africans. The research will use descriptive questions and corresponding numerical data in a questionnaire to measure the responses. A positivist research paradigm was applicable to this research as a quantitative research approach because it systematically tested selected theory and hypotheses and deduces findings against collected data.

3.3. Research approach

The positivism research paradigm employs a hypothetical deductive process that starts with theory reviewed in the literature (Park, Konge, & Artino, 2020) 1) construct reliable hypotheses; 2) identify constructs to measure through data collection and analysis 3) conducting the data collection and data analysis. Park, Konge and Artino (2020) further posit that the findings of the empirical study, which is data collection and analysis, is then used to refine or affirm or strengthen the theory. This research aims to assess the acceptance of online shopping empirically and deductively amongst South Africans using the extended *UTAUT-2* model. A deductive approach was employed in this research study. This research study was quantitative research.

Quantitative research quantifies the data collection and analysis that can be deduced by inference, experimentation simulation (Mackenzie & Knipe, 2006). The quantitative research approach is employed for this study because it produces objective data that is communicated through organized research instruments which can generalize information enough for the study to be replicated in future by other South African academic and industry researchers. Inferential analysis assesses hypotheses employing statistical models and tools to validate the relationships identified in the theory and the literature review using a standardised questionnaire when people are the unity of analysis (Bhattacherjee, 2012). This research employed an inferential statistical analysis to find the correlation between the factors that influence and induce the acceptance of online shopping amongst South Africans.

3.4. Research design

Zikmund and Babin (2010) posit that a research design specifies the research methodology and steps for data collection and analysis. There are three types of research design namely: causal, descriptive and exploratory research (Bryman & Bell, 2019). Bryman and Bell (2019) posit that an exploratory research design helps define relationships that solve questions or problems that are unclear. Exploratory research aims to guide, affirm, a refine proceeding research efforts in new or same or adjacent fields of research (Zikmund & Babin, 2010). This study will follow an exploratory research design. The appropriateness of the research design is due to a limited or non-existent number of studies evaluating the acceptance of online shopping amongst South Africans (Dzimati, 2017).

Figure 3.1 provides an illustrative step-by-step research approach that will be utilized in this study. An exploratory research method is proposed for this study to answer the research problem and an extensive literature review was conducted to understand the posited theory, constructs and domain of the research.

A conceptual model is proposed as the foundation of the research and is hypothesized and reinforced by the relationships affecting the constructs found in the reviewed literature. The study will then use a quantitative research method of collecting data using a non-experimental cross-sectional questionnaire. The collected quantifiable data will then be analysed using statistical models and tools to infer and validate relationships posited by the hypothesis statements from Chapter 1. The results of the data analysis will form the determining influencers affecting online shopping among South Africans.

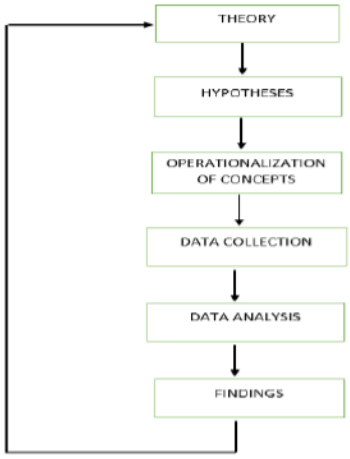

Figure 3.1. Research approach

Source: Bryman and bell, page 41 (Bryman & Bell, 2019)

3.5. Population and sample

3.5.1. Unit of analysis

A unit of analysis in research is the individual, objective, or objects assessed in the study (Bhattacherjee, 2012). For this research, people as individuals will be the unit of analysis.

3.5.2. Population

A target population is a complete collection of units or individuals with common traits and information required by the research for analysis (Zikmund & Babin, 2010). The target population for this research was South African individuals over eighteen (18). Due to the delineation of an ample collection of units.

3.5.3. Sample and sampling method

A list of factors, called a sampling frame, is employed to differentiate the sample population from the target population (Zikmund & Babin, 2010). Convenience sampling was employed as a sampling method as it is a simple method of drawing a sample population and it provides specificity of the sample population's traits. The sample population that will be asked to participate in the study are adults over eighteen years old residing in South Africa. The link to the online questionnaire will be shared on social media due to its ability to reach a broad range of participants of diverse backgrounds and experiences in South Africa (Dzimati, 2017). Due to the inability of the researcher to obtain a complete list of South Africans over the age of eighteen years old, a sampling frame is unavailable. Swiegers (2018) posited that-probability sampling can be applied as an alternative sampling method if a sampling frame cannot be found.

Non-probability samples are subjectively drawn, given that each unit of analysis has a non-zero probability of being selected for the sample population (Swiegers, 2018). Given that the sample will be drawn from a list of South African social media users. It is not known how many questionnaire responses could define the sample population; non-probability sampling is the best-suited sampling method. Therefore, the study employed a convenience non-probability sampling method to draw a sample population.

The target objective of the questionnaire was to collect over 200 responses from South Africans that use social media as a form of communication. The reason for this was that the minimum sample size for conducting Structural Equation Modelling must at least be 200 participants (Kline, 2011). The suggested sample size for the selected statistical analysis model needs a larger sample size to provide accurate results of the measured and structured models that inform which factors are significant and influence online shopping acceptance (Kline, 2011).

3.5.4. The research instruments

The table in the appendix below outlines the adapted research measures and corresponding variables. The second section of the research instruments will capture the demographic information of the individuals surveyed in this research paper, namely gender, age, zone, income, education, internet access, online shopping experience, online shopping frequency and what they like to buy online, see appendix B. The third section presents the psychometric characteristic adapted from previous literature in related studies to assess individuals' acceptance of a particular technology. Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions research instruments were adapted from Venkatesh, Thong and Xu (2012). Hedonic Motivations, Price Value and Habit research instruments were adapted from Indrawati (2018). The Behavioural Intention's research instruments were adopted from Nordhoff, Louw and Innamaa (2020).

Interface Presentation research instruments were adapted from Miraz, Excell and Ali (2016). Interface Content and Interface Interaction research instruments are adapted from Fang, Liu and Li (2015). The Interface Functionality research instruments were adapted from Burnam (2021). Lastly, Trust research instruments were derived from Dzimati (2017). See appendix A for all itemised research instruments. An English close-ended questioned standardised questionnaire constructed by employing the research hypotheses.

The questionnaire employs were a five-point Likert scale where each variable's response will be measured based on the scale the question is rated. A five-point Likert scale is used over a seven-point Likert scale. It gave respondents the right amount of option to react appropriately without response style biases (Tripathi, 2020). The scale range for the survey is as follows below.

Table 3.1. five-point Likert scale

(Tripathi, 2020)

Likert scale	Point system
Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Three sections constructed the questionnaire. Section A captured relevant consents for the participant to proceed with the questionnaire (see appendix A). The second, section B, section posited the demographical questions that measure the online shopping experience, online shopping usage and internet usage, see Appendix B. Section three measured the constructs of the UTAUT-2 model, behavioural intentions and usage behaviour. Finally, it will also measure online shopping user experience and trust. Section three asked respondents to indicate which rating best described their psychometric characteristics and behaviour on the five-point Likert scale (see appendix C).

3.6. Data collection methods

Quantitative research with inferential and descriptive analysis will be employed for this research. The primary research administrator was an online questionnaire due to its cost-effectiveness, reliable security and ease of conducting the quantitative research (see appendix B and C) (Bhattacherjee, 2012). This online questionnaire was shared using email and social media platforms such as WhatsApp, LinkedIn, Twitter and Instagram. It was made available for a limited time only. Social media posts and private messages were sent to adults over eighteen years old residing in Johannesburg. Each social media post calling for the target sample population to participate in the research included the researcher's details, the link to the online questionnaire and an overview of what the research study aims to measure.

The questionnaire employed for this research will be a non-experimental cross-sectional questionnaire that collects data within a specific timeframe due to time and budget limitations (Creswell, 2014). This is opposed to a longitudinal study that requires data collection over a prolonged period of data and monetary budget allocations (Bryman & Bell, 2019). Creswell (2014) further posits that a cross-sectional questionnaire collects data for hypotheses of independent and dependent constructs. This is true as questionnaires are employed to measure constructs not initially considered assisting researchers to capture emergent and expected social occurrences in the individual's responses (Bhattacherjee, 2012).

Questionnaires can be impacted by response biases such as (Tellis & Chandrasekaran, 2010): (1) failing to respond; (2) yes saying; (3) naysaying; (4) and systematic exclusions. Tellis and Chandrasekaran (2010) further posit at those biases can lead to under-reporting or over-reporting on quantifiable data from individuals, resulting in skewed or incorrect data analysis and findings. Therefore, researchers should be aware of these biases to prevent the skewed or incorrect measurement of constructs and resultant weak or incorrect social phenomena (Bhattacherjee, 2012). This research will employ a cross-sectional questionnaire to quantifiable data for statistically analysis and deduce inferences against postulated hypotheses given by the theory.

3.7. Data analysis and interpretation

3.7.1. Descriptive analysis

Section A of the online questionnaire collected information described the sample size's demographics, internet usage and the online shopping experience will be analysed using descriptive statistics. The findings of the items measured in this section were depicted in the form of descriptive data such as frequency tables. The second part of the descriptive analysis was to conduct a check for normality and compute the mean.

The check for normality was completed by computing the skewness, kurtosis and standard deviation. A check for normality is to determine whether the values of the data set is clustered or dispersed around the mean (Bryman & Bell, 2019). For a dataset to be considered normally distributed and to be normally distributed and normally distributed and within a normal range, its skewness and kurtosis indices should be within -2.58 and +2.58 (Fidell, Tabachnick, & Ullman, 2007). However, Steinbrecher and Griffin (2013) state that when applying SEM for statistical analysis on a dataset the appropriate kurtosis indices range is within -10 and +10.

The standard deviation indicates how close or how far the data points of the dataset cluster around the mean (Khan, 2011). A high standard deviation indicates that the data has a high number of values spread out from the mean and is considered unreliable, whereas a low standard deviation indicates that the data is reliable and clustered closely to the mean (Bryman & Bell, 2019).The last measure analysed for the descriptive analysis was the mean. The mean of this dataset is the average of all the responses on the 5-point Likert Scale; it incorporates feedback from all the respondents of the sample population (Barbosa, Rodrigues, & Lima, 2017). Table 3.1. above illustrates the points allocated to each response selected on the 5-point Likert Scale. The mean analysis was conducted to indicate the overall score on the 5-point Likert scale given the number of respondents. This score gave a general and non-weighted overview of how the respondents view the constructs in relation to shopping acceptance, with a statistical analysis being employed.

3.7.2. Inferential analysis

The 200-respondent data collected guided the type of inferential analysis conducted to determine the influence of user experience and trust on online shopping acceptance by South African consumers. Due to the data collected being responses on a 5-point scale, the analysis of the causal relationships between the variables was done by employing the Covariance-based Structural Equation Modelling technique bolstered by a Confirmatory Factor Analysis.

3.7.2.1. Definition of structural equation modelling

Structural Equation Modelling (SEM) is a statistical analysis technique that is employed to evaluate and illustrate the causal relationships between multivariate variables (Fan, Chen, Wu, & Shao, 2019). It is the best statistical technique to simultaneously conduct a multiple linear regression analysis with factor analysis to measure the resultant model structures and parameters. It aids in determining how well the constructs (variables) of the conceptual framework related to one another. There are two types of SEM techniques called the covariance-based structural equation modelling (CBSEM) and the variance-based structural equation modelling (VBSEM). CBSEM is the analysis of the covariance structures and the latent variables using statistical analysis software like AMOS (Davick, 2014). Davick (2014) further denotes that the CBSEM is strictly driven by its chosen theory to confirm causal relationships between latent variables and measured variables in studies observing psychometric behaviour of consumers such as this research paper. The minimum sample size for conducting a CBSEM must be at least 100 - 200 participants with at least 5 latent variables (Kline, 2011; Davick, 2014; Ramil, Malek, & Muda, 2018).

VBSEM is the analysis of least squares using the partial least squares algorithm with generalized structured component analysis that optimizes a global criterion (Davick, 2014). A limitation posited by Davick (2014) that makes the VBSEM insufficient for this research paper is that its approach is to predict behaviour among the latent and measured variables giving an exploratory meaning to the theory being tested. This research paper is confirmatory in nature and therefore cannot use the VBSEM as a statistical analysis tool for this research paper.

3.7.2.2. Description of CBSEM variables and structures

It is important to note that there are two types of variables within a CBSEM structure: a measured variable and a latent variable. A measured variable is a manifested variable that is an outcome of the analysis of the questionnaire responses (i.e., independent variables with standard errors). A latent variable is inferred from other variables observed through statistical analysis (i.e., dependent variable with no standard error) (Suhr, 2006). Once the latent and measured variables are defined, the hypothesized relationships can be illustrated as an CBSEM structure.

There are two types of CBSEM structures. The first type is a simple CBSEM structure. It extends a single regression or a direct path between latent and measured variables (García-Alcaraz, Hernandez, & Díaz-Reza, 2014). The second type is a complex CBSEM structure that extends multiple regressions or paths between the latent variables (Sturdis, 2021). Due to the nature of the conceptual framework that hypothesized the existence of a set of relationships between the proposed constructs that influence online shopping acceptance in South Africa (independent variables) and the behavioural intentions towards online shopping in South Africa (dependent variables), a simple CBSEM structure is applicable to the study. The relationship between the latent variables and the measured variables will also be included in the simple CBSEM structure employed in this research study. Below is an example of a typical simple CBSEM structure.

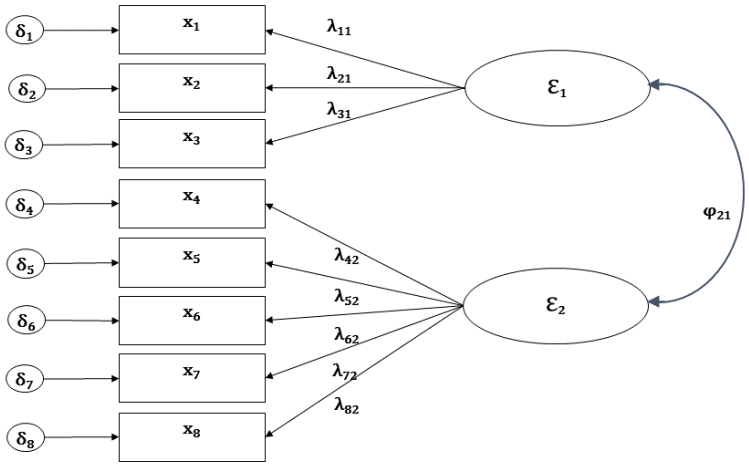

Figure 3.2. A large but simple SEM structure indicating latent and measured variables with a path analysis

(Escobar, 2017)

3.7.2.3. Description of CBSEM outputs

There are two types of models the statistical analysis produces to explain the phenomena, namely (García-Alcaraz, Hernandez, & Díaz-Reza, 2014): (1) a measurement model that describes how the measured variables relate to one another to represent the theory; (2) and a structural model that describes the how the independent and dependent constructs relate to one another based on the proposed conceptual framework. The first objective in CBSEM is to provide a set of relationships that produce a comprehensive and consistent explanation of the phenomena studied. This is the development of the measurement model. The measurement model is a set of path analyses that illustrates the correlations between the dependent (measured) variable and the independent (latent) variables without the error term (Sturdis, 2021).

These are measured by performing a regression analysis or a path analysis strictly based on the theoretical framework of the study (Sturdis, 2021). A path analysis is used to measure the correlation of variables for more complex yet realistic models. The path coefficient is the effects of a path analysis (Ahn & Kang, 2021). Path coefficients measure of the causal relationship between the dependent (measured) variable and the independent (latent) variables without the error (Ahn & Kang, 2021). The measurement model is a result of a parameter constraint as there is no relationship between the latent variables (the construct and error term) – this is the “pure model” (Escobar, 2017).

These causal relationship between the variables can be a diagrammatic illustration of using shapes and arrows at the end of a line that starts at the independent (latent) variable to point to the dependent (measured) without error (Fan, Chen, Wu, & Shao, 2019). The range that specifies a statistically significant path coefficient is with -1 and 1 (Ahn & Kang, 2021). The p-value of the associated path coefficient must be less than 0.5 for the relationship to be considered as statistically significant and have influencing power of the independent variable (Black, Hair, & Banbin, 2010). For the purposes of this study the resultant path diagram is illustrated in the diagram below. It is based on the UTAUT-2 model extended with user experience and trust, CBSEM without observing moderating factors and causal relationships between latent variables, the p-value and the path coefficients.

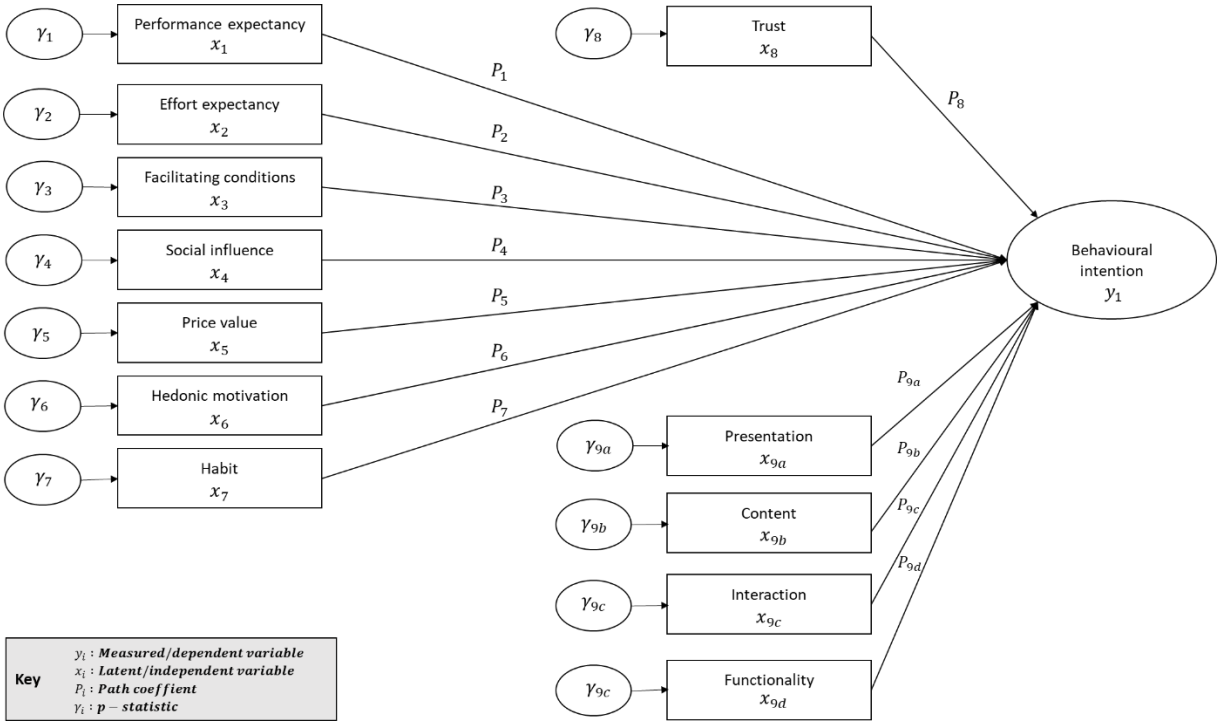

Figure 3.3. Path diagram and measurement model of the conceptual framework

Source: Own elaboration

The second objective in CBSEM is to assess and confirm the variance found in the measurement model (Sturdis, 2021). The researcher is more interested in the structural model than the measurement model (Ahn & Kang, 2021). In a simplistic fashion, the R^2 statistic can be employed to measure how best the structured model best fits the data. It indicates the variance for the dependent (measured) variable that is explained by the independent (latent) variables with errors (Ahn & Kang, 2021).

It provides valuable information about the relationship between the independent (latent) variables and their respective error (latent) variable to indicate whether the structural model explains the phenomena just as well as the measurement model did (Filho, Silva, & Rocha, 2011). If the R^2 statistic is greater than or equal to 0.6 it reveals that structural model fits the dataset (Ahn & Kang, 2021). There is not a set answer of how high the resultant R^2 should be (Frost, 2019).

3.7.2.4. Description of need for Confirmatory Factor Analysis

In a more complex and accurate fashion to estimate the goodness of fit, the Confirmatory Factor Analysis (CFA) can be employed (Gerbing & Anderson, 1988). The CFA aims to prove a theoretical framework by utilizing empirical data and this is a necessary step when the CBSEM is employed for statistical analysis (Cleary, Hunt, Watson, & Thapa, 2020). CFA is employed, mostly in social and clinical research, to determine how well the observed data collected fits the proposed conceptual framework (Gerbing & Anderson, 1988). It answers whether the conceptual framework's factor structure accurately captures the covariance between its proposed constructs (Cleary, Hunt, Watson, & Thapa, 2020). It yields results for the measurement model and the structural model which are evaluated separately (Davick, 2014).

By conducting an analysis on the covariance matrices of the proposed constructs to determine the conceptual framework's parameters, this research study undertakes the maximum likelihood estimation method (Black, Hair, & Banbin, 2010). The maximum likelihood estimation method provides an estimation of the parameters of the presupposed probability distribution given the observed data collected (Rossi, 2018). The statistical model's parameter space's estimated point would maximise the likelihood function (Rossi, 2018).Therefore a CFA enables a research study to indicate that the proposed conceptual framework is feasible and likely plausible (Moosbrugger, Schermelleh-Engel, & Müller, 2003).

3.7.2.5. Determining the measurement model

There are eight or more indices could be used to measure goodness of fit employing the global fit indices. This is employing a set of model fit indices used to evaluate with hypothesis testing to either fail to reject or reject the proposed conceptual framework (Cleary, Hunt, Watson, & Thapa, 2020). For the first method, global indices comprise the absolute, comparative and parsimony fit indices (Coughlan, Mullen, & Hooper, 2008).

Absolute fit indices measure the theoretical framework against the collected data that is observed by evaluating the fit of the covariance structure of the population (Cleary, Hunt, Watson, & Thapa, 2020). Absolute fit indices are: (1) Chi-Squared ($\chi 2$); (2) Root Mean Square Error of Approximation (RMSEA); (3) Root Mean Square Residual (RMSR); (4) Goodness-of-fit index (GFI); (5) and the Adjusted GFI (Black, Hair, & Banbin, 2010).

The table below indicates what indices need to be to attain for a good fit or an acceptable fit for the indices. Comparative fit indices compare the hypothesized conceptual framework and their respective covariances to the baseline model where no meaningful relationships are specified between the proposed constructs (Cleary, Hunt, Watson, & Thapa, 2020). Cleary, Hunt, Watson and Thapa (2020) further explain that these indices also illustrate an improved fit for the conceptual framework in comparison to the presupposed lack of relationships between the proposed constructs. Comparative fit indices are: (1) Normed Fit Index (NFI); (2) and the Comparative Fit Index (CFI) (Bentler & Bonett, 1980). The table below indicates what indices need to be to attain for a good fit or an acceptable fit for the indices.

Parsimony fit indices are adjustments made to the fit indices such that a penalty is added to the conceptual framework for model complexity (Cleary, Hunt, Watson, & Thapa, 2020). Simpler models are preferred over complex models, therefore the Parsimony normed-of-fit index (PNFI) (Black, Hair, & Banbin, 2010). A model is considered as fit when the PNFI statistic is greater than 0.5 (Meyers, Guarino, & Gamst, 2006).

Bentler and Hu (Bentler & Hu, Cut off criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives, 1993) postulate that even though the Chi – Squared fit index does also employ the maximum likelihood method by using the test statistic as the measure of fitness, it has limitations. If the sample size is large, the p-value decreases which increases the likelihood of a misfit (Cleary, Hunt, Watson, & Thapa, 2020). This may lead to the hypotheses presented by the conceptual framework to be rejected. Therefore, the Chi-Squared fit index will not be used for the purposes of this research due to the size of the sample population the table below provides a standard criterion for the goodness-of-fit-indices.

Fit Measure	Good Fit	Acceptable Fit
χ^2	$0 \leq \chi^2 \leq 2df$	$2df < \chi^2 \leq 3df$
p value	$.05 < p \leq 1.00$	$.01 \leq p \leq .05$
χ^2/df	$0 \leq \chi^2/df \leq 2$	$2 < \chi^2/df \leq 3$
RMSEA	$0 \leq RMSEA \leq .05$	$.05 < RMSEA \leq .08$
p value for test of close fit ($RMSEA < .05$)	$.10 < p \leq 1.00$	$.05 \leq p \leq .10$
Confidence interval (CI)	close to *RMSEA*, left boundary of CI = .00	close to *RMSEA*
SRMR	$0 \leq SRMR \leq .05$	$.05 < SRMR \leq .10$
NFI	$.95 \leq NFI \leq 1.00$[a]	$.90 \leq NFI < .95$
NNFI	$.97 \leq NNFI \leq 1.00$[b]	$.95 \leq NNFI < .97$[c]
CFI	$.97 \leq CFI \leq 1.00$	$.95 \leq CFI < .97$[c]
GFI	$.95 \leq GFI \leq 1.00$	$.90 \leq GFI < .95$
AGFI	$.90 \leq AGFI \leq 1.00$, close to *GFI*	$.85 \leq AGFI < .90$, close to *GFI*
AIC	smaller than *AIC* for comparison model	
CAIC	smaller than *CAIC* for comparison model	
ECVI	smaller than *ECVI* for comparison model	

Note. *AGFI* = Adjusted Goodness-of-Fit-Index, *AIC* = Akaike Information Criterion, *CAIC* = Consistent *AIC*, *CFI* = Comparative Fit Index, *ECVI* = Expected Cross Validation Index, *GFI* = Goodness-of-Fit Index, *NFI* = Normed Fit Index, *NNFI* = Nonnormed Fit Index, *RMSEA* = Root Mean Square Error of Approximation, *SRMR* = Standardized Root Mean Square Residual.

[a] *NFI* may not reach 1.0 even if the specified model is correct, especially in smaller samples (Bentler, 1990). [b] As *NNFI* is not normed, values can sometimes be outside the 0-1 range. [c] *NNFI* and *CFI* values of .97 seem to be more realistic than the often reported cutoff criterion of .95 for a good model fit.

Figure 3.4. Ranges for "good fit" and "acceptable fit" for a Confirmatory Factor Analysis (Moosbrugger, Schermelleh-Engel, & Müller, 2003; Meyers, Guarino, & Gamst, 2006).

3.7.2.6. Determining the structural model

The final objective of CBSEM is to specify the structural equation model to evaluate the relationships between the measured variables, the latent variables and their respective errors (Gerbing & Anderson, 1988). The structural model is specified by extending the measurement model to include the inner model which is the relationship between the latent variables (Hungilo & Setyohadi, 2020). It is the assessment of multicollinearity between the latent variables as well as between the independent and dependent variables (Black, Hair, & Banbin, 2010). Independent variables must be and remain independent as they indicate the cause of an effect in the cause-effect relationship that describes the relationship between the independent and dependent variable (Frost, 2019). In that case a dependent variable depended on how the independent variable changes, its outcome depends on the changes in the independent variable.

The Inner Variance Inflation Factors (VIF) are the outcomes of the assessment of collinearity. The Inner VIF is measured by inputting each variable's R-squared statistic into this formula: (1/ (1 - R_i^2)) (Frost, 2019). The acceptable level of VIF is less than or equal to five (Wende, Ringle, & Becker, 2015). Any value above five indicates multicollinearity. If the Inner VIF is high this indicates that there is high collinearity between the independent and dependent variables, thus discrediting the previously defined causal relationships and statistical significance (p-value) of the independent variables (Hungilo & Setyohadi, 2020).

CBSEM statistical technique was applied to analyse the measures using SPSS software provided by the University of the Witwatersrand. According to Novikova, Richman, Supekar, & Hall, (2013) the advantages of employing SEM are: (1) it estimates the existence of emergent variables by means of the identified variables; (2) the conceptual framework is tested as a structure that can be assessed according to the fit of the data; (3) and it explicitly evaluates the errors. This will help the research accurately define the causal and statistical relationship between the identified and emergent variables more accurately than a multiple regression, or a partial least square model (Amra & Almir, 2016). The proposed framework includes both types of variables whose outcomes will help determine the factors influencing the acceptance of online shopping in South Africa. Thus, the complex computing of simultaneous equations, path analysis and covariance structure analysis included in CBSEM is well suited for the elaboration of theory and construction of the proposed framework.

3.8. Reliability and validity

To begin the inferential analysis the data collected was then subjected to analyse the measurement model. This was done by employing a test for reliability starting with the Cronbach Alpha and Composite Reliability. Reliability of measurements need to be established in a quantitative analysis to illustrate the results accuracy, reliability and dependability (Cronbach, 1951). Reliability highlights the perspectives about the dataset (Schindler & Cooper, 2011): (1) it implies stability of the responses on the scale items when the same dataset was tested twice using the same test; (2) and it measures the homogeneity of the underlying constructs. Cronbach Alpha and the Composite Reliability statistics are used as measures that indicate the reliability of a dataset. The analysis of the Cronbach alpha was employed to provide for a research study a measure of the dataset's internal consistency and evaluating the reliability (Boudreau, Gefen, & Straub, 2000; Bhattacherjee, 2012). Berstein and Nunnally (1994) stated that a Cronbach's alpha within a range of 0.6 and 0.8 illustrates that the studied items are reliable and achieves an internal consistency.

The composite reliability is a scale that measures reliability of the constructs (Sarstedt, Henseler, & Ringle, 2011). A construct achieves internal reliability when its composite reliability is greater than or equal to 0.7 (Sarstedt, Henseler, & Ringle, 2011). If the internal reliability of the dataset without error (measurement model) is proven, it could apply to the structural model (Black, Hair, & Banbin, 2010).

The second measure analysed was the convergent validity and discriminant validity. This analysis was applied of the resultant measurement model. The convergent validity illustrates that the independent (latent) constructs without the error have a high correlation with the dependent (measured) construct (Ahn & Kang, 2021). Convergent validity ensures that the independent (latent) variable without error is reliable (Black, Hair, & Banbin, 2010).
Any unreliable latent constructs are removed from the conceptual framework (Black, Hair, & Banbin, 2010). This ensures that the quality of the construct is present and applicable to the structural model. Convergent validity is measured by the outcomes of factor loadings average variance extracted (AVE).

The factor loadings of the selected independent and dependent variables without error must exceed a factor loading value that is greater than or equal to 0.6 (Ahn & Kang, 2021). This will indicate that the expected high correlatability between them is existent. It is recommended that the average variance extracted should be smaller than the composite reliability and the composite reliability must be greater than 0.5 (Sarstedt, Henseler, & Ringle, 2011). If the convergent validity of the dataset without error (measurement model) is proven, it could apply to the structural model (Black, Hair, & Banbin, 2010).

The discriminant validity is applied to the measurement model to evaluate which independent (latent) variables can be included in the model because they are easily differentiated (Ahn & Kang, 2021). This means that the independent (latent) variables have a low correlation and are not related. Discriminant validity was evaluated using the Fornell-Locker criterion (diagonal values), which is the square root of the average variance extracted (Sarstedt, Henseler, & Ringle, 2011). An independent (latent) construct must make sure that the square root of the average variance is greater than the resultant correlation (path) coefficients (Black, Hair, & Banbin, 2010). Alternatively, the acceptable factor loading should be greater or equal to 0.55 (Ahn & Kang, 2021). That would mean that the independent (latent) constructs of the measurement model achieve discriminant validity it could apply to the structural model (Black, Hair, & Banbin, 2010).

3.9. Limitations of the study

There were the weaknesses associated with the commitments made to conduct the research. Since there is no exhaustive list containing the contact details of all South Africans, the researcher limited the study to a location within proximity. There was a lack of research employing the UTAUT-2 with User experience and trust constructs to determine the factors influencing online shopping among South Africans. This study aimed to pioneer a conceptual framework that can then be used for further research and applied by businesses in future.

3.10. Ethical considerations

Ethics is defined as the morals and behaviours studied in distinguishing between wrong and right (Bryman & Bell, 2019). Ethics is crucial in research as it mitigates wrong or unethical practices opposing the conduct required for scientific research (Bhattacherjee, 2012). To mitigate unethical conduct in this research, approval of the research proposal and ethical clearance was obtained from the University of the Witwatersrand's research panel and ethics committee before the start of the data collection.

3.10.1. Consent and anonymity

Individuals who participated in the study were requested to provide consent to participate in the research anonymously. The participants also provided consent to the processing and storing of their collected anonymised data for the purposes of the study. If the participant agreed to participate in the research, they selected 'yes' and proceeded with the online questionnaire. If not, they selected 'no', which terminated their participation in the research (see appendix C).

3.10.2. Privacy

The participants were assured that their data would be anonymised and safely captured, stored and processed only for research (see appendix C).

3.10.3. Protection from harm

Finally, the participants had the opportunity to withdraw from the research at any point in time by either exiting the survey or contacting the researcher to delete their information collected, see appendix C. All the incomplete responses collected were removed from the data set.

3.11. Chapter summary

This chapter outlined the research methodology in the form of procedures that were followed for the duration of the study. It included the research paradigm and the research approach. This is followed by the research design and, finally, the ethical considerations of the study. Chapter four will outline and present the results and interpretations of the data collected from the sample population through an online questionnaire. That section will inform the conclusions and contributions made to South African literature addressing the acceptance of online shopping in South Africa.

4. Chapter 4: Data analysis

4.1. Introduction

The premise of this study is to investigate the influence of user experience and trust on online shopping acceptance by South African consumers. This chapter outlines the empirical findings regarding the possible relationship between the twelve independent constructs (UTAUT-2, user experience and trust constructs) and one dependent construct (behavioural intention towards accepting online shopping). South Africans over the age of eighteen years old were the study's target population. During the data collection process, an approximately 350 were approached by means of social media posts, private messaging and sharing the survey link in group chats. A total of 241 responses to the questionnaire were collected. Out of the 241 responses collected, only 223 were usable because there was missing data and incomplete surveys could be attributed. Only 200 responses were statistically analysed.

A two-step analysis approach was undertaken in this section. The data collected was subjected to a descriptive analysis. This is proceeded by validity, reliability and inferential analyses of the data collected. CBSEM was used as the statistical technique to estimate and evaluate the hypothesised relationships proposed in the conceptual framework of this research paper. Therefore, the chosen statistical technique enables the determination of the correlations between the stated independent and dependent variables. The SPSS AMOS statistical package was used to action CBSEM for the statistical analysis.

4.2. Procedures followed for cleaning the data

To increase descriptive and statistical accuracy, the data was cleaned before analysis. A total of 241 questionnaire responses were collected and 41 were removed and excluded to maintain consistency in the suggested sample size and the data collected.

4.3. Descriptive analysis

The next section outlines the descriptive analysis results regarding the demographic profile of the respondents based on their responses.

4.3.1. Gender

The aim of this question was to understand the gender distribution of the sample population. The results outlined that the sample population is made up of 133 female (66.5%), 66 male (33%) and 1 non-binary (0.5%) respondent.

4.3.2. Age

174 respondents (79.5%) of the sample population indicated that their age falls between the 25 to 40 years old group. 27 respondents (13.5%) indicated their age falls between the age group of 18 to 24 years old group. 11 respondents (5.5%) indicated that their age falls between the 41 to 56 years old group. Only 3 respondents (1.5%) indicated that their age fall between the 57 to 66 years old group.

4.3.3. Education

With regards to education, 93 respondents (46.5%) indicated that they had obtained their postgraduate degree. 59 respondents (29.5%) indicated that they had obtained their bachelor's degree. 22 respondents (11%) indicated that they had obtained their matric certificate. 14 respondents (7%) indicated that they had obtained their national diploma and 12 respondents (6%) indicated that they had obtained their higher certificate.

4.3.4. Income

The results indicated that 89 (44.5%) respondents have an income that is either equal to or greater than R26000. 88 respondents (44%) indicated that they earned between R3000 and R25000. 23 respondents (11.5%) indicated that their earnings are below R3000.

4.3.5. Internet access and internet-enabled device type

The aim of this question is to understand the sample population's accessibility of the internet and which internet enabled devices are used to access it. The results indicated that 199 respondents (99.5%) have access to the internet. Of the 199 respondents with internet access, 141 respondents (70.5%) use their cell phones, 56 respondents (28.0%) use their laptop and 3 respondents (1.5%) use their TV as devices to access the internet.

4.3.6. Online shopping experience

The next set of questions that will be addressed here aimed to understand whether the sample population is aware of the online retailing environment and resultant online shopping outcomes. 195 respondents (97.5%) indicated that they know of online shopping websites and applications. 194 respondents (95.5%) indicated they have browsed through an online shopping website. 191 respondents (95.5%) indicated that they have bought something online. Out of the respondents that have indicated that they have bought something online, 196 respondents (98%) have either bought books, clothes and shoes, home décor, food and drinks, electronics, cosmetics, make-up, or all the above.

4.3.7. Skewness, kurtosis analysis and standard deviation analysis

Table 4.1. below outlines the skewness results, kurtosis analysis and standard deviation. The resultant skewness indices for this dataset are within the range of -2.200 and 0.259. The resultant kurtosis indices for this dataset are within the range of -0.744 and 6.860. This is in adherence with Steinbrecher and Griffin's statement. This resultant range and any variations from the ± 3 and ± 10 range may not indicate that the dataset is not normally distributed because SEM is an analytically robust statical analysis method (Steinbrecher & Griffin, 2013). Therefore, this dataset is normally distributed and within a normal range. The standard deviation for all the constructs were within a range of 0.6897 and 1.1344 which is low and thus the data points of the dataset are clustered around the mean.

Table 4.1. Descriptive analysis of statistics that measure normality of the data set

Source: Own elaboration

Construct	Mean	Std. Deviation	Skewness	Kurtosis
Performance Expectancy	4.1387	0.8015	-1.297	1.857
Facilitating Conditions	4.3638	0.7141	-2.200	6.860
Effort Expectancy	4.4058	0.6897	-1.862	4.773
Social Influence	3.5918	0.9004	-0.373	-0.163
Hedonic Motivation	4.0485	0.8917	-1.074	1.199
Price Value	3.7028	1.0162	-0.709	-0.064
Habit	2.7295	1.1344	0.259	-0.744
Trust	3.5859	0.8657	-0.411	-0.126
Presentation	4.0376	0.7914	-0.752	0.497
Content	4.0171	0.8036	-0.795	0.863
Interaction	3.6684	0.8714	-0.452	0.189
Functionality	3.7993	0.8506	-0.592	0.167
Behavioural intention	4.0584	0.8080	-1.138	1.969

4.4. Inferential analysis

4.4.1. Cronbach alpha analysis

The Cronbach alpha results are above 0.6 and are reliable. Therefore, no outliers were recorded. All the items observed were retained for further analysis. This also indicates that the dataset achieves stability, internal consistency, and homogenous independent (latent) and dependent (measured) variables.

4.4.2. Composite reliability analysis

All the constructs achieved a composite reliability that is great than 0.7. Specifically, within the range of 0.839 and 0.927. This means that all the factors are dependable. This means that all the independent (latent) variables do not need to be removed from the measurement model and they are in the measurement model and are for the structural model.

4.4.3. Convergent validity analysis

The average variance extracted for all the constructs are greater than 0.5. Specifically with the range of 0.567 and 0.810. *Table 4.2.* below indicates the factor loadings for the items measured for each independent (latent) variable are greater than 0.55. Specifically, within a range on 0.535 and 0.947. This means that all the factors achieve convergent validity. Furthermore, the square root of the average variance extracted for all the constructs are greater than their respective path coefficients. The convergent validity of the measurement model illustrates that all the independent (latent) constructs without the error have a high correlation with the dependent (measured) construct (Ahn & Kang, 2021).

Table 4.2. Validity and reliability statistics and outcomes

Source: Own elaboration

Factors Items	Loadings	AVE	CR	Cronbach's Alpha
Performance Expectancy				
P1	0.891	0.665	0.887	0.805
P2	0.876			
P3	0.650			
P4	0.822			
Facilitating Conditions				
C1	0.827	0.650	0.880	0.798
C2	0.881			
C3	0.833			
C4	0.669			
Effort Expectancy				
E1	0.883	0.688	0.897	0.831
E2	0.883			
E3	0.850			
E4	0.686			
Social Influence				
SI1	0.535	0.567	0.836	0.737
SI2	0.739			
SI3	0.833			

SI4	0.861			
Hedonic Motivations				
HM1	0.914	0.733	0.916	0.878
HM2	0.903			
HM3	0.763			
HM4	0.837			
Price Value				
PV1	0.812	0.684	0.897	0.844
PV2	0.798			
Pv3	0.875			
PV4	0.822			
Habit				
H1	0.797	0.686	0.897	0.847
H2	0.850			
H3	0.834			
H4	0.831			
Trust				
T1	0.641	0.609	0.860	0.761
T2	0.825			
T3	0.875			
T4	0.760			
Presentation				
UXP1	0.828	0.756	0.903	0.836
UXP2	0.912			
UXP3	0.867			
Content				
UXC1	0.904	0.810	0.927	0.878
UXC2	0.947			
UXC3	0.846			
Interaction				
UXI1	0.796	0.673	0.860	0.755
UXI2	0.879			
UXI3	0.782			
Functionality				
UXF1	0.808	0.663	0.855	0.737
UXF2	0.817			
UXF3	0.817			
Behavioural intention				
B_I1	0.852	0.638	0.839	0.700
B_I2	0.837			
B_I3	0.698			

4.4.4. Discriminant validity analysis

Table 4.3. below indicates the Fornell-Locker criterion (diagonal values) within a range of 0.753 and 0.900 are greater than the path coefficients with a range of -0.023 and 0.226. The constructs achieve a discriminant validity. This means that the independent (latent) variables have a low correlation, are not related with one another and are truly independent.

Table 4.3. Construct Reliability, Convergent Validity and Discriminant Validity for the Sample Size

Source: Own elaboration

Construct	CR	AVE	PE	FC	EE	SI	HM	PV	H	T	P	C	I	F	BI
PE	0.887	0.665	**0.815**												
FC	0.880	0.650	0.559	**0.806**											
EE	0.897	0.688	0.565	0.726	**0.829**										
SI	0.836	0.567	0.375	0.380	0.263	**0.753**									
HM	0.916	0.733	0.614	0.532	0.524	0.582	**0.856**								
PV	0.897	0.684	0.691	0.400	0.472	0.341	0.578	**0.827**							
H	0.897	0.686	0.454	0.324	0.303	0.349	0.586	0.451	**0.828**						
T	0.860	0.609	0.502	0.482	0.475	0.246	0.479	0.509	0.492	**0.780**					
P	0.903	0.756	0.543	0.518	0.605	0.375	0.585	0.570	0.342	0.615	**0.869**				
C	0.927	0.810	0.551	0.528	0.582	0.370	0.560	0.528	0.332	0.571	0.820	**0.900**			
I	0.860	0.673	0.346	0.454	0.339	0.565	0.565	0.368	0.306	0.425	0.507	0.550	**0.820**		
F	0.855	0.663	0.429	0.503	0.563	0.358	0.524	0.424	0.300	0.521	0.629	0.641	0.625	**0.814**	
BI	0.839	0.638	0.623	0.583	0.597	0.395	0.609	0.551	0.404	0.545	0.593	0.596	0.579	0.574	**0.799**

4.4.5. Confirmatory factor analysis

Table 4.4. below indicates the resultant tests for goodness of fit for the measurement and structural models. The indicates that the measurement model of the conceptual framework accurately captures the covariance between its proposed constructs without error. This result is due to the fit indices achieving an overall acceptable fit in all its fit indices.

This is applicable to the structural model as well as all the fit indices achieve a good fit. This means that the structural model accurately represents the factor structure of the latent variables, measured variables and the errors. None of the variables need to be removed from the structural model at this point of the inferential analysis.

Table 4.4. Goodness-of-Fit Measurement and Structural Model

Source: Own elaboration

Fit Index	Recommended	MM	SM
df	N/A		
X2/df	< 3.0 Meyers et al., 2005 & Hair et al., 2009	3.118	3.307
GFI	> .90 Meyers et al., 2005	0.891	0.916
AGFI	> .80 Meyers et al., 2005	0.81	0.816
CFI	> .90 Hatcher, 1994	0.924	0.941
RMSR	< .05 Meyers et al., 2005	0.027	0.043
RMSEA	< .08 Meyers et al., 2005	0.073	0.065
NFI	> .90 Bentler & Bonett, 1980	0.949	0.965
PNFI	> .50 Meyers et al., 2005	0.705	0.762

Note: Measurement Model (MM) & Structural Model (SM)

4.4.6. Structural model analysis

The next step was to conduct the assessment of the structural model to determine whether the identified causal relationships or path coefficients among the factors explain the conceptual framework. This is the coefficient of determination assessment, also called R^2 statistic. *Table 4.5.* below indicates the resultant R^2 statistic is 0.619, this means that the causal relationships or the path coefficients of the structural model explain 61.9% of variance in the dependent variable. This means that the performance expectancy, facilitating conditions, effort expectancy, social influence, hedonic motivation, price value, habit, trust, presentation, content, interaction and functionality have about 61.9% influencing power over Behavioural Intention's variance. Therefore, the Behavioural intention was impacted by the identified independent variable i.e., performance expectancy, facilitating conditions, effort expectancy, social influence, hedonic motivation, price value, habit, trust, presentation, content, interaction and functionality.

Table 4.5. Coefficient of Determination (R2)

Source: Own elaboration

Variance Explained	
Dependent Variable	**Behavioural intention**
R^2	0.619

To address the probable issues with collinearity, the Variance Inflation Factor (VIF) must be calculated. The VIF collated in *Table 4.6*. below are within a range of 1.714 and 3.894 which means all constructs achieve a VIF that is below 5. This indicates that all twelve of the independent (latent) variables were seen as different. This means that there is no presence of multicollinearity between performance expectancy, facilitating conditions, effort expectancy, social influence, hedonic motivation, price value, habit, trust, presentation, content, interaction and functionality.

Table 4.6. Collinearity Statistics (VIF values)

Source: Own elaboration

Construct	Variance Inflation Factor (VIF)
Performance Expectancy	2.415
Facilitating Conditions	2.317
Effort Expectancy	2.548
Social Influence	1.714
Hedonic Motivation	2.839
Price Value	2.144
Habit	1.740
Trust	2.101
Presentation	3.894
Content	3.658
Interaction	2.348
Functionality	2.363

The next step was to assess the resultant path coefficients of the paths and associated p-values between the independent variables and the dependent variable. For the path to be statistically significant its associated p-value must be greater than 0.05. The *Table 4.7.* below indicates the significant paths representing the significant relationships between the independent and dependent variables for only 3 of the 12 paths assessed. The path coefficients are within a range of – 0.019 and 0.241.

Table 4.7. Path Analysis Estimates

Source: Own elaboration

Parameters	Path Coefficients	p-value	Decision
Performance Expectancy - BI	0.233	0.001	Fail to Reject
Facilitating Conditions - BI	0.119	0.121	Reject
Effort Expectancy - BI	0.180	0.031	Fail to Reject
Social Influence - BI	-0.019	0.627	Reject
Hedonic Motivation - BI	0.099	0.115	Reject
Price Value - BI	0.046	0.356	Reject
Habit - BI	0.009	0.735	Reject
Trust - BI	0.055	0.196	Reject
Presentation - BI	0.028	0.704	Reject
Content - BI	0.052	0.514	Reject
Interaction - BI	0.241	0.001	Fail to Reject
Functionality - BI	0.043	0.612	Reject

The variance in Behavioural Intention is influenced by performance expectancy, facilitating conditions, effort expectancy and interaction. Performance expectancy, effort expectancy and interaction affirm the alternative hypotheses and are retained in the structural model because their associated p-values are less than 0.05. Furthermore, facilitating conditions, social influence, hedonic motivation, price value, habit, trust, presentation, content and functionality do not have influencing power over Behavioural Intention of online shopping acceptance by the sample population.

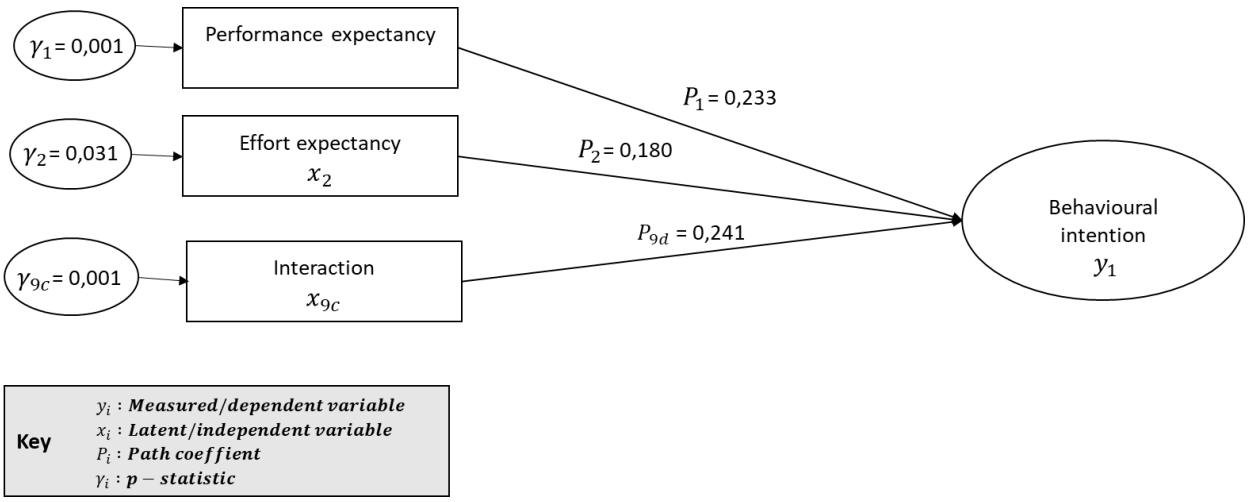

Figure 4.1. The structural model representing the factors that influence online shopping acceptance by the sample population

Source: Own elaboration

4.5. Chapter summary

Chapter four deduces the findings of the primary research data collected of this research study. The descriptive nature of the collected data from the sample population was outlined by deducing its characteristics, frequencies, mean and normal distribution. The normal distribution of the collected data was represented by the outcomes of the skewness, kurtosis and standard deviation. The statistical analysis was done by outlining the inferential nature of the primary research. The relationships between the hypothesised factors that influence online shopping acceptance were evaluated. The outcomes of the measurement model permitted the determination of the discriminant validity, convergent validity, construct reliability, goodness-of-fit and factors included in the structural model.

5. Chapter 5: Discussions of the empirical findings

5.1. Introduction

This chapter aims to discuss the empirical findings outlined in the previous chapter. The findings are outlined in a more in-depth fashion.

5.2. Summary of the empirical findings

The outcomes of the descriptive analysis indicated that the sample population's responses to measured factors were positive and clustered around the mean. There majority of the online questionnaire responses were repetitively similar and only a handful of outlier responses were present. This means that the sample population affirms that they are familiar with online shopping. The respondent's online questionnaire answers can provide valuable insights if a descriptive and inferential analysis is applied to the online questionnaire data collected. Based on the demographic results from the population sample, the South African online shopper could be described by the following user persona characteristics:

- Woman between the ages of 25 to 40 years old.
- Educated with a qualification of a postgraduate degree.
- Earns an income greater than or equal to R26000.
- Has access to the internet.
- Uses their mobile phone to access the internet.
- Is aware of online shopping websites and applications.
- Has bought books, clothes and shoes, home décor, food and drinks, electronics, cosmetics, make-up, or all the above online.

The outcomes obtained from the inferential analysis were different from the UTAUT-2 framework based on the theoretical framework and findings from literature guiding the literature review. Based on the results from the structural model assessment there were factors that were rejected as constructs that influence online shopping acceptance by South Africans. The identified constructs were not included in the structural model of this research study and are factors that do not influence online shopping acceptance by South Africans. The following hypotheses representing the constructs that were rejected:

H2: *Facilitating Condition positively influences the behavioural intent towards South Africans accepting online shopping.*
H4: *Social influence positively influences the behavioural intent towards South Africans accepting online shopping.*

H5: *Hedonic motivations positively influences the behavioural intent towards South Africans accepting online shopping.*
H6: *Price value positively influences the behavioural intent towards South Africans accepting online shopping.*
H7: *Habit positively influences the behavioural intent towards South Africans accepting online shopping.*
H8: *Trust positively influences the behavioural intent towards South Africans accepting online shopping.*
H9a: *Presentation positively influences the behavioural intent towards South Africans accepting online shopping.*
H9b: *Content positively influences the behavioural intent towards South African consumers over accepting online shopping.*
H9c: *Functionality positively influences the behavioural intent towards South Africans accepting online shopping.*
H9d: *Interaction positively influences the behavioural intent towards South Africans accepting online shopping.*

The findings of the inferential analysis indicate that facilitating conditions, social influence, hedonic motivations, price value, habit, trust, presentation, content and functionality are weak influencers of the acceptance of online shopping by South Africans. There were constructs that were not rejected based on the results of the structural model assessment. This suggested that there is a significant relationship between the “accepted” (failed to reject) constructs and behavioural intention. Furthermore, these constructs were thus included from the resultant structural model and are not considered as factors that influence online shopping acceptance by South Africans. The following hypotheses representing the constructs that were “accepted” and are factors that influence online shopping acceptance by South Africans:

H1: *Performance expectancy positively influences the behavioural intent towards South Africans accepting online shopping.*
H3: *Effort expectancy positively influences the behavioural intent towards South Africans accepting online shopping.*
H9d: *Interaction positively influences the behavioural intent towards South Africans accepting online shopping.*

5.3. Answering the primary research question

The section aimed to discuss the findings pertaining to Research question 1.

5.3.1. What factors influence the acceptance of online shopping by South African consumers?

The relationship between performance expectancy and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that the performance expectancy of technology does significantly and positively influence the behavioural intentions of its targeted consumers in a developing country when employing the UTAUT and UTAUT-2 as a research framework (Piarna, Fathurohman, & Purnawan, 2020; Aswani, Ilavarsan, Kar, & Vijaya, 2018; Dzimati, 2017). More specifically, it was expected that performance expectancy would be a significant influencer of online shopping acceptance by South African consumers (Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.001 for performance expectancy. This research study suggests that the performance expectancy of online shopping technology is not significant to South African online shopping consumers, and therefore it does not influence their online shopping acceptance.

The emergent result contrasts with the assertions posited by the literature reviewed in Chapter 2 (Piarna, Fathurohman, & Purnawan, 2020; Aswani, Ilavarsan, Kar, & Vijaya, 2018; Dzimati, 2017). On the other hand, the structural model analysis results of this research study affirmed literature reviewed in Chapter 2 that asserts that performance expectancy is not significant and does not influence online shopping acceptance in a developing country like South Africa when employing the UTAUT-2 as a research framework (Merhi, Hone, & Tarhini, 2019; Hungilo & Setyohadi, 2020).

The relationship between effort expectancy and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that the effort expectancy of technology does significantly and positively influence the behavioural intentions of its targeted consumers in a developing country when employing the TAM, UTAUT and UTAUT-2 as a research framework (Aswani, Ilavarsan, Kar, & Vijaya, 2018; Jackson, 2018; Pentz, Du Preez, & Swiegers, 2020; Makhita, Van Scheers, & Mogashoa, 2019; Jibril, Kwarteng, Pilik, & Botha, 2019; Hungilo & Setyohadi, 2020; Dzimati, 2017).

More specifically, it was expected that effort expectancy would be a significant influencer of online shopping acceptance by South African consumers (Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.030 for effort expectancy. This research study suggests that the effort expectancy of online shopping technology is a significant to South African online shopping consumers, and therefore, it influence their online shopping acceptance. The emergent result affirms the assertions posited by the literature reviewed in Chapter 2 (Aswani, Ilavarsan, Kar, & Vijaya, 2018; Hungilo & Setyohadi, 2020; Dzimati, 2017). On the other hand, the structural model analysis results of this research study contrasted the literature reviewed in Chapter 2 that asserts that effort expectancy is not significant and does not influence online shopping acceptance in a developing country like South Africa when employing the UTAUT and UTAUT-2 as a research framework (Merhi, Hone, & Tarhini, 2019; Piarna, Fathurohman, & Purnawan, 2020). This indicates that South African consumers are concerned whether the online shopping platform has a sophisticated navigation ability to be used to accept online shopping.

The relationship between social influence and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that the social influence of technology does significantly and positively influence the behavioural intentions of its targeted consumers in a developing country when employing the UTAUT and UTAUT-2 as a research framework (Merhi, Hone, & Tarhini, 2019; Piarna, Fathurohman, & Purnawan, 2020; Aswani, Ilavarsan, Kar, & Vijaya, 2018; Dzimati, 2017). More specifically, social influence was expected to be a significant influencer of online shopping acceptance by South African consumers (Dzimati, 2017).

The results from the structural model analysis produced a p-value of 0.650 for social influence. This research study suggests that the social influence of online shopping technology is not significant to South African online shopping consumers, and therefore it does not influence their online shopping acceptance. This result indicates that South African consumers' online shopping acceptance is not influenced by the views and opinions of people in their online and physical social circles (Dzimati, 2017). Therefore, a South African consumer's motivation to accept online shopping does not rely on the opinions and post-sale experiences about the products and services previously bought by other South African online shoppers (Merhi, Hone, & Tarhini, 2019). This is in contrast to the South African literature reviewed in Chapter 2.

The relationship between facilitating conditions and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that the facilitating conditions of technology does significantly and positively influence the behavioural intentions of its targeted consumers in a developing country when employing the UTAUT and UTAUT-2 as a research framework (Merhi, Hone, & Tarhini, 2019; Aswani, Ilavarsan, Kar, & Vijaya, 2018). More specifically, highlighted South African research studies included in the literature review did not indicate that facilitating conditions would be a significant influencer of online shopping acceptance by South African consumers (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.121 for facilitating conditions. This research study suggests that the facilitating conditions of online shopping technology is not significant to South African online shopping consumers and therefore it does not influence their online shopping acceptance. This is in contrast to the South African literature reviewed in Chapter 2.

The relationship between price value and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that the price value of technology significantly influences the behavioural intentions of its targeted consumers in a developing country when employing the UTAUT-2 as a research framework (Hungilo & Setyohadi, 2020). More specifically, highlighted South African research studies included in the literature review did not indicate that price value would significantly influence online shopping acceptance by South African consumers. These studies did not employ the most advance user technology acceptance framework available, this is the UTAUT-2 (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017).

Furthermore, the highlighted literature from developing countries like South Africa also did not indicate that price value would be a significant influencer of online shopping acceptance by the targeted consumers when employing the UTAUT and UTAUT-2 as a research framework (Merhi, Hone, & Tarhini, 2019; Piarna, Fathurohman, & Purnawan, 2020; Aswani, Ilavarsan, Kar, & Vijaya, 2018). The results from the structural model analysis produced a p-value of 0.316 for the price value. This research study suggests that the price value of online shopping technology is not significant to South African online shopping consumers and therefore it does

not influence their online shopping acceptance. This affirms the South African literature reviewed in Chapter 2.

The relationship between hedonic motivation and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that the hedonic motivations of technology does significantly and positively influence the behavioural intentions of its targeted consumers in a developing country when employing the UTAUT-2 as a research framework (Merhi, Hone, & Tarhini, 2019; Aswani, Ilavarsan, Kar, & Vijaya, 2018). More specifically, highlighted South African research studies included in the literature review did not indicate that hedonic motivation would be a significant influencer of online shopping acceptance by South African consumers as these studies did not employ the most advanced user technology acceptance framework available, this is the UTAUT-2 (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.127 for the price value. This research study suggests that the hedonic motivation of online shopping technology is not significant to South African online shopping consumers and therefore it does influence their online shopping acceptance. This affirms the South African literature reviewed in chapter 2.

The relationship between habit and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that the habit of technology does significantly and positively influence the behavioural intentions of its targeted consumers in a developing country when employing the UTAUT-2 as a research framework (Venkatesh, Thong, & Xu, 2012).More specifically, highlighted South African research studies included in the literature review did not indicate that habit would be a significant influencer of online shopping acceptance by South African consumers as these studies did not employ the most advanced user technology acceptance framework available, this is the UTAUT-2 (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.009 for the price value. This research study suggests that the habit of online shopping technology is significant to South African online shopping consumers and therefore it does influence their online shopping acceptance.

5.4. Answering the secondary research question

The section aimed to discuss the findings pertaining to Research question 2.

5.4.1. How does trust influence the acceptance of online shopping by South African consumers?

The relationship between trust and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that trust in technology does significantly and positively influence the behavioural intentions of its targeted consumers in a developing country when employing the TAM, UTAUT and UTAUT-2 as a research framework (Jibril, Kwarteng, Pilik, & Botha, 2019; Merhi, Hone, & Tarhini, 2019; Piarna, Fathurohman, & Purnawan, 2020; Pohjolainen, 2020; Aswani, Ilavarsan, Kar, & Vijaya, 2018; Hungilo & Setyohadi, 2020; Dzimati, 2017; Bach, Da Silva, & Souza, 2020). More specifically, highlighted South African research studies included in the literature review did indicate that trust would be a significant influencer of online shopping acceptance by South African consumers (Dzimati, 2017). The other online shopping acceptance focused research studies conducted in South Africa did not include trust as a construct (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020). The results from the structural model analysis produced a p-value of 0.070 for trust. This research study suggests that the trust online shopping technology is not significant to South African online shopping consumers and therefore, it does not influence their online shopping acceptance. This affirms the South African literature reviewed in chapter 2 (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020)..

5.4.2. How does user experience influence South African consumers' acceptance of online shopping?

Based on the literature review in Chapter 2, it was hypothesised that the user experience of technology does significantly and positively influence the behavioural intentions of its targeted consumers in a developing country when employing the TAM, UTAUT-2 or no framework as a research framework (Jibril, Kwarteng, Pilik, & Botha, 2019; Pohjolainen, 2020; Aswani, Ilavarsan, Kar, & Vijaya, 2018; Bach, Da Silva, & Souza, 2020). More specifically, highlighted South African research studies included in the literature review did not indicate that user experience would be a significant influencer of online shopping acceptance by South African consumers as these studies did not include user experience as a construct (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017).

The other online shopping acceptance focused research studies conducted in South Africa did not include trust as a construct (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020). The results from the structural model analysis produced p-values for the user experience sub-constructs. This research study suggests that only one out of the four user experience sub-constructs is significant to South African online shopping consumers and influence their online shopping acceptance.

The relationship between presentation and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that as part of user experience, interface presentation in technology does significantly and positively influence the behavioural intentions of its targeted consumers (Hassenzahl, 2008; Varsaluoma, 2018; Shahzad, 2015). More specifically, highlighted South African research studies included in the literature review did not indicate that interface presentation would be a significant influencer of online shopping acceptance by South African consumers (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.776 for interface presentation. This research study suggests that the presentation of online shopping technology is not significant to South African online shopping consumers and therefore it does not influence their online shopping acceptance. This affirms the South African literature reviewed in chapter 2 (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017).

The relationship between content and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that as part of user experience, interface content in a technology does significantly and positively influence the behavioural intentions of its targeted consumers (Hassenzahl, 2008; Varsaluoma, 2018; Zhou, 2015; Shahzad, 2015). More specifically, highlighted South African research studies included in the literature review did not indicate that interface content would be a significant influencer of online shopping acceptance by South African consumers (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.560 for interface presentation. This research study suggests that the content of online shopping technology is not significant to South African online shopping consumers and therefore it does not influence their online shopping acceptance. This affirms the South African literature reviewed in chapter

2 (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017).

The relationship between interaction and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that as part of user experience, interface content in technology does significantly and positively influence the behavioural intentions of its targeted consumers (Hassenzahl, 2008; Varsaluoma, 2018; Zhou, 2015; Bongard-Blanchy & Bouchard, 2015; Thomas, 2020; Victor & Ihionkhan, 2019). More specifically, highlighted South African research studies included in the literature review did not indicate that interface interaction would be a significant influencer of online shopping acceptance by South African consumers (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.001 for interface interaction. This research study suggests that the interaction of online shopping technology is significant to South African online shopping consumers and therefore it does influence their online shopping acceptance. This is in contrast the South African literature reviewed in chapter 2 (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017).

The relationship between functionality and online shopping acceptance

Based on the literature review in Chapter 2, it was hypothesised that as part of user experience, interface functionality in a technology does significantly and positively influence the behavioural intentions of its targeted consumers (Hassenzahl, 2008; Varsaluoma, 2018; Bongard-Blanchy & Bouchard, 2015; Thomas, 2020; Kharim, 2015). More specifically, highlighted South African research studies included in the literature review did not indicate that interface functionality would be a significant influencer of online shopping acceptance by South African consumers (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017). The results from the structural model analysis produced a p-value of 0.556 for interface interaction. This research study suggests that the functionality of online shopping technology is not significant to South African online shopping consumers and therefore it does not influence their online shopping acceptance. This affirms the South African literature reviewed in chapter 2 (Jackson, 2018; Makhita, Van Scheers, & Mogashoa, 2019; Swiegers, 2018; Pentz, Du Preez, & Swiegers, 2020; Dzimati, 2017).

5.5. Chapter summary

This chapter outlines the empirical findings this research study. These findings were compared and contrasted with literature that guided the literature review. From the sample population the South Africans perceive performance expectancy, effort expectancy and the interaction as part of the online retailing platforms user experience as critical factors that influence the acceptance of online shopping.

Chapter 6: Conclusions and managerial implications

6.1. Introduction

This chapter is aimed at presenting the conclusion of the study. Firstly, a summary of the empirical findings will be provided. Secondly, the managerial and academic implications and the practical applications and digital strategies for South African online retailers or any other developing country will be discussed. This chapter finally aims to outline the research study's limitations and advice for future research studies in this field of Digital Business.

6.2. Overview of the study and research questions

The research study's purpose was to create a research framework that test hypotheses of online shopping acceptance by South Africans. This research study has been outlaid over six chapters with chapter 1 introducing the background of the research study and its intentions in the form of identifying the research problem and indicating the research questions. The primary research question of this research study was to determine the factors that influence the acceptance of online shopping in the South African context. This was undertaken by extending the UTAUT-2 with User Experience and Trust, this is also the secondary research question.

Chapter 2 outlined the literature review of the factors that influence technology acceptance in developing countries. The outcomes and limitations of the reviewed literature were highlighted. This aided in the motivation in the use of the chosen theoretical framework and resultant conceptual framework that this research study aims to investigate. Chapter 3 outlines the research study's design and methodology. The selected research paradigm employed was a positivist paradigm. The data collected from South Africans over the age of 18 was administered through an online survey primarily distributed on social media like WhatsApp, Instagram and Twitter.

Chapter 4 outlines the quantitative analysis that will be actioned on the data collected. The statistical analysis software package chosen for the data analysis was AMOS (SPSS), where the confirmatory analysis and the structural equation modelling was employed to complete the inferential analysis. The descriptive analysis was conducted using the named software. Chapter 5 outlines the empirical findings from the inferential and descriptive analyses were extensively outlined. This was done to aid in the construction of the research study's discussion, managerial implications and recommendations that will be outlined in this chapter, chapter 6.

6.3. Conclusions for each research question

6.3.1. Conclusion pertaining to the primary research question

The aim of this question was to determine the factors that influence online shopping acceptance by South African by adapting the UTAUT-2 as the theoretical framework. The primary research question proposed whether performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivators, price value and habit are factors that influence online shopping acceptance by South Africans. The research question predicted that significant relationships were only found between specific factors and behavioural intention. More specifically, are social influence, facilitating conditions, hedonic motivations, price value and habit. Therefore, this research question concluded that the factors that influence the acceptance of online by South African consumers are social influence, facilitating conditions, hedonic motivations, price value and habit.

6.3.2. Conclusion pertaining to the first secondary research question

The aim of this research question was to determine whether trust is a factor that influences online shopping acceptance by South Africans. This factor was introduced as an extension of the UTAUT-2 theoretical framework. The research question proposed that trust influences online shopping acceptance. This research study concludes that trust influences the acceptance of online by South African consumers. The more South Africans can obtain a sense of trust from the online shopping platform by the online retailer, the more likely they are to successfully purchase online and accept it. Online retailers have an obligation to make first time and experienced online shoppers secure from potential risks that come with transacting online. These risks include buying from fake websites and applications, card skimming, non-delivery due to failed ordering and invoicing, etc. Therefore, having the right trust signals in the relevant touch points of the online shopping journey can help soothe a lot of anxieties that comes with shopping virtually.

6.3.3. Conclusion pertaining to the second secondary research question

The aim of this research question was to determine whether user experience represented as the online shopping platform’s presentation, content, interaction and functionality. These four factors of user experience were introduced as an extension of the UTAUT-2 theoretical framework and trust. The research question proposed that an online shopping platform’s presentation, content, interaction and functionality influences online shopping acceptance. This study concluded that user experience does influence the acceptance of online shopping by South Africans. More specifically, presentation, content and functionality.

There is a clear connection between the resultant user persona stemming from the findings of the descriptive analysis and the confirmed user experience factors that influence South African users to accept online shopping. South African online shoppers are attracted to an online platform that is interactive. The online shopping platform must contain efficiently categorised, helpful, intuitive and strategically laid out images, headers, instructions and copy as content. The online shoppers must be able to efficiently browse and navigate through the online shopping user journey using clearly displayed buttons, icons and features as functionality of the platform. In conclusion South African online shoppers want just a place to shop safely online in real time.

6.4. Managerial implications and recommendations

6.4.1. Based on the findings of the primary research question

The relationship between performance expectancy and online shopping acceptance

From an academic perspective, it is recommended that it does matter whether South Africans find the online shopping platform useful. Furthermore, they are concerned whether it provides them with valuable information at various points in their user journey to aid them in performing the tasks to shop online successfully and complete an order. From an industry perspective, South African online retailers should be careful bombarding South African online shoppers with too much functionality and information when intending to shop online by browsing the platform. They need to strike a balance between helpful nudges on using the online shopping platform simplistically. No number of benefits in “helpful” information and “complex” technology for top-performing functionality on an online shopping platform will influence South Africans to accept online shopping. However, the online retailer needs to ensure that the online retailing platform keeps a 99% systems uptime and informative error messaging to reassure the consumer to keep them engaged and motivated to buy online.

The relationship between effort expectancy and online shopping acceptance

From an industry perspective, South African online retailers still need to employ the skills of user experience researchers to conduct user interviews in the form of focus groups, online surveys, one-on-one interviews and user testing to understand South African users and the different contexts the online shopping platform will be used in. This will enable the design of an intuitive online shopping experience that is familiar and does not require much cognition and effort to engage with.

However, the ease of use must be within the business' financial and software limitations. Software development managers and product managers must be tasked with managing the internal expectation of meeting customer needs versus compromising data and software architecture that would exceed the budget and take too long to solve the user's problems.

The relationship between social influence and online shopping acceptance

As per the empirical findings and discussion in the previous chapter, social influence does influence online shopping acceptance by South Africans. Therefore, a South African consumer's motivation to accept online shopping relies on the opinions and post-sale experiences about the products and services previously bought by other South African online shoppers. South African online retailers are tasked with introducing features that enable forms of socialising to aid the intended user to accept online shopping and buy online. Such features are product reviews, recommendation engines, social media sharing and referral programmes in promotion code sharing. Introducing such features create transparency and trigger the user's need to feel socially validated when engaging with the online shopping platform.

This form of sociability allows the Data Scientists team of the online retailer to employ the data to employ predictive models that will enable the online retailer to do effective user research, marketing research, sales strategies and predictive stock planning based on user behaviour. The Data Analytics team of the online retailer have an opportunity to create useful dashboards indicating real-time user behaviour that product managers and executives, product managers can use, and executives can use to make critical strategic decisions. With this data, the marketing managers can begin the online shopping journey much earlier than when the user accesses the online shopping platform to capture the user's attention. This is done through employing the results of the data analytics in strategic digital marketing campaigns targeting a specific type of South African user at a specific point in time on a specific social media platform on the internet that will guarantee traffic onto the platform and high conversions of South African shoppers into first time and repeat buyers.

The relationship between facilitating conditions and online shopping acceptance

South African online retailers do not need to make sure that the South African users have sufficient support and resources available to aid them during their online shopping journey. However, from an industry perspective they still have to have online conditions that facilitate the engagement on the online retailing platform are: (1) mobile data friendly web pages and screens that don't compromise the quality of the images and page loading times; (2) easy access to help and frequently asked question pages; (3) size inclusive clothing categories featuring measurements from extra-extra-small to extra-extra-extra-large; (4) zero data consumption mobile applications; (5) accessibility of features to aid visually and hearing impaired users to engage in online shopping, etc.

The relationship between price value and online shopping acceptance

South African online consumers are not too sensitive to the price of the products and services offered on the online shopping platform. However, products and services should be priced in a way that aids the consumer's decision of determining whether the products or services are worth the amount they are priced at. After that consideration, the consumer will determine whether they are willing to pay that offered price. In this case, price value significantly influences online shopping acceptance when the consumer is willing to pay for the products or services at a price offered to obtain the value.

From an industry perspective, South African online retailers should price their products and services in such a way that there is more than the regular occurrence of discounted prices, seasonal sales, competitions and promotional codes for discounts to motivate South Africans to act on their intentions of buying online. Online retailer's financial and commercial management departments should engage in building cost-cutting procurement models, as well as revenue-raining commercial agreements. This should be done in combination with innovative pricing strategies on products and services that will resonate with the South African online consumers.

The relationship between hedonic motivation and online shopping acceptance

South African consumers are not likely to be motivated to buy online when they can establish an emotional connection to the online shopping experience. However, from an academic perspective, the hedonic outcome of a fun and enjoyable online shopping experience can cognitively absorb its consumer's and motivate them to use online shopping as a form of shopping (Merhi, Hone, & Tarhini, 2019). From an industry perspective, South African online retailers are now tasked with ensuring that this emotional connection is replicated every time a South African online shopper is browsing and navigating through the online shopping platform. This can be executed by employing a loyalty and rewards programme to earn points to exchange for discounts and introduce gamification elements like a "spin-n-win" or a "leader board" within the online shopping journey to create excitement and engage. These features should be strategically placed along the online shopping journey to create emotional triggers to satisfy the user's need for an emotional motivation to accept online shopping as a norm.

The relationship between habit and online shopping acceptance

South Africans are not yet open to quickly learning how to use the online shopping platform with the possibility of this learnt behaviour becoming automated in future. From an industry perspective, South African online retailers are tasked with making the online retailing platform easily integrated into the South African consumer's everyday lives. From an academic perspective, the online shopping journey needs to reinforce the user's sense of control and autonomy when browsing, navigating and viewing products and services on the online retailing platform. This process is the user's response to accumulating learned behaviour that transforms into an unconscious stimulus resulting in an enjoyable outcome, i.e., accepting online shopping to obtain the benefits attached to online shopping. The User experience designers and product designers are tasked with enabling product features that give South African online shoppers a sense of control over the online shopping environment encapsulated by the online shopping journey. This is done by introducing a bottomless scroll functionality, introducing a how-to-navigate tutorial to new visitors of the online platform and allowing users to re-enter the journey they previously left off. Marketing managers can also create integrated communication campaigns triggered by a drop off occurring during the online shopping journey. Emails, SMSs, and push notifications can be sent to the users to remind them of the shopping cart they have not paid for, compile and send a list of seasonal trends, give them incentives for coming back, and finally act on their inclination to buy online.

6.4.2. Based on the findings of the first secondary research question

The relationship between trust and online shopping acceptance

From an academic perspective, there must be some level of trust signals should be strategically placed across the online shopping journey. Trust signals impart to the South African online shopper the expectation of possible successful transactions, quality goods and services and motivation to shop online again and again.

From an industry perspective, trust is gained along the online shopping journey; this is shown by the image below in Appendix D.1. To build trust during the 'information phase' the user experience designers must place third party seals of approvals on the home page, such as the 'Trusted Shops' guarantee, which gives an online retailer a digital trust score of out of 5. This digital trust score is a culmination of consumer feedback and buyer protection. Another trust builder is outlining clear return, refund, exchange and privacy policy hyperlinks to the user early in the online shopping journey. To confirm trust during the 'agreement phase' the user experience designers must strategically place vendor specific guarantees and product descriptions that increases the user's trust. The products should be visually and textually described clearly, reinforcing the trust gained in the information phase. To maintain trust during the 'settlement phase' the user experience designers should strategically place banking cards and online payment guarantees on the product pages and the payment pages to increase conversion rates.

The online retailer aims to provide a user experience that directs and help consumers to search, navigate and find popular products with high demand and high sales (short-head) versus niche products and low sales (long-tail). To win competitive advantage and achieve high sales margins, online retailers need to help online consumers reduce search costs, achieve information symmetry and decide quicker.

Tools such as recommendation systems, ranking systems, and a review system function as signals that influence online consumer behaviour. The aforementioned trust signals are described and applied as follows:

(i) A recommendation system uses algorithms using previous online consumer product and purchasing behaviour collected by the online retailer to suggest products that are relevant to the online consumer. Recommendation systems

introduce the following features to the online retailing platform user experience and interface: (1) “Customers who viewed this also viewed” section; (2) “Frequently bought together” section; (3) and “You may like” section. Review systems are also known as electronic word of mouth (eWOM) (Liu, Zhang, Zhang, & Zhao, 2018).

(ii) A review system is a consolidated view of other online consumer feedback and evaluations embedded in the user experience to signal specific decision-making information. eWOM introduces the following features to the online retailing user experience: (1) Number of product reviews; (2) Average rating on a 5-star scale; (3) and Informativeness of reviews.

(iii) A ranking system is a system that provides a real-time or static consolidated view of other online consumers product selection in relation to the online consumer’s product selection using an algorithm (Yan, Liu, Zhao, Guo, & Bao, 2016). Examples of ranking systems applicable are: (1) “Best sellers list” section; (2) “New in stock” section; (3) “On sale” or “On promotion” section; (4) Filter section; (5) and a search bar result showing relevant search results.

As shown in the *Figure D.1. in Appendix D* below, these trust signals are strategically placed at points of the online consumer journey, shopping continuum and online user experience to influence online consumer behaviour, signal trust, communicate information, shift demand between the head and the long-tail product and reduce uncertainty for better sales across popular and niche products held in stock by the online retailer.

The relationship between user experience and online shopping acceptance

User experience aims to solve the context in which the digital product will be used. User experience deals more with the design details of the digital products such as the interfaces, presentation, interactions, functionality and content. User experience design methodology aims to solve for the different perspectives of people who will use the digital product User design methodologies ensure that a good user experience is functionally and visually built for the several types of users identified (Sippola, 2017). There is a prominent user experience design methodology called Human-centred design. Human-centred design is framing the context of use, gathering requirements, prototyping and evaluating digital products (Varsaluoma, 2018).

The human-centred design allows online retailer to understand the preferences, behaviours and pain points of using a digital product and focusing internal resources to contextually solving the problems to meet customer expectations and encourage online consumer behaviour. This framework for designing experiences helps bridge the gap between the rapidly changing human uses, consumer behaviour and evolving technology capability (Gumerman, 2014). Through user research and testing, constant evaluations iterated to involve consumers in the design process and contextually solve problems (Sippola, 2017). Therefore, practical applications of user experience must have high-involvement and interaction between the consumers of that technology and the builders of the technology.

The relationship between presentation and online shopping acceptance

The following can be done to improve this construct amongst south African online shoppers. From an academic perspective, South African consumers should be able to see a consistent brand personality presented from digital and physical marketing to the online retailing platform. Even though it is not that important to them. The right colours complementing the brand identity that will aid the user to distinguish ‘action buttons’, ‘information icons’, ‘descriptive copy’, ‘titles and subtitles’, ‘active and disabled’ buttons and ‘seasonal promotions’ banners and easily navigate through the platform.

Finding the right colours will help the South African consumer relate a colour or colour scheme to a specific task or piece of information to aid their cognition and attention level. The human experience of colour in everyday settings results in colour being attached to a particular memory, emotion, culture, lived or shared experience. *Figure D.2. in Appendix D* provides an example of how colouring can be used across the online shopping journey to help users to distinguish between ‘action buttons’, ‘information icons’, ‘descriptive copy’, ‘titles and subtitles’, ‘active and disabled’ and ‘seasonal promotions.

From an industry perspective, the product designers of the South African retailers are tasked with curating a layout that strikes a balance of providing enough room for negative space. The Law of Proximity posits that the human eye draws connections between items based on their distance. Items are found to be related if they are grouped together and are visually close to one another.

On the other hand, if they are not visually far apart, they are not related. Therefore, product designers need to provide a visually pleasing layout with 'socially distanced' features to make certain features such as the navigation bar, product discovery, product display and payment sections of the website stand out and aid the user to focus on one thing at a time. *Figure D.2. in Appendix D* provides an example of how product designers can strategically curate images, content and features along the online shopping journey.

Correct spacing, sizing and placement of features and images increases a user's sense of control and highlights information that is important to the user much quicker. However, this reduces user anxiety and cognition and increases their internal control and motivation to accept online shopping. *Figure D.2. in Appendix D* provides an example of the usage of colour to aid users to differentiate buttons, icons, information, images and buttons to help them progress along the online shopping journey.

6.4.3. Based on the findings of the second secondary research question

The relationship between content and online shopping acceptance

South Africans are not too sensitive to how content is independently organised, assembled and displayed to best aids the user to complete the tasks required to buy something online. The following can be done to improve this construct amongst south African online shoppers.

From an academic perspective, the aim of designing how content is assembled on the online retailing platform is to create groups of content that address the diverse needs of the users and communicate quality information along the online shopping journey successfully. The information must be categorised to help the user narrow down the search of what products, services, or policies they are interested in. This should be done in the fewest clicks and the shortest time to figure it out as possible. Online shoppers must feel like they are progressing with every click. If they find it too hard to progress, they can find the online shopping experience time consuming and they may drop-off and never return. Therefore, the information must be organised in a way that the user can return to the online shopping journey to complete a purchase at any point in time on the website with minimal cognitive effort and as quickly as possible. This also prevents the online retailer from ending up with unnecessary pages and features that will cause the user to not follow or enjoy the online shopping experience to acceptance.

From an industry perspective, User Experience designers and product designers are tasked with strategically organising the architecture of the information to mark and connect the pieces of information such that the intended user can follow through the online shopping journey sequentially. Once the sequence of tasks is structured, the relevant content based on the sequence can be distributed accordingly along the online shopping journey. *Figure D.3. in Appendix D* provides an example of how an online retailing platform's information and content is structured. The levels of information the hierarchy of information are described as follows:

(i) The first level of information for the online retailing platform is the entry and exit points of the online retailing platform that lead the user to the home page. This level of information houses the collection of categories and subcategories that the user can access, *for example home page, registration, etc.*

(ii) The second level of information is the grouping of information related to the overall products, the shopping process, and the company, *for example product categories, help page, company information, etc.*

(i) The third level of information is the subgrouping of information that led the user to get more specific information about the selected grouping. These provide more context on delivery, ordering, payment, product/service-related policies and information that aid the consumer's decision making. These are also considered as trust signals strategically placed at specifics points of the online shopping journey, *for example delivery options, returns policy, account details, etc*.

(ii) The fourth level of information is subcategories that aids the user to search and gather information about a specific product or service. This will help them to make a decision about the desired product/service they are looking for according to their needs, *for example filtering on brands, sizes, colour and product type.*

The relationship between interaction and online shopping acceptance

Interaction design is the design of interaction between users and products. Interaction design aims to create products that help users achieve their objectives/users achieve their objectives/tasks in the best way possible. The elements of how a product interacts with a user involve aesthetics, motion, sound, space, perception and time. Interaction of an online shopping platform is significant to South African online shoppers. The following can be done to improve this construct amongst south African online shoppers.

From an industry perspective, the product designers provide frequent and readable informative feedback throughout the online shopping journey. This is done by displaying a clear description of why something happens during any minor or major tasks performed along the online shopping journey. This aims to give the user a contingency plan if they are not completing the task successfully. It can also be employed to congratulate them for completing a task successfully, reinforcing their motivation to accept online shopping. It also aids to calm down the user's anxiety and frustration when they have experienced an error without the need of calling a call centre or leaving the shopping jour to access the 'help' or 'frequently asked' section of the website to fix their problem and continue with the journey.

Figure D.4. in Appendix D is an example of communicative error or notification messaging to supplement images and other visual effects. Another example of an interactive feature on the online retailing platform's interface that aids user in obtaining more information to complete a task successfully is called an icon. The icons also aid in giving a user direction to solving their problems and provide clarity. *Figure D.5. in Appendix D* provides an example of what kind of icons an online shopping consumer can find and use as points of clarity along the online shopping journey.

From an industry perspective, User research must be conducted to understand the users' goals and what interactions should be in place to help them achieve their goals. These assertations can be iteratively evaluated with users throughout the user experience design process. The User Experience Research and Designers of the online retailing platform need to be asked crucial questions online shoppers (users) to aid their user experience designing process for the interactions of a digital product. The questions that should be asked during the user interview:

(i) What can a user do with the mouse, finger or stylus to interact with the user interface?
(ii) What can a user do with the mouse, finger to interact with the user interface?
(iii) What about the appearance indicates how a specific feature functions?
(iv) Does the error messaging explain how and why the error occurred?
(v) What feedback does the user get when the action is performed?
(vi) Are the feature elements a reasonable size to interact with across devices?
(vii) Were standard or familiar formats used for elements?

The relationship between functionality and online shopping acceptance

South African consumers are not too much affected by how well the website performs in helping them meet their goals and tasks of shopping online. South African consumers are aware of the expectation that they need to locate information to access services or make payments to shop successfully online, but they are happy with the basics, nothing fancy. The following can be done to improve this construct amongst south African online shoppers: (1) the online retailing platform must have a well-articulated and simple navigation; (2) the overall design of the website features as a collective must be easy to understand; (3) the quality of the imagery, icons, audio and visuals should be of high quality (high fidelity); (4) and the call-to-actions of the website must be distinct relevant information buttons and explanations close-by.

The Figure D.6. in Appendix D provides an example of the different call-to-action buttons an online shopping platform should have to help users navigate through the online shopping journey. The digital marketing team, the product managers and the software engineers of the South African retailing platform need to care about the performance of the functionality because a functional platform keeps consumers on the platform for longer and chances are those consumers will become leads that convert into online sales. Therefore, the technical architecture of the website needs to be stable and sound such that it performs well regardless of the time of day and the volume of users on the platform.

A functional platform also performs well in search engine optimisation (SEO). Search engine optimisation is how well the platform is ranked against other platforms based of the speed of the platform, user engagement, navigation, and data security. Online retailers should follow these best user experience best practices to rank at the top of other online retailers when users are searching for an item found on an online shop. These are the following search engine optimization practises those online retailers can prioritise:

(i) Have quicker loading times of application and website screens to prevent online shoppers from becoming frustrated and leaving for a competitor.
(ii) Have a user interface that is internet enabled device agnostic which allows online shopping on any device and any browser without compromising the user experience.
(iii) Have a simple and easy-to-follow navigation with a search bar to help users find what they want much quicker.

(iv) Have a cohesive content strategy that contains relevant information and imagery that user want to have.

(v) Have a site map to enable the search engine to crawl the platform and easily understand the contained information to best categorise and recommend the platform against competitors to users when the search for a specific item.

Lastly, the accessibility of the platform by disabled South African consumers must be taken into consideration as it boosts the platform's ranking when an item is searched for. Digital marketers and software engineers must make sure that the images have alternative text with a text reader that allows the reader and the search engine bots to read and understand the image. Heading and title tags can be employed to structure the platform page for the screen readers and the search engine bots. Lastly, the functionality to contrast the colours of the platform to allow visually impaired user with colour blindness to reduce challenges of making sense of the features.

6.5. Conclusion pertaining to the theoretical framework of the study

6.5.1. Main contributions of the study

This study aims to bridge the gap of the lack of studies observing online shopping acceptance, especially in developing countries. More specifically, in South Africa. This was supported by employing the most relevant technology acceptance model, the UTAUT-2. This research study has supported the relevance of the UTAUT-2 as an appropriate theory that studies the acceptance of a technology in a developing country like South Africa. More specifically online shopping technology. The study has also contributed that trust and presentation, content and functionality as dimensions of user experience also affect the acceptance of online shopping in South Africa.

Figure D.7. in Appendix D is an example of the overall standard user journey of an online retailing platform that takes into consideration the above managerial implications and recommendations made in the Chapter 6 sections. This is an example of the practical implementation of the discussed trust signals, as well as the user experience presentation, content, interactions and functionality. This recommended online shopping user journey provides an illustrative example of the separate stages of a user’s experience with an online retailing platform and the online retailer as a brand. In most instances it would be the first time an inexperienced online shopper encounters an online retailer.

It is essential that the online shopping journey has an overall trusting and pleasant experience to positively impact the user enough to persuade them to accept online shopping and make a purchase.

The indicated factors are factors online retailers have control to manipulate according to their digital and business strategy. These can be deployed to increase e-commerce penetration in a developing country like South Africa. These findings suggest that for the successful planning and implementation of these factors South African online retailers need to allocate budget to provide staff resources that are well versed in user experience design and product design of online shopping platforms. The expectation is that they can provide expertise in strategizing the placement of trust signals in appropriate touchpoint of the online shopping journey. The onus also is on them to extensively research and suggest the appropriate user experience techniques for presentation, content and functionality of the online shopping platform that will influence the acceptance of online shopping by South Africans. The recommendations highlight the need for cross-functional collaboration to unlock different perspectives to best solve problems experienced on the online shopping journey that would prevent the acceptance of online shopping.

In true South African style, South Africans are visual people that require a visual and emotional connection to enhance their trust and online shopping experience. South Africans need to perceive the online retailing platform as trustworthy and have an overall pleasant user experience to reach motivation levels that entice them to purchase online versus going to a traditional shopping mall. There is a higher degree of online shopping acceptance by South Africans than initially assumed earlier this study. Given a high internet-enabled device penetration in South Africa, South Africans are making disposable income available to shop for their goods and services online regardless of the high mobile data and Wi-Fi costs. South Africans do find value in shopping online and enjoy consuming its attached benefits.

6.5.2. Limitations of the study

There were limitations of the study. Given the time and resources allocated to do the study, a convenience sample was used as a sampling method on South Africans over 18 years old. To some degree, the results can be generalised for the rest of the South African population. Given the sample population size of a little over 200, the assertions made by this research study may change if a researcher conducts a similar study with a larger sample population across different demographics. The research study did not explore any qualitative factors and may lack in extracting emergent information that could add to the factors that influence online shopping acceptance in South Africa.

Given that this was a cross-sectional study, the sample population's values and attitudes over the research study time. The online questionnaire of the research study was distributed to reach South Africans over the age of 18 years old that were in close proximity to the researcher. The collected responses were limited to South African that stay around Johannesburg. The responses of other South Africans in other areas may not uphold the same responses as those collected in this research study. Therefore, the findings of this research study may or may not be used as generalisations for online shopping behavioural intentions for all South Africans over the age of 18. The generalisations for online shopping behavioural intentions may or may not also be used for individuals in developing countries as well.

Another limitation is that the study did not consider the age, gender, voluntariness and experience as moderating effects on the factors that influence online shopping acceptance by South Africans. Age, gender, voluntariness and experience were only observed on a descriptive nature and not moderating. Therefore, there is an opportunity for future studies to extend the assertions made by this study by analysing the impact of the moderating effects on the factors that influence online shopping acceptance in South Africa.

6.5.3. Suggestions for future research

Given the broad nature of the observed factors that influence online shopping acceptance in South Africa, further research studies can be done to extend the assertions made by this study to advance further the e-commerce and online shopping consumer behaviour field of study.

The findings of this research study will allow other researchers and academic scholars to get further insights on what factors about the online retailing platform need to be allocated financial, software and employee resources to get South Africans to accept online shopping over traditional mall shopping. The managerial implications of this study are beneficial for the traditional marketing departments, digital marketing department, the user experience and design department, the product management department and the software engineering department of the online retailer.

6.6. Conclusion

This chapter provided conclusions, managerial implications and practical applications pertaining to the research questions. The conclusions and recommendations were drawn from the empirical findings of the descriptive analysis and the inferential analysis conducted to determine the factors that influence online shopping acceptance in South Africa. Furthermore, the conclusions pertaining to the theoretical framework were also discussed in this chapter. More specifically, it can be concluded that South African's trust and user experience influence online shopping acceptance. Strategies focusing on what the South African online retailers can do to incorporate trust and user experience into their digital strategies to convince more South African consumers to shop online were also outlined in this chapter.

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APPENDIX A: RESEARCH INSTRUMENTS

Table A.1.Research Instruments for the proposed research framework

Hypothesis number	Number of items	Independent variable	Dependent variable	Item number	Measures	Literature
H1	4	Performance expectance	Behavioural intention	H1PE1	Online shopping will allow me to do shopping effectively.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H1PE2	Online shopping will be useful for me.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H1PE3	Using online shopping will save me money.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H1PE4	Using online shopping will save me time.	(Venkatesh, Morris, Davis, & Davis, 2003)
H2	4	Facilitating Conditions	Behavioural intention	H2FC1	I can easily acquire the knowledge I need to use online shopping.	(Nordhoff, Louw, & Innamaa, 2020)
				H2FC2	I have the necessary knowledge needed to use online shopping.	(Nordhoff, Louw, & Innamaa, 2020)
				H2FC3	Online shopping is compatible with other platforms and applications I use.	(Nordhoff, Louw, & Innamaa, 2020)
				H2FC4	I can easily get help from others when I have difficulty using online shopping.	(Nordhoff, Louw, & Innamaa, 2020)
H3	4	Effort expectancy	Behavioural intention	H3EE1	It will be easy for me to use online shopping system.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H3EE2	Learning how to use online shopping systems will be easy.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H3EE3	My interaction with the online shopping system will be clear and understandable.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H3EE4	Online shopping will not require a lot of technical effort.	(Venkatesh, Morris, Davis, & Davis, 2003)
H4	4	Social Influence	Behavioural intention	H4SI1	People important to me think I should buy some of my goods and services using online shopping.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H4SI2	People I find online who influence my decisions think I should do online shopping.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H4SI3	I derive satisfaction from communicating to other users about my experiences with an online shop or item.	(Venkatesh, Morris, Davis, & Davis, 2003)
				H4SI4	Having an online community of people with similar online shopping experiences makes me feel supported.	(Venkatesh, Morris, Davis, & Davis, 2003)

H5	4	**Hedonic Motivations**	Behavioural intention	H5HM1	I find online shopping fun.	(Indrawati, 2018)
				H5HM2	I feel excited when I shop online.	(Indrawati, 2018)
				H5HM3	Knowing that I will find what I am looking for online gives me an advantage	(Indrawati, 2018)
				H5HM4	I find online shopping entertaining.	(Indrawati, 2018)
H6	4	**Price value**	Behavioural intention	H6PV1	I can save money by shopping online.	(Indrawati, 2018)
				H6PV2	I enjoy searching for bargains and discounts when online shopping.	(Indrawati, 2018)
				H6PV3	Online shopping offers better value for money.	(Indrawati, 2018)
				H6PV4	I participate in bargains sales to get more for less.	(Indrawati, 2018)
H7	4	**Habit**	Behavioural intention	H7HT1	Online shopping has become a habit for me.	(Indrawati, 2018)
				H7HT2	When I am doing something else, I do still think of online shopping.	(Indrawati, 2018)
				H7HT3	Online shopping is part of my shopping routine.	(Indrawati, 2018)
				H7HT4	I am addicted to online shopping.	(Indrawati, 2018)
H8	4	**Trust**	Behavioural intention	H8TR1	I am not afraid to share my personal information during online shopping.	(Dzimati, 2017)
				H8TR2	I trust that the online retailer will deliver as promised.	(Dzimati, 2017)
				H8TR3	I find that online shopping reliable and trustworthy.	(Dzimati, 2017)
				H8TR4	I find the quality of the aesthetics to be an indicator of trust.	(Dzimati, 2017)
H9a	3	**Interface Presentation**	Behavioural intention	H9a191	I find it easy to read the text given the colour combinations.	(Miraz, Excell, & Ali, 2016)
				H9a192	I find the images used arousing and attractive.	(Miraz, Excell, & Ali, 2016)
				H9aIP3	I find that the online shopping platform looks high quality.	(Miraz, Excell, & Ali, 2016)

H9b	3	**Interface Content**	Behavioural intention	H9bIC1	I find the appearance of online shopping platforms or applications appealing and simple.	(Fang, Liu, & Li, 2015)
				H9bIC2	I find the layout of the online shopping platforms or applications informative and clear.	(Fang, Liu, & Li, 2015)
				H9bIC3	Browsing and searching for what I am looking is easy to find.	(Fang, Liu, & Li, 2015)
H9c	3	**Interface Interaction**	Behavioural intention	H9cII1	The communication between other users on the online shopping system and me is clear and understandable.	(Fang, Liu, & Li, 2015)
				H9cII2	I can take advantage of opportunities to share information with other online shoppers.	(Fang, Liu, & Li, 2015)
				H9cII3	There are many communication tools to share my opinion on the online shopping system.	(Fang, Liu, & Li, 2015)
H9d	3	**Interface Functionality**	Behavioural intention	H9dIF1	The online shopping system has all the functions I expect it to have.	(Burnam, 2021)
				H9dIF2	Error messages on the online shopping system help me fix my problems.	(Burnam, 2021)
				H9dIF3	It was easy to learn how to use this system.	(Burnam, 2021)
H10	3	**Behavioural intention**	Usage	H10BI1	The online shopping system has all the functions I expect it to have.	(Burnam, 2021)
				H10BI2	Error messages on the online shopping system help me fix my problems.	(Burnam, 2021)
				H10BI3	It was easy to learn to use this system.	(Burnam, 2021)

APPENDIX B: PARTICIPANT INFORMATION SHEET

Table B.1. Participant information sheet that will be included in the survey recruitment email

Project title: **Investigating the influence of user experience and trust on factors affecting the acceptance of online shopping by South African consumers**

Participation Information Sheet: **This sheet will be administered before the online questionnaire as a form of an email. Those who receive the it through a link on a social media post will see the sheet before Section A.**

Good day

My name is Fungile Msibi, and I am a Master's student in the Masters in Management in the field of Digital Business at the University of the Witwatersrand, Johannesburg. As part of my studies, I must undertake a research project. The study aims to determine whether trust and user experience can be included as factors influencing online shopping by South Africans. My study is under the supervision of Ayanda Magida.

As an adult and shopper in South Africa, I would like to invite you to participate in an online questionnaire. This is a 10-minute questionnaire requiring you to be connected to the internet on any device. Please make sure your connection is stable so that you may participate to the end.

Here is what you can expect:

1. With your permission, I will be able to capture, store and process your responses anonymously for research purposes only. Your responses will be kept safe until it will be deleted in one year. And you can withdraw from the study at any time.
2. You will then share some information about your age, gender, and online shopping experience for me to get to know you better.
3. Lastly, you will answer several questions regarding the reasons as to why you shop online (if you have). If you have not shopped online, do not be afraid! Your response is valuable; please continue to respond. Your answers will provide much-needed context and understanding of the online shopping behaviour of first-time shoppers.

Continue to the survey: ***Insert Qualtrics online questionnaire link here***

There will be no personal costs to you if you participate in this project. If you have any questions during or afterwards about this research or wish to receive a summary of this report, please feel free to contact me at 726274@students.wits.ac.za or contact my supervisor on ayanda.magida@wits.ac.za +27117178395. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za

Yours sincerely,
Fungile Msibi

APPENDIX C: ONLINE QUESTIONNAIRE

Table C.1. Section A of the Online Questionnaire

Section A		
Citizenship declaration		
Please select the applicable answer for the following questions:		
I am a South African citizen.	Yes	No
If the participant has answered 'YES', continue the questionnaire. If the participant has answered 'NO', end the questionnaire.		
Consent declaration		
Please select the applicable answer for the following questions:		
I agree to participate in this research project. The research has been explained to me and I understand what my participation will involve.	Yes	No
If the participant has answered 'YES', continue the questionnaire. If the participant has answered 'NO', end the questionnaire.		
I agree that my participation will remain anonymous.	Yes	No
If the participant has answered 'YES', continue the questionnaire. If the participant has answered 'NO', end the questionnaire.		
I agree that the information I provide may be used anonymously after this project has ended, for academic purposes by other researchers, subject to their own ethics clearance being obtained.	Yes	No
If the participant has answered 'YES', continue the questionnaire. If the participant has answered 'NO', end the questionnaire.		
Privacy declaration		
I agree that my data will be anonymised and safely captured, stored, and processed for research purposes only.	Yes	No
If the participant has answered 'YES', continue the questionnaire. If the participant has answered 'NO', end the questionnaire.		
Protection from harm declaration		
I agree that I can withdraw from participating in the research at any point in time by either exiting the survey or contacting the researcher to delete my information collected.	Yes	No
If the participant has answered 'YES', continue the questionnaire. If the participant has answered 'NO', end the questionnaire.		

Table C.2. Section B of the Online Questionnaire

Section B						
Please select the applicable answer for the following questions:						
Gender	Male			Female		
Age	18 - 24	25 - 40	41 - 56	57 -66	67 - 75	76 - 93
Zone	Johannesburg central	North Rand	East Rand	West Rand	South Rand	Other
Education	Matric	Higher certificate	National diploma	Degree	Postgraduate diploma	Other
Net income	R 0 - 3000	R 3000 – 10 000	R11 000 – R 25 000	R 26 000 – R35 000	R 36 000 – R 45 000	R46 000 <
Do you have internet access?			Yes		No	
What kind of device do you use to access the internet?			Cell phone	Tablet	Laptop	TV
Do you know of any online shopping websites and applications?			Yes		No	
Have you browsed any online shopping websites and applications?			Yes		No	
Have you bought anything online?			Yes		No	
What do you buy online?		Books	Clothes and shoes	Home décor	Food and drinks	Electronics
If the participant is done answering the questions of this section, continue the questionnaire. If the participant chooses to exit the questionnaire, end the questionnaire.						

Table C.3. Section C of the Online Questionnaire

Section C						
Item number	**Measures**	**Strongly disagree**	**Disagree**	**Not sure**	**Agree**	**Strongly agree**
H1PE1	Online shopping will allow me to do shopping effectively.					
H1PE2	Online shopping will be useful for me.					
H1PE3	Using online shopping will save me money.					
H1PE4	Using online shopping will save me time.					
H2FC1	I can easily acquire the knowledge I need to use online shopping.					
H2FC2	I have the necessary knowledge needed to use online shopping.					
H2FC3	Online shopping is compatible with other websites and applications I use.					
H2FC4	I can easily get help from others when I have difficulty using online shopping.					
H3EE1	It will be easy for me to use online shopping system.					
H3EE2	Learning how to use online shopping systems will be easy.					
H3EE3	My interaction with online shopping system will be clear and understandable.					
H3EE4	Online shopping will not require a lot of technical effort.					
H4SI1	People important to me think I should buy some of my goods and services using online shopping.					
H4SI2	People I find online who influence my decisions think I should do online shopping.					

H4SI3	I derive satisfaction from communicating to other users about my experiences with an online shop or item.					
H4SI4	Having an online community of people with similar online shopping experiences makes me feel supported.					
H5HM1	I find online shopping fun.					
H5HM2	I feel excited when I shop online.					
H5HM3	Knowing that I will find what I am looking for online gives me an advantage					
H5HM4	I find online shopping entertaining.					
H6PV1	I can save money by shopping online.					
H6PV2	I enjoy searching for bargains and discounts when online shopping.					
H6PV3	Online shopping offers better value for money.					
H6PV4	I participate in bargains sales to get more for less.					
H7HT1	Online shopping has become a habit for me.					
H7HT2	When I am doing something else, I do still think of online shopping.					
H7HT3	Online shopping is part of my shopping routine.					
H7HT4	I am addicted to online shopping.					
H8TR1	I am not afraid to share my personal information during online shopping.					
H8TR2	I trust that the online retailer will deliver as promised.					
H8TR3	I find that online shopping reliable and trustworthy.					

H8TR4	I find the quality of the aesthetics to be an indicator of trust.					
H9a191	I find it easy to read the text given the colour combinations.					
H9a192	I find the images used arousing and attractive.					
H9aIP3	I find that the online shopping platform looks high quality.					
H9bIC1	I find the appearance of online shopping websites or applications appealing and simple.					
H9bIC2	I find the layout of the online shopping websites or applications informative and clear.					
H9bIC3	Browsing and searching for what I am looking is easy to find.					
H9cII1	The communication between other users on the online shopping system and me is clear and understandable.					
H9cII2	I can take advantage of opportunities to share information with other online shoppers.					
H9cII3	There are many communication tools to share my opinion on the online shopping system.					
H9dIF1	The online shopping system has all the functions I expect it to have.					
H9dIF2	Error messages on the online shopping system help me fix my problems.					
H9dIF3	It was easy to learn to use this system.					
H10BI1	The online shopping system has all the functions I expect it to have.					
H10BI2	Error messages on the online shopping system help me fix my problems.					
H10BI3	It was easy to learn to use this system.					

APPENDIX D: Figures pertaining to managerial implications and recommendations

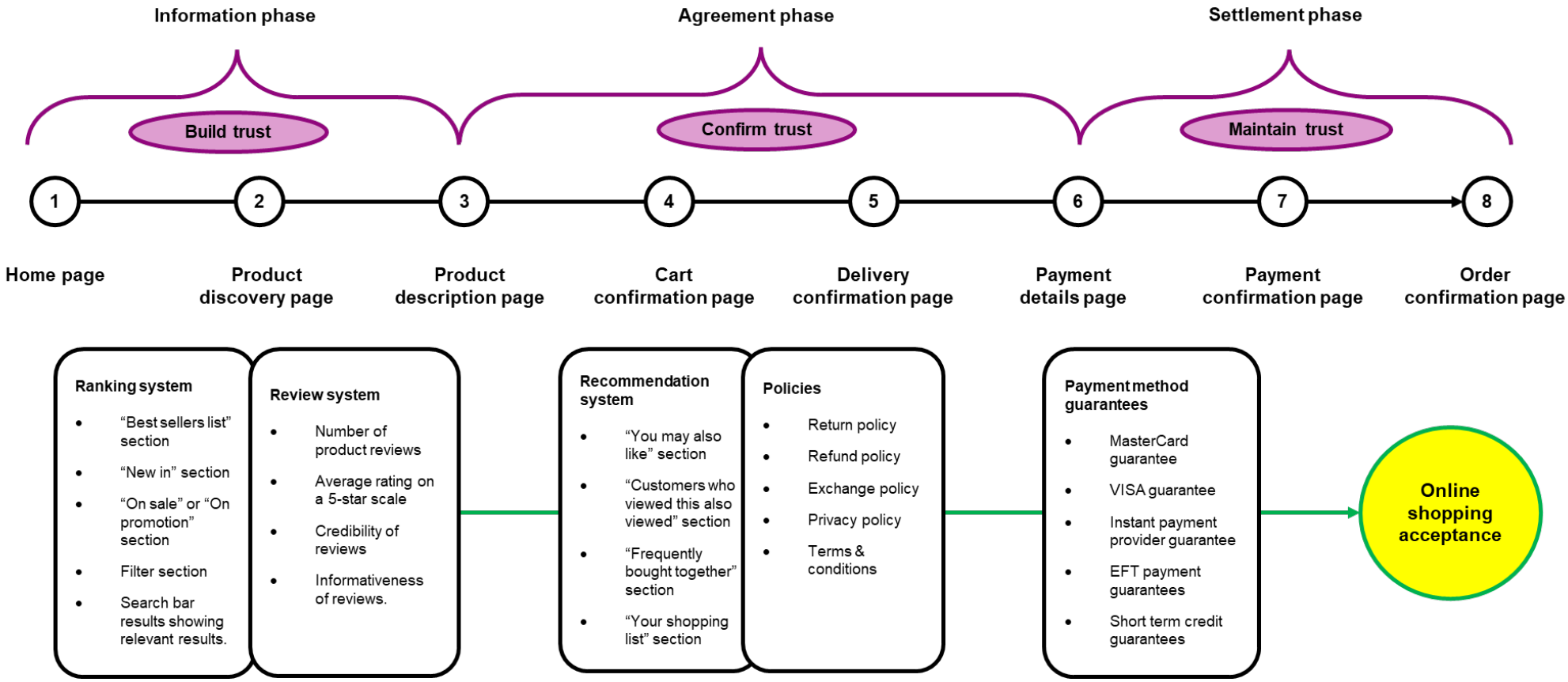


Figure D.1 Trust gained over the online shopping continuum

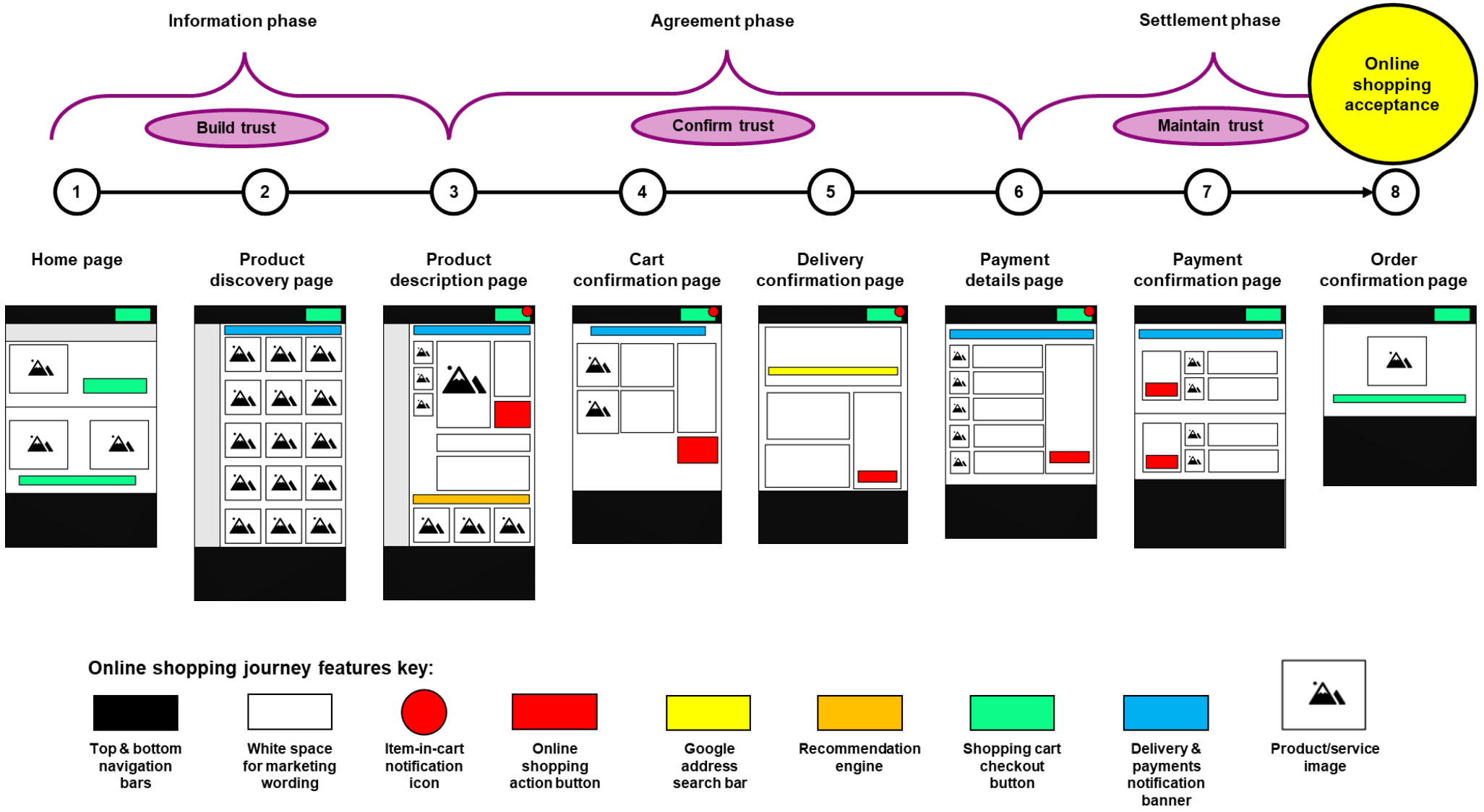
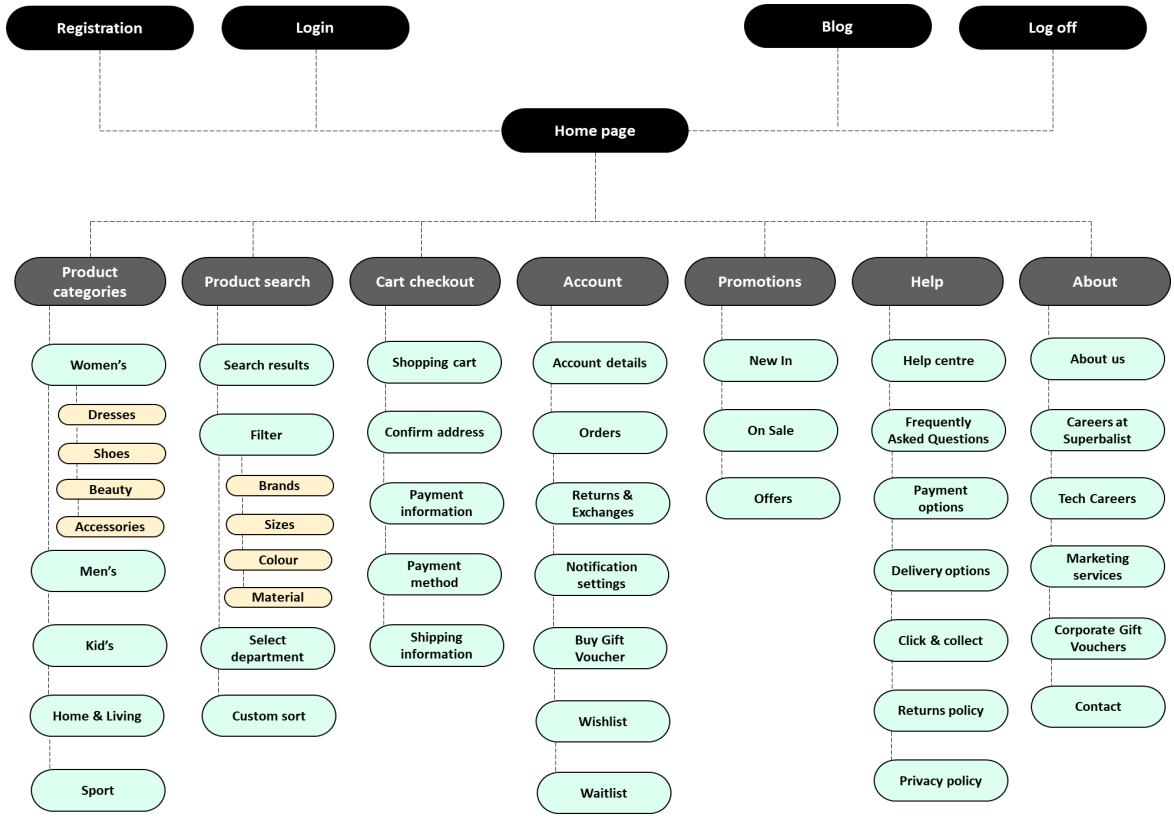


Figure D.2. Strategic placement of related features along the online shopping journey



Online retailing platform information architecture key:

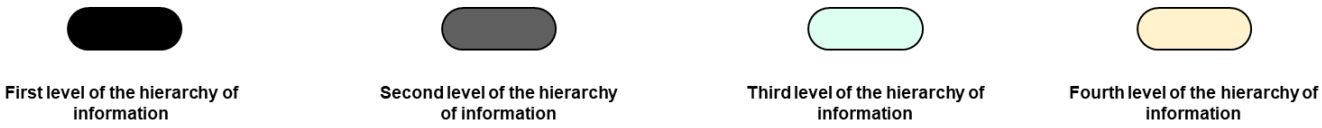


Figure D.3. Information architecture of an online retailing platform

Figure D.4. Communicative error messaging and functions help users to navigate back to the online shopping journey

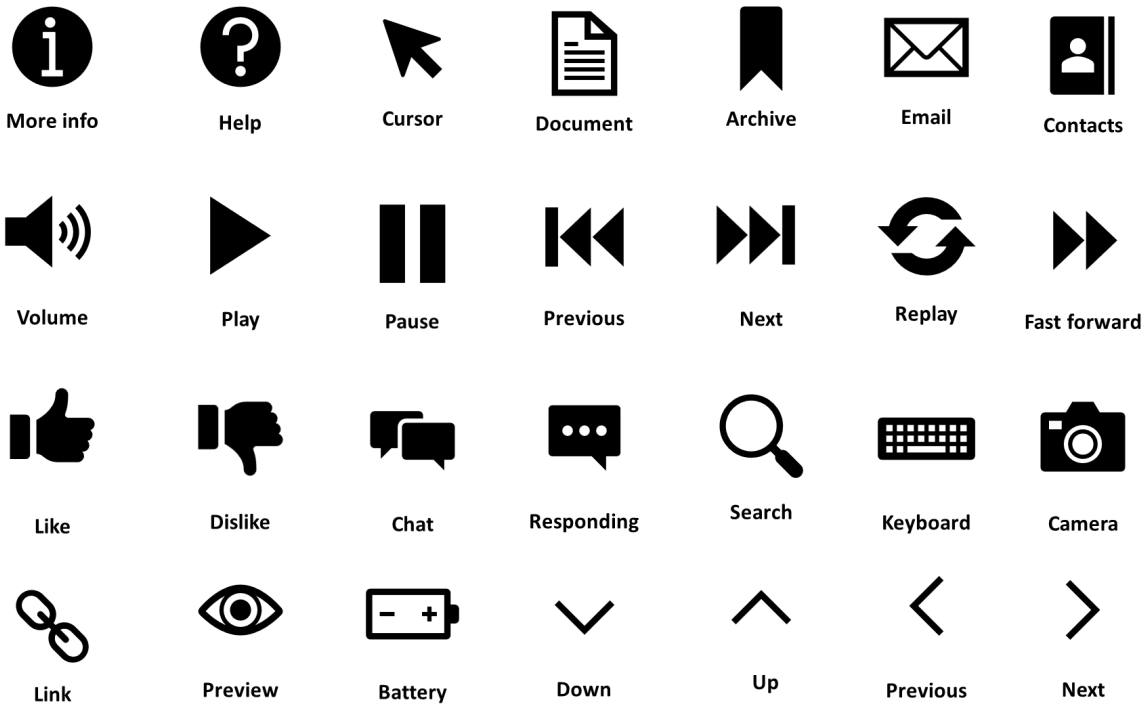
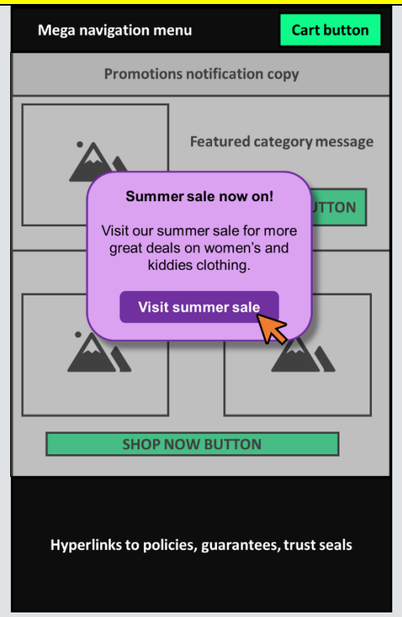


Figure D.5. A list of icons used as buttons to aid the user in obtaining more information

Figure D.6. Examples of call-to-action buttons an online shopping platform

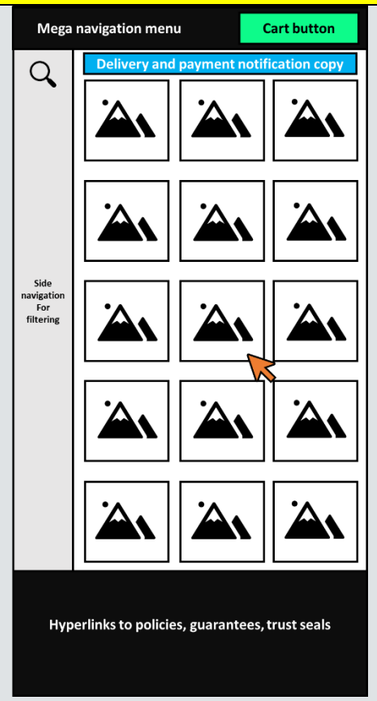
Start Here

STEP 1: Home page



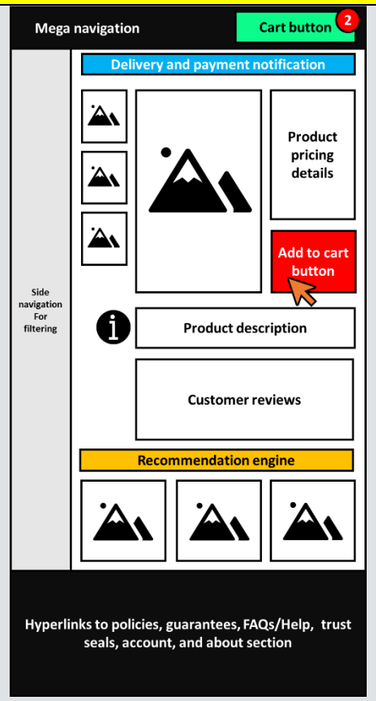
User selects 'SHOP NOW' to see browse.

STEP 2: Product discovery page



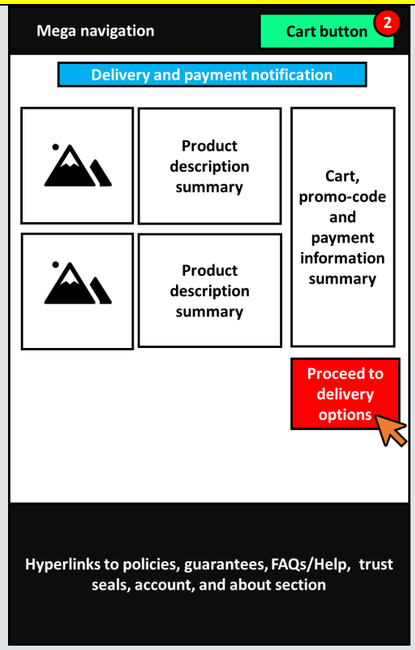
User sees product catalogue & chose item to view.

STEP 3: Product display page



User gets more information about the item & adds it to cart to consider buying.

STEP 4: Cart confirmation page



User sees the final amount they will pay that includes discounts and delivery fee.

Scenario: *User is curious about online shopping and visits a local online retailer. The user journey is read from left to right.*

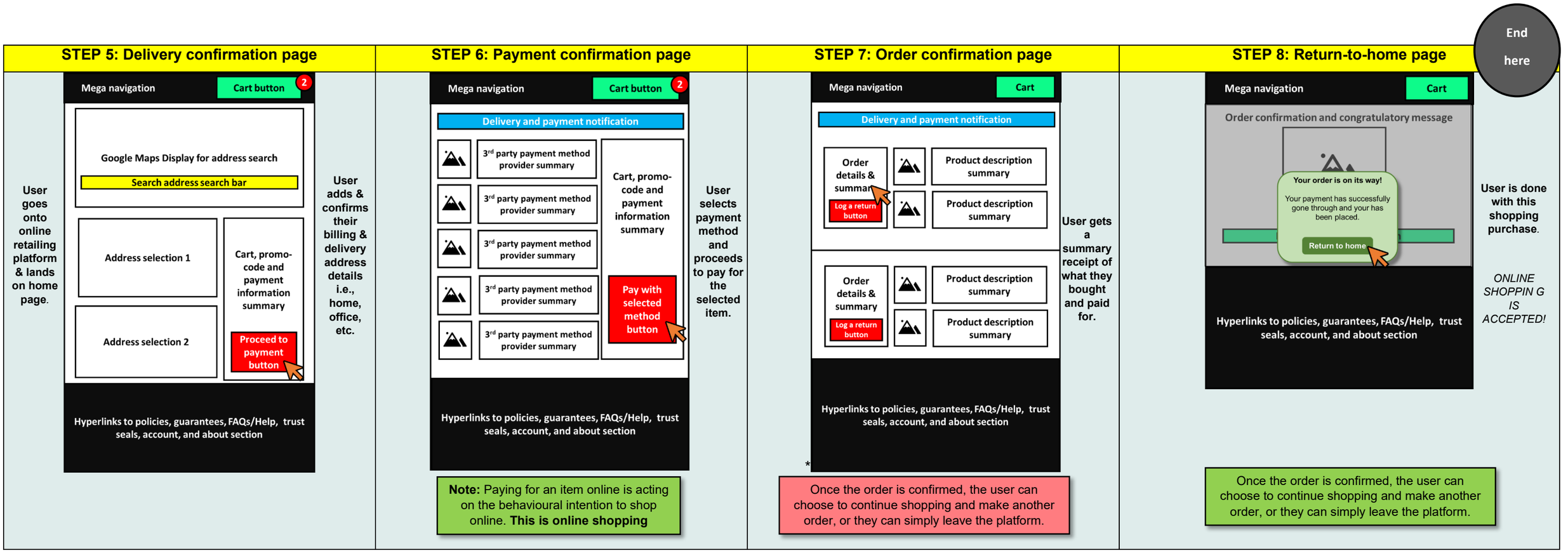


Figure D.7. A user journey mapping the standard user experience design and trust signals of an online retailing platform

APPENDIX E: ETHICS CLEARANCE CERTIFICATE

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School

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

Ethics Clearance Certificate

Ethics protocol number: WBS/DB726274/903
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below)

Project title	The influence of trust and user experience on online shopping acceptance by South African consumers
Investigator / Researcher	Miss Fungile Msibi
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.
Issue Date of Certificate	2021-11-02
Expiry date	Date of submission of the project report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 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

2 November 2021

Date: