

https://dspace.org/

Adoption of online grocery shopping by urban consumers in South Africa

Naidoo, Shivani

2025

University of the Witwatersrand, Johannesburg

https://hdl.handle.net/10539/47891

Naidoo, Shivani. (2025). Adoption of online grocery shopping by urban consumers in South Africa [Master`s dissertation, University of the Witwatersrand, Johannesburg]. WIReDSpace. https://hdl.handle.net/10539/47891

Downloaded from a DSpace repository. https://dspace.org/

Adoption of online grocery shopping by urban consumers in South Africa

Student Name: Shivani Naidoo

Supervisor: Laurence Beder

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

Johannesburg, 28/02/2025

ABSTRACT

The adoption of online grocery shopping among urban consumers in South Africa remains limited, despite the global trend toward e-commerce. This study addresses the research problem which highlights the slow uptake of online grocery shopping, by investigating the factors that influence urban consumer behavioural intention through the lens of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework. Key constructs such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit were analysed for their impact on behavioural intention and actual usage behaviour. Additionally, age, gender and experience were included as moderators in this study.

Using a quantitative research methodology, a structured survey was distributed to 199 urban consumers in South Africa, of which the sample consisted of both users and non-users of online grocery platforms. Data was analysed using structural equation modelling (SEM) to evaluate the relationships between the UTAUT2 constructs and consumer behaviour.

The average research results for all respondents indicate that while constructs like performance expectancy and habit positively influence urban consumer behavioural intention, factors such as social influence, facilitating conditions, price value, and hedonic motivation are more significant for non-users. Additionally, behavioural intention did not significantly predict actual usage behaviour across all groups.

Thus, the study concludes that it provides a valuable starting point for understanding the factors that influence urban consumer behavioural intention to use online grocery shopping in South Africa. It also highlights that while UTAUT2

provides valuable insights, its constructs require contextual adaptation to address South Africa’s unique challenges.

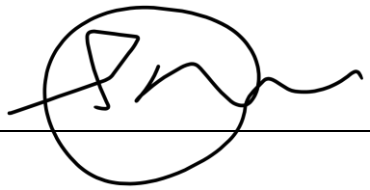
The study also recommends targeted strategies and actionable solutions for retailers and platforms to improve and accelerate online grocery adoption.

KEYWORDS

Online grocery shopping, e-grocery, behavioural intention, consumer intention, UTAUT2 model, South Africa, urban consumers, online shopping

DECLARATION

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

Name: Shivani Naidoo Signature: 

Signed at Johannesburg on the 28 February 2025.

DEDICATION

I dedicate this research report to my family whose unwavering support, encouragement, and love have been my guiding light throughout this journey. This accomplishment would not have been possible without your patience, sacrifices, understanding and endless belief in my potential.

With deepest gratitude and love,

Shivani Naidoo

ACKNOWLEDGEMENTS

This research report represents not only my work but also the collective support, guidance, and encouragement of my supervisor, Mr. Laurence Beder to whom I am grateful. I also extend my sincere thanks to the WITS Business School academic committee members, whose constructive suggestions and advice have enriched this study.

With sincere appreciation,

Shivani Naidoo

TABLE OF CONTENTS

LIST OF TABLES xi

LIST OF FIGURES xii

LIST OF ACRONYMS xiii

CHAPTER 1. INTRODUCTION 14

1.1 STATEMENT OF PURPOSE 14
1.2 BACKGROUND OF THE STUDY 14
1.3 RESEARCH PROBLEM 16
1.4 RESEARCH OBJECTIVES 18
1.5 RATIONALE 18
1.6 DELIMITATIONS OF THE STUDY 20
1.7 DEFINITION OF TERMS 20
1.8 ASSUMPTIONS 20

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK 22

2.1 INTRODUCTION 22
2.2 OVERVIEW OF ONLINE SHOPPING 22
2.2.1 OVERVIEW OF ONLINE SHOPPING: A SOUTH AFRICAN PERSPECTIVE 24
2.3 OVERVIEW OF GLOBAL ONLINE GROCERY SHOPPING 26
2.3.1 OVERVIEW OF ONLINE GROCERY SHOPPING: A SOUTH AFRICAN PERSPECTIVE 29
2.4 FACTORS THAT INFLUENCE URBAN CONSUMERS' BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING IN SOUTH AFRICA. 32
2.4.1 BEHAVIOURAL INTENTION 32
2.4.2 TO DETERMINE WHETHER PERFORMANCE EXPECTANCY INFLUENCES CONSUMER BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING. 32
2.4.3 TO DETERMINE WHETHER EFFORT EXPECTANCY INFLUENCES CONSUMER BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING. 33
2.4.4 TO DETERMINE WHETHER SOCIAL INFLUENCE, INFLUENCES CONSUMER BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING. 34
2.4.5 TO DETERMINE WHETHER FACILITATING CONDITIONS INFLUENCES CONSUMER BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING. 35
2.4.6 TO DETERMINE WHETHER HEDONIC MOTIVATION INFLUENCES CONSUMER BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING. 35
2.4.7 TO DETERMINE WHETHER PRICE VALUE, INFLUENCES CONSUMER BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING. 36

2.4.8 To determine whether habit influences consumer behavioural intention to use online grocery shopping 37
2.4.9 Behavioural Intention to use online grocery shopping 38
2.4.10 Moderators of Behavioural Intention 38
2.5 Analytical Framework 39
2.5.1 Theoretical Framework 39
2.5.2 Conceptual Framework 41
2.6 Conclusion of Literature Review 42

CHAPTER 3. RESEARCH METHODOLOGY 43

3.1 Research Paradigm 43
3.2 Research Approach 44
3.3 Research Design 44
3.4 Data Collection Methods 45
3.5 Population and Sample 46
3.5.1 Population 46
3.5.2 Sample and Sampling Method 46
3.6 The Research Instrument 47
3.7 Procedure for Data Collection 48
3.8 Data Analysis Strategies and Interpretation 48
3.9 Possible Limitations and Challenges of the Study 50
3.10 Quality Assurance 50
3.10.1 External Validity 50
3.10.2 Internal Validity 51
3.10.3 Reliability 52
3.11 Ethical Considerations 52
3.12 Schedule and Timelines 53

CHAPTER 4. PRESENTATION OF RESULTS 54

4.1 Introduction 54
4.2 Demographic Profile 54
4.3 Respondents Experience Frequency Table 56
4.4 Exploratory Factor Analysis 60
4.5 Reliability Analysis 65
4.6 Structural Equation Modelling 67
4.6.1 Measurement Model 67
4.6.1.1 Goodness of Fit of Measurement Model 68
4.6.1.2 SEM and Hypothesis Testing 69
4.7 Results pertaining to Hypothesis 1 (Performance Expectancy and Behavioural Intention) 71

4.8 Results pertaining to Hypothesis 2 (Effort Expectancy and Behavioural Intention) 71
4.9 Results pertaining to Hypothesis 3 (Social Influence and Behavioural Intention) 72
4.10 Results pertaining to Hypothesis 4 (Facilitating Conditions and Behavioural Intention) 72
4.11 Results pertaining to Hypothesis 5 (Hedonic Motivation and Behavioural Intention) 72
4.12 Results pertaining to Hypothesis 6 (Price Value and Behavioural Intention)..... 73
4.13 Results pertaining to Hypothesis 7 (Habit and Behavioural Intention)..... 73
4.14 Results pertaining to Hypothesis 8 (Behavioural Intention and Use Behaviour)..... 73
4.15 Moderators of Behavioural Intention Analysis..... 74
4.15.1 Age..... 74
4.15.2 Gender..... 76
4.15.3 Experience 78
4.16 Summary of the Results..... 81

CHAPTER 5. DISCUSSION OF THE RESULTS 82

5.1 Introduction 82
5.2 Factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa. 82
5.2.1 Discussion pertaining to Hypothesis 1 – Performance Expectancy 82
5.2.2 Discussion pertaining to Hypothesis 2 – Effort Expectancy 83
5.2.3 Discussion pertaining to Hypothesis 3 – Social Influence..... 84
5.2.4 Discussion pertaining to Hypothesis 4 – Facilitating Conditions..... 85
5.2.5 Discussion pertaining to Hypothesis 5 – Hedonic Motivation..... 86
5.2.6 Discussion pertaining to Hypothesis 6 – Price Value 87
5.2.7 Discussion pertaining to Hypothesis 7 – Habit 88
5.2.8 Discussion pertaining to Hypothesis 8 – Behavioural Intention to Usage Behaviour 90
5.2.9 Discussion pertaining to the Moderators of Behavioural Intention..... 90
5.3 Conclusion..... 91

CHAPTER 6. CONCLUSION & RECOMMENDATIONS 93

6.1 Introduction 93
6.2 Conclusions regarding research objective 1 - To identify the factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa. 93

6.2.1 CONCLUSIONS REGARDING RESEARCH SUB-OBJECTIVE 1.1 - TO EXPLORE URBAN CONSUMER BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING USING UTAUT2 AS A FRAMEWORK. 95
6.3 RECOMMENDATIONS 95
6.4 SUGGESTIONS FOR FURTHER RESEARCH 96

REFERENCES 98

APPENDIX A - Participant Information Sheet 110

APPENDIX B – Participant Consent Form 111

APPENDIX C - Research Instrument 112

APPENDIX D – Ethics Clearance Certificate 125

APPENDIX E – Approval of Title 126

LIST OF TABLES

Table 1: Demographic Profile 55

Table 2: Respondents Experience Frequency 57

Table 3: Rotated Component Matrix 61

Table 4: Reliability Analysis of Factors 66

Table 5: Goodness of Fit Measures 69

Table 6: Estimates from SEM 71

Table 7: Estimates from Moderating effect of Age 76

Table 8: Estimates from Moderating effect of Gender 78

Table 9: Estimates from Moderating effect of Experience 80

LIST OF FIGURES

Figure 1: Retail Ecommerce Sales Worldwide, 2021 - 2027 (Source: (eMarketer, 2021) 24

Figure 2: US Grocery E-commerce Sales, 2019-2024 (Source: (eMarketer, 2021) 27

Figure 3: e-Grocery market share (Source: (PricewaterhouseCoopers, 2022) 28

Figure 4: Online grocery retailers in South Africa (Source: Authors own research) 31

Figure 5: Pure-play online grocery retailers in South Africa (Source: (Mkansi & Mugurusi, 2023)) 31

Figure 6: Conceptual Framework: Adaptation of UTAUT2 (Source: (Venkatesh et al., 2012)) 42

Figure 7: Measurement Model (CFA) 68

Figure 8: Structural Equation Model 70

LIST OF ACRONYMS

BI: Behavioural Intention

CFA: Confirmatory Factor Analysis

COVID-19: Corona Virus Disease 2019

EFA: Exploratory Factor Analysis

EFT: Electronic Funds Transfer

EE: Effort Expectancy

FC: Facilitating Conditions

HM: Hedonic Motivation

HT: Habit

PE: Performance Expectancy

PV: Price Value

SA: South Africa

SEM: Structural Equation Modelling

SI: Social Influence

TAM: Technology Acceptance Model

UK: United Kingdom

USA: United States of America

UTAUT 2: Unified Theory of Acceptance and Use of Technology 2

CHAPTER 1. INTRODUCTION

1.1 Statement of Purpose

The purpose of this quantitative study is to identify the factors that influence urban consumer behavioural intention to use online grocery shopping in South Africa, by employing the Unified Theory of Acceptance and Use (UTAUT2) framework.

1.2 Background of the Study

Literature indicates that there has been a shift in the way consumers shop for groceries, which is largely facilitated by the rise of online shopping via e-commerce platforms and mobile applications. This shift has been further accelerated by the increase in digital consumers, widespread adoption of smartphones, and internet usage (Musikavanhu & Musakuro, 2023).

However, the pace at which consumers are embracing online grocery shopping across developed and developing countries vastly differs. Developed countries like the United Kingdom (UK), the United States of America (USA), and China lead the way in terms of online shopping with developing countries lagging due to various economic and infrastructure factors, combined with a lack of government support (Musakwa & Petersen, 2023; Musikavanhu & Musakuro, 2023).

In recent years in South Africa, there has been a significant shift in consumer behaviour towards the use of online shopping channels, resulting in increased uptake. Boasting a population of over 60 million people, with an estimated 22 million people using smartphones, this shift is largely driven by technological advancement in online retail and further accelerated by the COVID–19 pandemic (Vhukeya et al., 2024) which have both played a key role in driving this consumer

adoption behaviour. In addition to this, a third major driver of online retail in South Africa is the grocery sub-category (Vhukeya et al., 2024), contributing R1.1 billion to total retail grocery sales which amounted to R22.9 billion in 2023 (World Wide Worx et al., 2024).

Overall, online retail in South Africa amounted to R71 billion in 2023 which was a 29% increase from 2022, making up just over 6% of total retail (World Wide Worx et al., 2024). However, whilst these figures indicate growth for online retail in a developing country like South Africa, it pales in comparison to the online retail industry in developed countries like the USA which hit $285 billion in 2023, which is four times more than the South African figure (Statista, 2024b). More so, when specifically looking at the online grocery sub-category in the USA, the market finished 2023 with $95.8 billion in total sales which is again significantly more than the South African market contribution indicated above (Moran, 2024).

Thus, it is clear from the above observations and statistics that online grocery shopping has been more widely adopted and used by consumers and retailers in certain international markets compared to South Africa. Before and during the COVID–19 pandemic, some scholars argue that several contextual factors contributed to South Africa's unique context which includes, socio-economic disparities and logistics and infrastructure challenges (Dakora & Rambe, 2022; Musakwa & Petersen, 2023; Musikavanhu & Musakuro, 2023). However, these studies are limited to specific provinces (Chokoe & Oyekale, 2022; Musikavanhu & Musakuro, 2023), and demographic segments (Ligaraba et al., 2023) within South Africa, and conducted particularly pre and in the COVID–19 pandemic. In addition, most of the research in the online grocery shopping sub-category is focused on developed countries some of which include Germany, Canada, Lithuania, and Norway (Brüggemann & Olbrich, 2023; Galushko & Riabchyk, 2024; Gružauskas et al., 2024; Kvalsvik, 2022), with limited insights into developing countries like South Africa which can make the findings of this study useful in similar contexts for future research studies or organisations within the

retail sector wanting to understand consumer adoption of online grocery shopping (Musikavanhu & Musakuro, 2023).

Therefore, this research study aims to explore the factors that influence behavioural intention to use online grocery shopping amongst urban South African consumers, thereby contributing to the current reservoir of information, specifically looking at South African online grocery shopping.

1.3 Research Problem

Research has indicated that there is a lag and slow uptake in the consumer adoption and use of online grocery shopping amongst South African consumers of which the majority continue to buy groceries from physical grocery shops (Chokoe & Oyekale, 2022; Dakora & Rambe, 2022; Madinga & Lappeman, 2023; Musakwa & Petersen, 2023; Musikavanhu & Musakuro, 2023). According to World Wide Worx (2024), the online grocery sub-category has shown continued growth post the COVID–19 pandemic in South Africa.

However, when considering that the first online grocery retailing business was launched in 2000, over twenty years ago in South Africa (Musikavanhu & Musakuro, 2023), it can be argued that the pace of adoption is slow, coupled with the fact that online grocery contribution to total retail grocery sales in South Africa in 2023 was only 4.8% which is below global trends and indicates consumer preferences towards in-store shopping (World Wide Worx et al., 2024). In the UK, the first online grocery store launched in 1994 and in 2014, two decades later, online grocery sales reached 7% of total grocery sales (Galushko & Riabchyk, 2024). This further indicates that in 2014, the UK was already marginally ahead of South Africa when analysing the online contribution to total grocery sales, suggesting that the pace of adoption and use was potentially higher. Furthermore, considering the UK was a decade ahead of South Africa in terms of the launch of online grocery stores, thus contributed to its increased adoption.

In addition to this, online grocery shopping is intended to offer a few perceived benefits which include, saving money and time, wide product selection, access to product information, competitive pricing, and speed of ordering online (Madinga & Lappeman, 2023; Moodley & Buthelezi, 2023; Musikavanhu & Musakuro, 2023; Van Droogenbroeck & Van Hove, 2021; Zolfaghari et al., 2023), however, there are also drawbacks. Some of the drawbacks include, not all online grocery stores offer a real-time shopping experience, lack of customer service to communicate too when trying to cancel orders, security and privacy risks associated with online ordering, poor customer complaint resolution, lack of education on how to shop for groceries online (Chokoe & Oyekale, 2022; Madinga & Lappeman, 2023). Some of these points could erode the online grocery shopping customer experience impacting adoption and use.

Considering the benefits of shopping for groceries online, adoption and use are slow as the online grocery contribution to total retail grocery sales in South Africa in 2023 was only 4.8%. In addition to this, there is limited research from a South African context of which studies conducted in Canada, Portugal, Lithuania, Norway, and Germany might not be applicable to South Africa. Thus, this research explores the factors that influence behavioural intention to use online grocery shopping, by urban consumers in South Africa.

To further identify the factors that influence consumer behavioural intention to use online grocery shopping, established theoretical frameworks have been explored, of which this research study is grounded on the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model which examines various constructs influencing user behaviour including, performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivations, price value and habit (Venkatesh et al., 2003).

1.4 Research Objectives

1. **Objective 1:** To identify the factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa.

1.1 **Sub-objective:** To explore urban consumer behavioural intention to use online grocery shopping using the UTAUT2 as a framework.

2. **Objective 2:** To provide recommendations for online retailers to better understand the factors that influence urban consumer behavioural intention to use online grocery shopping services.

1.5 Rationale

The proliferation of the internet, increased smartphone usage, and the COVID–19 pandemic have changed the way consumers shop, with research indicating an increase in online grocery shopping in the future (Brüggemann & Olbrich, 2023; Habib & Hamadneh, 2021; Lefophane, 2023; Mkansi & Nsakanda, 2023; Musakwa & Petersen, 2023; Musikavanhu & Musakuro, 2023; Vhukeya et al., 2024). Musakwa et al. (2023) argue that online shopping behaviour differs amongst consumers globally. In South Africa, the slow pace in consumer adoption and use of online grocery shopping despite twenty years since the establishment of the first online grocery store (Chokoe & Oyekale, 2022; Musakwa & Petersen, 2023; Musikavanhu & Musakuro, 2023), has informed interest in the chosen research topic.

Thus, the empirical rationale of this research study is necessary to understand the factors that influence and contribute to the slow pace of consumer adoption and use of online grocery shopping in South Africa (Musikavanhu & Musakuro, 2023). Furthermore, this study could add value as there is potential for massive growth of online shopping in South Africa (Musakwa & Petersen, 2023), however, there have been relatively limited research studies addressing various aspects of

this topic, including online grocery shopping before, during and after the COVID–19 pandemic (Brüggemann & Olbrich, 2023; Galushko & Riabchyk, 2024). Van Droogenbroeck et al. (2021) posit that slow adoption is problematic as online grocery shopping could address societal issues, and sustainability and mitigate food deserts, reaffirming that there is a need to address consumer hesitation to adopt and use online grocery shopping. The author further purports that the chaos caused by the COVID–19 pandemic has made this area of study even more relevant.

Thus, this research study presents three contributions. Firstly, a contextual contribution considering there is only one study conducted in the last three years in the South African context, particularly looking at the Cape Town Metropolitan area before the COVID–19 pandemic on the consumer adoption of online grocery shopping (Musikavanhu & Musakuro, 2023), and tested the Technology Acceptance Model (TAM) and added further constructs. Second, a theoretical contribution is made as this study aims to contribute to the literature by exploring the applicability of UTAUT2 to understand online grocery shopping consumer adoption behaviour in the context of a developing country like South Africa. This study will thus add to the existing study conducted in South Africa by testing the constructs in UTAUT2 to identify factors that influence South African urban consumer behavioural intention to use online grocery shopping. Third, a practical contribution, as these research findings, may provide value to retailers with established online business models as well as new online retail players that need to understand the factors that influence adoption and use of online grocery shopping, by urban consumers.

Thus, this quantitative research study aims to contribute to the existing body of knowledge on the consumer adoption and use of online grocery shopping by adding further local findings within the developing country context of South Africa.

1.6 Delimitations of the Study

This research study focuses on understanding and identifying the factors that influence behavioural intention to use online grocery shopping, by urban consumers in South Africa and excludes all individuals who do not reside in the country. This study excludes consumers residing in townships and remote rural areas.

1.7 Definition of Terms

E-commerce: also known as electronic commerce which enables online buying and selling of goods, products, and services (Attar et al., 2022). E-commerce has transformed how consumers shop and engage with organizations that have adopted the technology.

M-commerce: also known as mobile commerce which is dependent on stable internet connectivity together with mobile phone technology (Ligaraba et al., 2023). This technology enables consumers to purchase and sell products or services via mobile smartphones.

Online Shopping: is the process or act of buying goods, products, or services on the internet (Khaled et al., 2023). Consumers can either engage in online shopping via their mobile smartphones, laptops, or tablets.

Online Grocery Shopping: is the process of buying grocery items via a grocery store website or application with delivery to a consumer-preferred address or through in-store collection (Zolfaghari et al., 2023).

1.8 Assumptions

This research study assumes that the UTAUT2 theoretical framework can be used to adequately explain the factors that influence behavioural intention to use online grocery shopping by urban consumers in South Africa. Furthermore, this

study assumes that urban consumers residing in various provinces will be reached in the data collection process.

In addition to this, it is assumed that respondents will have access to technology to participate in the research study, considering the study targets consumers in urban areas. However, a lack of technological skills could hinder the sample of the study as respondents could have varying levels of technological skills.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

The following section provides a critical review of the literature on the global online shopping landscape, with a perspective on South Africa. It also examines the online grocery shopping sector both globally and within South Africa. In addition to this, the literature review also explores the factors that influence South African urban consumer behavioural intention to use online grocery shopping through the UTAUT2 framework.

2.2 Overview of Online Shopping

With the advent of the internet, consumers have been exposed to new ways of shopping, changing how they purchase goods and services (Changchit, 2006; Kumar, 2015). Thus, with so many options, some of how consumers shop involves either going into a physical store or online via a laptop or mobile device due to the proliferation of smartphones and tablets.

Many authors, researchers, and scholars have suggested that the COVID–19 pandemic has further accelerated this shift in consumer behaviour due to global social distancing regulations, making online shopping a safe choice to maintain a healthy lifestyle (Brüggemann & Olbrich, 2023; Dakora & Rambe, 2022; Galushko & Riabchyk, 2024; Gružauskas et al., 2024; Habib & Hamadneh, 2021; Lefophane, 2023; Moodley & Buthelezi, 2023; Musakwa & Petersen, 2023; Tyrväinen & Karjaluoto, 2022). Thus, for this research report, it is important to define online shopping. Tonita et al. (2004), refer to online shopping as internet shopping using the two terms interchangeably and is the use of online stores by consumers until the transactional and logistics step of the purchase. Kumar

(2015), states that it is a process undertaken by a customer to purchase goods or services over the internet. Khaled et al. (2023) agree with this, also defining online shopping as the process or act of buying goods, products, or services on the internet. Thus, consumers can either engage in online shopping via their mobile smartphones, laptops, or tablets.

Further to this, when researching online shopping, some authors mention the terms e-commerce and m-commerce (Ligaraba et al., 2023; Maduku & Thusi, 2023; Musakwa & Petersen, 2023). Schneider (2001) posits that e-commerce is a comprehensive concept that originated in the 1900s. According to Eastin (2002) electronic commerce can be considered as a process whereby consumers and sellers can purchase and sell items or services using digital information technology. Attar et al. (2022) suggest that electronic commerce enables the online buying and selling of products and services. More recently, Ligaraba et al. (2023) purport that e-commerce is the online transaction of goods and services.

In addition to this, with the rise of mobile smartphone adoption, another form of e-commerce has emerged which has been termed m-commerce and is a sub-set of e-commerce (Attar et al., 2022). M-commerce is also known as mobile commerce which is dependent on stable internet connectivity together with mobile phone technology (Ligaraba et al., 2023).

This technology enables consumers to purchase and sell products or services via mobile smartphones. Ligaraba et al. (2023) also posit that m-commerce supports online grocery shopping services through order selection, placement, and delivery, enhancing the consumer's overall online grocery shopping experience. Maduku et al. (2023) define m-commerce as the use of wireless internet services to shop with online retailers through a mobile device. Thus, despite these distinctions, this study refers to online shopping as the process or act of buying goods, products, or services on the internet (Khaled et al., 2023), of which consumers can engage in online shopping via their mobile smartphones, laptops, or tablets.

However, as these definitions have evolved, so too has online shopping which has become pervasive globally and is estimated to exceed 8.3 trillion US dollars worldwide in 2024 (Statista, 2024a). This growth in online shopping has largely been driven by organizations like Amazon and Alibaba in the USA and China. Figure 1 below is an overview of the global online retail market which indicates accelerated growth over the years:



Figure 1: Retail Ecommerce Sales Worldwide, 2021 - 2027 (Source: (eMarketer, 2021)

2.2.1 *Overview of Online Shopping: A South African Perspective*

In 2023, the South African online retailing market because of online shopping was valued at R71 billion which was a 29% increase from 2022, making up 6.15% of total retail (World Wide Worx et al., 2024). However, Madinga et al. (2023) posit that the switch from brick-and-mortar to online shopping has been sluggish as South Africans continue to frequent local malls to shop for goods and services.

In 2022, the top five online stores used by South Africans were Takealot, Superbalist.com, Woolworths.co.za, Mrp.com and Amazon.com (Lefophane, 2023). In 2023, this list of online stores is not much different with Takealot leading the way, together with Superbalist, Homechoice, Pick and Pay online shopping, and Apple (World Wide Worx et al., 2024).

According to World Wide Worx (2024), online retail saw 29% growth in 2019 pre-COVID – 19, however, at the start of the COVID–19 pandemic in 2020 this figure increased to 66%, declining to 39% in 2021, 31% in 2022, and 29% in 2023. This suggests that post the pandemic, online shopping growth could be normalizing to pre-pandemic levels, and consumers could be returning to bricks – and – mortar stores and using online shopping channels as and when needed (Galushko & Riabchyk, 2024). According to a study conducted by Musakwa et al. (2023) shoppers now interact with both online and offline touchpoints. Furthermore, a study conducted by Moodley et al. (2023) indicated that 71% of respondents preferred both in-store and online shopping in South Africa.

Some of the factors negatively influencing consumer behavioural intention to adopt and use online shopping outlined by World Wide Worx (2024) are perceived trust and risk issues around online transactions, as a result, 28.5% of South African respondents prefer in-store shopping. In a recent report unpacking consumer perceptions of online shopping in Polokwane, Chokoe et al. (2022) indicate that whilst 84.4% of respondents perceived online shopping as convenient, 62.4% also perceived it as risky. These concerns were also prevalent in Madinga et al. (2023) findings where 30% of customer service mentions related to online shopping being a risky business.

In addition to this, Moodley et al. (2023) have identified through research, factors that favoured consumers to adopt and use online shopping, which include convenience, aesthetics of the online store, online atmosphere, and ambiance which allowed engagement when browsing and social media prompted messages.

Thus, having discussed online shopping in general, e-commerce and m-commerce as a sub-set of e-commerce, the global online retail market, and an overview of the South African online shopping landscape, the following section focuses on online grocery shopping as a sub-category of online shopping.

2.3 Overview of Global Online Grocery Shopping

There have been limited studies conducted on online grocery shopping both locally and internationally with the majority conducted pre- and during the COVID–19 pandemic. These studies have focused on specific areas of online grocery shopping which is critiqued and discussed in-depth in this research study and presented below.

Kvalsvik (2022) posits that online grocery shopping entails a consumer purchasing grocery products from an online retailer whereby the purchased items are delivered directly to the buyer's home. Tyrväinen et al. (2022) expand on the definition of online grocery shopping and refer to it as the purchase of groceries online using home delivery or click-and-collect services. Gomes et al. (2022) purport that online grocery shopping is a form of online shopping for food and household products processed through websites and mobile apps. Zolfaghari et al. (2023) agrees and define online grocery shopping as the process of buying grocery items via a grocery store's website or application with delivery to a consumer's preferred address or through in-store collection. Notwithstanding these distinctions, the context of this research study makes use of Gomes et al. (2022) and Zolfaghari et al. (2023) definition which makes clear reference to online grocery shopping as the process of buying groceries using a grocery store's website or mobile application. Thus, when a consumer purchases

groceries from Checkers Sixty or Woolworths.co.za, it is considered online grocery shopping.

The first online grocery store was introduced in the USA in the late 1980s and developed slowly further in the late 1990s (Shen et al., 2022). In recent times, the leading online grocery businesses in developed economies include Amazon and Walmart in the USA as well as Oscado and Tesco in the UK (Musikavanhu & Musakuro, 2023). In 2024, as presented in Figure 2 below, online grocery sales in the USA are expected to reach 187.7 billion dollars highlighting the growth and subsequent consumer acceptance and use of online grocery shopping.

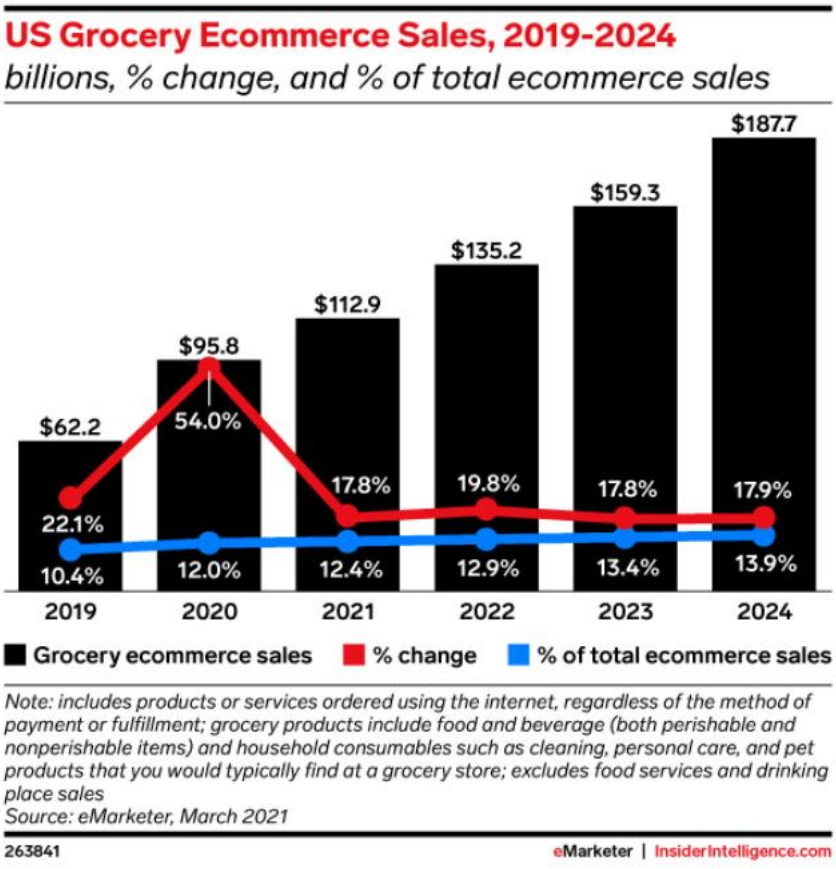


Figure 2: US Grocery E-commerce Sales, 2019-2024 (Source: (eMarketer, 2021)

In a report by PWC, consumers in the UK are expected to purchase up to 26% of their food online, the Netherlands 25%, France 23%, Germany 11%, and Turkey 10% online grocery purchases by 2030 (PricewaterhouseCoopers, 2022). The authors further purport that online grocery shopping will increase between 35% and 50% in these countries by 2050 (PricewaterhouseCoopers, 2022). In the European Union, six out of ten consumers between the ages of 16 – 75 purchased goods online with Portuguese consumers mostly purchasing groceries online once a week (Gomes & Lopes, 2022). Figure 3 below highlights the e-grocery market share across the UK, Netherlands, and France:

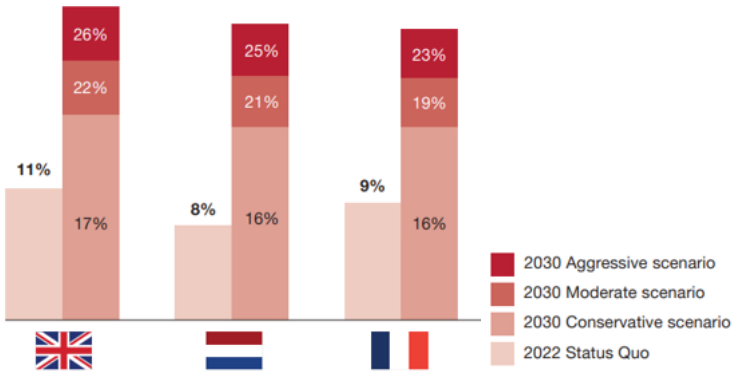


Figure 3: e-Grocery market share (Source: (PricewaterhouseCoopers, 2022)

Thus, global grocery purchasing behaviour has undergone significant changes during the COVID–19 pandemic, altering consumer preferences toward purchasing groceries online. Online grocery shopping is a crucial component of the food sector, enabling customers to conveniently buy a wide range of grocery items online (Galushko & Riabchyk, 2024; Ligaraba et al., 2023). Ligaraba et al. (2023) further purport that the retail food industry plays a significant role in people's daily lives, facilitating the availability of essential commodities.

Literature has identified that social life changes, technological breakthroughs, economic recessions, natural disasters, and pandemics like COVID-19 are some of the factors that cause consumers to adjust or change their buying behaviour

(Galushko & Riabchyk, 2024). Furthermore, Galushko et al. (2024) suggest that in Canada, income can motivate consumers to change their grocery shopping behaviour depending on their socioeconomic background of which higher-income families spend three times more frequently on online grocery shopping than lower-income households. On the contrary, in a study conducted in Lithuania, data suggests that online grocery shopping services cater to a wide range of consumers and are not exclusive to a specific economic demographic, emphasizing the need for online grocers to adopt diverse pricing and service options to meet the needs of a diverse customer base (Gružauskas et al., 2024).

In these markets, consumers understand the value of online grocery shopping which includes timesaving, price comparisons, product variety, lower prices, and eco-friendly and sustainable shopping which has subsequently motivated their behavioural intention to adopt and use online grocery shopping, further driving the growth of this phenomenon (Gomes & Lopes, 2022; Musikavanhu & Musakuro, 2023)

2.3.1 *Overview of Online Grocery Shopping: A South African Perspective*

The first online grocery retailing business was launched in 2000, over twenty years ago in South Africa (Musikavanhu & Musakuro, 2023), however, when analysing the global growth of online grocery shopping, it can be argued that the pace of adoption is slow. According to World Wide Worx (2024), the online grocery market value in 2023 was R1.1 billion in South Africa, which is 4.8% of total retail grocery sales. In contrast, the UK customer acceptance and use is high with over 30% of the population buying groceries online of which the number regularly purchasing groceries online has doubled in the past ten years (PricewaterhouseCoopers, 2022). This further highlights the lag in consumer adoption of online grocery shopping in South Africa. Some authors attribute the slow pace of online grocery shopping to the fact that South Africa is home to over

two thousand shopping malls and ranks eighth in the world for the most retail centres with ambitions to build more in the future (Dakora & Rambe, 2022; Shumba et al., 2023).

COVID-19 and lockdown restrictions have however influenced South African consumer behaviour, which has resulted in the growth of online shopping (Lefophane, 2023). Musakwa et al. (2023) posit that 64% of South Africans purchased groceries for the first time online because of the pandemic. The author further indicated that even Kenyan consumers shop online more than South Africans. Mkansi et al. (2023) posit that online grocery shopping is an urban experience in South Africa. This is further substantiated by Lefophane (2023), who states that online grocery delivery services are confined to urban areas in South Africa. Thus, this research study seeks to identify the factors that influence behavioural intention to use online grocery shopping, by urban consumers in South Africa.

From a retailer's perspective, whilst many enterprises have benefited from digital technologies that enable online grocery shopping, the cost, infrastructure investment, illiteracy and lack of skills, and scarcity of legal frameworks have prevented many from adopting and leveraging digital technologies powering online grocery shopping (Ligaraba et al., 2023). The author further suggests that due to the pandemic, enterprises were challenged with servicing consumers in South Africa of which they restructured their business models to cater to online grocery shopping services. This resulted in the birth of Quench, selling Woolworths food items and Bottles which partnered with Pick n Pay to retail online groceries (Lefophane, 2023).

More recently, in South Africa, there is a combination of prominent omnichannel and pure-play online grocery services that have changed the landscape of online grocery shopping, offering consumers a variety of options, some of which are presented in Figures 4 and 5 below (Ligaraba et al., 2023; Mkansi & Mugurusi, 2023).

	Grocery Store	Platforms	Business Model	Delivery Time	Delivery Cost	Loyalty Card	Payment Methods
OMNI-CHANNEL	Checkers	Checkers Sixty60 App	Home Delivery	60 Minutes	R35	Xtra Savings	Debit, cheque and Credit Card
	Woolworths	www.woolworths.co.za	Click and Collect	Scheduled Delivery	Free	Woolworths Rewards	Debit, cheque and Credit Card
			Home Delivery	Scheduled Delivery	R50		
		Woolies Dash App	Home Delivery	Same Day	R35		
			Click and Collect	Scheduled Delivery	Free		
	Pick n Pay	www.pnp.co.za	Click and Collect	Scheduled Delivery	Free	Smart Shopper	Debit, cheque and Credit Card
			Home Delivery	Scheduled Delivery	R50		
		Pick n Pay Asap!	Home Delivery	60 Minutes	R35		

Figure 4: Online grocery retailers in South Africa (Source: Authors own research)

Pure-Play	Spazapp
	Grocerease
	Y-shop
	Buy Grocery Online
	Zulzi
	Vuleka
	Smartsentials
	Onecart
	Sisonke Africa
	StockUp
	Washesha
	Wumdrop
	Zanel

Figure 5: Pure-play online grocery retailers in South Africa (Source: (Mkansi & Mugurusi, 2023))

Despite the variety of omnichannel and pure-play options available to urban consumers in South Africa, literature indicates that adoption remains low in comparison to leading markets like the UK, USA, and Netherlands. Thus, it is imperative to identify the factors that influence urban consumers' behavioural

intention to use online grocery shopping in SA, to develop strategies to drive and increase growth in the future.

2.4 Factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa.

The purpose of this study is to identify the factors that influence urban consumer behavioural intention to use online grocery shopping in SA. Guided by the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework, the following hypotheses have been developed.

2.4.1 *Behavioural Intention*

Behavioural intention refers to an individual's commitment to use and maintain the use of technology and is also a determining element that influences the actual usage of technology (Venkatesh et al., 2012). According to Tang et al. (2022), behavioural intention can also be seen as an individual's tendency to use technology or keep using it, considering various factors that might influence technology use. In the context of this study, understanding the factors that influence urban consumer behavioural intention can help predict and enhance the use of online grocery shopping services. Thus, in line with the UTAUT2 framework, this research study aims to identify and analyse the determinants that influence consumers' intentions to use online grocery shopping services.

2.4.2 *To determine whether performance expectancy influences consumer behavioural intention to use online grocery shopping.*

Venkatesh et al. (2012) refers to performance expectancy as how technology can assist and help consumers accomplish specific tasks, which is also the greatest indicator of intention. For the purposes of this research study, performance

expectancy is the benefit that consumers anticipate when purchasing groceries online. Van Droogenbroeck et al. (2021) suggest that the key driver of behavioural intention to use online grocery shopping is performance expectancy, as if a consumer uses a service multiple times, they could realise it saves time. Thus, convenience could be considered a performance expectancy for consumers as it saves time and enhances productivity, which online grocery shopping platforms offer (PricewaterhouseCoopers, 2022). In a study conducted in Mauritius, performance expectancy significantly influenced the behavioural intention to use online grocery shopping (Human et al., 2020). Therefore, the alternate hypothesis is:

H1: Performance expectancy has a positive influence on urban consumer behavioural intention to use online grocery shopping.

2.4.3 *To determine whether effort expectancy influences consumer behavioural intention to use online grocery shopping.*

Effort expectancy refers to the level of ease consumers encounter when utilizing technology (Venkatesh et al., 2012). For the purposes of this research study effort expectancy is the level that a customer regards online grocery shopping as simple and easy to use. Galushko et al. (2024) suggest that effort expectancy is also determined by a consumer's technological abilities and the opportunities they have, to use technology. In a study conducted in Portugal, young consumers found online grocery shopping convenient and free from effort and disliked the physical effort when having to go into a bricks-and-mortar store (Gomes & Lopes, 2022). Tyrväinen et al. (2022) suggest that consumers perceive online grocery shopping as valuable when they can save time and effort. Habib et al. (2021) suggests that to reduce consumer effort, online grocery shopping platforms need to have a user-friendly interface and offer quality products and hassle-free deliveries. The author further purports that effort expectancy influences a

consumer’s intention to use online grocery shopping. Therefore, the alternate hypothesis is:

H2: Effort expectancy has a positive influence on urban consumer behavioural intention to use online grocery shopping.

2.4.4 *To determine whether social influence, influences consumer behavioural intention to use online grocery shopping.*

Social influence is the extent to which a person believes or perceives that friends and family think he or she should use the new system (Venkatesh et al., 2003). Habib et al. (2021) suggest that social influence has an overall impact on human behaviour and technology adoption. The author further highlights a key point that social influence improves the link and relationship between consumer attitudes and beliefs regarding shopping intention and online buying. Katrodia (2023) posits that social influences are exogenous, which involve friends, family, and shopping groups, and can affect consumer behaviour. Grocery retailing is different from other retailing sectors due to the social aspect of food which involves sharing with family and friends and thus has an influence on consumer behaviour (Tyrväinen & Karjaluoto, 2022). The author’s findings further confirm that social influence is an important aspect of online grocery shopping. Furthermore, in a study conducted in Belgium, buying groceries online was found to be a good idea among friends and family reinforcing the importance of social influence (Van Droogenbroeck & Van Hove, 2021). In the context of this study, social influence may also act as a significant factor that motivates consumers' behavioural intention to use online grocery shopping services whereby, they can seek knowledge and approval from family and friends. Therefore, the alternate hypothesis is:

H3: Social influence has a positive influence on urban consumer behavioural intention to use online grocery shopping.

2.4.5 *To determine whether facilitating conditions influences consumer behavioural intention to use online grocery shopping.*

Facilitating conditions are defined as a consumers' impression of the support and resources available to execute a behaviour of which a consumer who has access to good facilitating conditions will more likely have an increased behavioural intention to use technology (Venkatesh et al., 2012). For the purposes of this study, facilitating conditions for online grocery shopping would include a stable internet connection, smartphones, laptops, tablets, and access to on-demand support services by online grocery service providers. According to Habib et al. (2021) facilitating conditions pertain to external factors such as resources and infrastructure which can impact the intention to shop for groceries online. Findings from their study conducted in India confirmed that facilitating conditions such as smartphones and internet connectivity are key factors in the acceptance of online grocery shopping technology (Habib & Hamadneh, 2021). Therefore, the alternate hypothesis is:

H4: Facilitating conditions has a positive influence on urban consumer behavioural intention to use online grocery shopping.

2.4.6 *To determine whether hedonic motivation influences consumer behavioural intention to use online grocery shopping.*

Hedonic motivation refers to a consumer's delight when using technology, which can influence technology acceptance and utilization (Venkatesh et al., 2012). In a study conducted in India, hedonic motivation was found to influence consumer behavioural intention to adopt and use online grocery shopping, as shopping via smartphones and websites was fun and made consumers feel excited since they could obtain free home delivery, compare prices with ease, effortlessly remove items from their cart and get discounts (Habib & Hamadneh, 2021). Drawing on

the results from a Mauritian study, hedonic motivation was also found to have a direct positive influence on consumer behavioural intention to adopt and use online grocery shopping (Human et al., 2020). Tyrväinen et al. (2022) link positive emotions to hedonic motivation in which positive intentions influence consumers' purchasing behaviours. Hedonic motivation emanates from the desire to shop without the stress of crowds, long queues, and irritable children (Van Droogenbroeck & Van Hove, 2021). Zolfaghari et al. (2023) suggest that this is because online grocery shopping services are often enjoyed for the pleasure they provide, more than just the functional benefits. The author further purports that both emotional and rational factors play a role in making online grocery shopping services attractive to consumers, thus influencing their behaviour and decision to adopt and use these services. Therefore, the alternate hypothesis is:

H5: Hedonic motivation has a positive influence on urban consumer behavioural intention to use online grocery shopping.

2.4.7 *To determine whether price value, influences consumer behavioural intention to use online grocery shopping.*

The concept of price value was established as the balance between the perceived advantages of using technology and the tangible financial expense associated with its use (Venkatesh et al., 2012). According to Venkatesh et al. (2012) when the perceived benefits of using technology is greater than the monetary cost, the price value is considered positive and has a favourable impact on consumer behavioural intention to use technology. In the context of this study, price value relates to the consumer trade-off between the perceived benefits of using online grocery shopping and the monetary cost of using it. In a study conducted by Van Droogenbroeck et al. (2021) interviewees mentioned that saving time and money together with the added convenience of online grocery shopping, offset the service charge.

Furthermore, Human et al. (2020) findings indicate that price value influences behavioural intention and the authors purport that these findings are consistent with studies conducted in both developed and developing countries. Therefore, the alternate hypothesis is:

H6: Price value has a positive influence on urban consumer behavioural intention to use online grocery shopping.

2.4.8 *To determine whether habit influences consumer behavioural intention to use online grocery shopping.*

Habit is the degree to which individuals have developed the ability to carry out behaviours repeatedly and without thinking (Venkatesh et al., 2012). Galushko et al. (2024) suggest that it takes twenty-one days for consumers to develop a new habit and sixty-six days for a new behaviour to become a habit. The author's findings further purport that due to the duration of COVID-19, Canadian consumer online buying behaviour could very likely change, resulting in the development of new habits in the coming years, provided the online shopping experience was positive. In a study conducted in Lithuania, online grocery platforms' ease of use, convenience, affordable prices, and huge product variety have changed consumers' behavioural habits (Gružauskas et al., 2024). Katrodia (2023) argues that consumption is habitual and consumer behaviour on shopping habits have evolved depending on the context. Human et al. (2020) findings indicate that habit has a positive impact on potential adopters' behavioural intention to use online grocery shopping technology. In addition to this, Christino et al. (2021) findings also indicate that habit is an important influencer in the behavioural intention to use mobile delivery applications. In the context of this study, online grocery shopping can also be conducted through mobile applications. These findings align with Venkatesh et al. (2012), that if a person uses technology frequently, they will develop a habit of using it regularly, which also affects the behavioural intention to utilize the technology. Therefore, the alternate hypothesis is:

H7: Habit has a positive influence on urban consumer behavioural intention to use online grocery shopping.

2.4.9 *Behavioural Intention to use online grocery shopping*

Behavioural intention refers to an individual's commitment to use and maintain the use of technology and is also a determining element that influences the usage of technology (Venkatesh et al., 2012). Besides UTAUT2, several other seminal studies have confirmed, that behavioural intention drives actual use in the context of technology usage. Recently, this relationship has also been validated in several other contexts such as; digital wallets (Khan & Abideen, 2023) and digital learning (Müller & Leyer, 2023). Therefore, the alternate hypothesis is:

H8: The behavioural intention of urban consumers to use online grocery shopping will positively influence their usage behaviour.

2.4.10 *Moderators of Behavioural Intention*

There are three moderators in the UTAUT2 theoretical framework which include, age, gender and experience (Venkatesh et al., 2012).

Age is a potential moderator in this study as it is argued that consumers of older age might find difficulty in adopting new technology and may require more support when compared to younger consumers (Venkatesh et al., 2012). Bartók et al. (2021) suggests age can be a key factor in online grocery shopping and consumers under fifty-five years old buy more groceries online. Habib et al. (2021) also suggest that age and gender have a big impact on online grocery shopping decisions. Thus, in the context of this study, age could play a role in consumer behavioural intention to use online grocery shopping in South Africa.

Gender is also a potential moderator in this study; however, other studies findings have shown no moderating effect of gender. In the Mauritian context, gender had

no moderating effect (Human et al., 2020). Furthermore, in a study conducted in Portugal, it was observed that being male positively influences the online grocery shopping experience, however, despite the observed positive influence for males in the study, there isn't strong evidence to conclude that gender reliably affects the likelihood of shopping online for groceries, particularly for women (Gomes & Lopes, 2022). In the Canadian context, findings also highlight that there is no gender that demonstrates a greater psychological inclination towards engaging in online grocery shopping (Galushko & Riabchyk, 2024). Whilst there is varying evidence on gender as a moderator, in the context of this study, it is assumed that gender could play a role in consumer behavioural intention to use online grocery shopping in South Africa.

Experience is also a potential moderator in this study as consumers with experience in using online grocery shopping services could form various levels of habit depending on how often they use these online channels (Venkatesh et al., 2012). Whilst this was evident in Venkatesh et al., (2012) study, in the Mauritian context, experience had no moderating effect (Human et al., 2020). On the contrary, in a Canadian study, past experience with online grocery shopping was found to be a predictor of future behaviour of which the study notes that consumers who had a positive past experience are 15% more likely to use online grocery platforms in the future (Galushko & Riabchyk, 2024). Thus, in the context of this study, experience could play a role in consumer behavioural intention to use online grocery shopping in South Africa.

2.5 Analytical Framework

2.5.1 *Theoretical Framework*

The UTAUT framework was developed by Venkatesh et al. (2003) and was a consolidation and integration of elements from eight models of technology acceptance which include the Theory of Reasoned Action, Technology

Acceptance Model, Motivational Model, Theory of Planned Behavior, Combined TAM and TPB, Model of PC Utilization, Innovation Diffusion Theory and the Social Cognitive Theory. Thus, UTAUT provides a comprehensive framework for understanding employee technology acceptance and use. The key constructs of UTAUT are performance expectancy which highlights how technology can assist and help consumers accomplish specific tasks, effort expectancy is associated with the level of effort required when using the technology, social influence highlights the extent to which a person perceives that friends and family think he or she should use the new system and facilitating conditions is defined as consumers' impressions of the support and resources available to execute behaviour (Venkatesh et al., 2003). In addition to this, the framework includes four moderators which include age, gender, experience and voluntariness (Venkatesh et al., 2003). Although UTAUT offered a framework for understanding technology adoption, there were limitations, especially in addressing consumer-specific factors.

Thus, extending the UTAUT framework, Venkatesh et al. (2012) developed UTAUT2, paying attention to the consumer use scenario. To address this factor, additional constructs were added to the framework, which includes habit, price value and hedonic motivations. Additionally, voluntariness was dropped as a moderator from the framework. Venkatesh et al. (2012) suggest that UTAUT2 is a powerful framework which can aid in the understanding of various phenomena as well as the use of technology by consumers. Although UTAUT2’s conception was mostly focused on developed economies, it can apply to emerging market situations due to its broad nature (Human et al., 2020).

Thus, this framework is appropriate and has been used in this research study as the main objective is to identify the factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa. UTAUT2 considers a wide range of factors influencing behavioural intention and use behaviour, providing a comprehensive view of what influences online grocery

shopping adoption. It looks at performance expectancy, effort expectancy, social influence, facilitating conditions, habit, price value and hedonic motivations which are important for understanding consumer intentions and decisions (Venkatesh et al., 2012). Additionally, UTAUT2 considers the moderating effects of age, gender, and experience, offering insights into how different demographic groups adopt online grocery shopping (Venkatesh et al., 2012). These insights could enable retailers to develop customised strategies to be implemented for the urban consumer population in South Africa, thereby enhancing adoption efforts. Thus, UTAUT2 is well-suited for this study because of its focus on consumer behaviour, thorough analysis of adoption factors, and the ability to provide insights through moderating effects.

2.5.2 *Conceptual Framework*

A conceptual framework provides understanding and draws relationships between various constructs or concepts which all play an integral role (Jabareen, 2009). The conceptual framework of this study is UTAUT2 which is relevant to consumer behavioural intention to use online grocery shopping and is featured below:

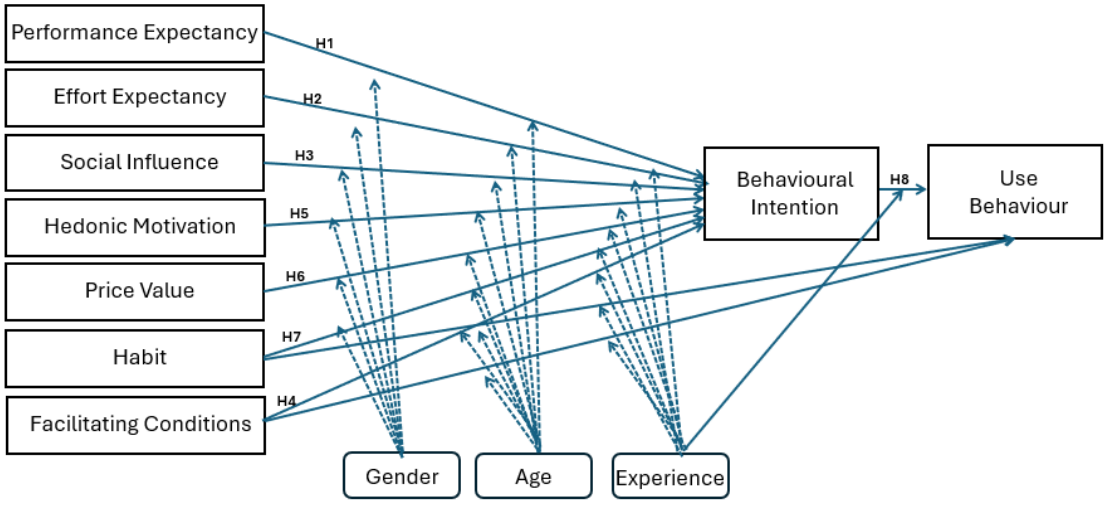


Figure 6: Conceptual Framework: Adaptation of UTAUT2 (Source: (Venkatesh et al., 2012))

2.6 Conclusion of Literature Review

This chapter provided a critical review of the literature on the global online shopping landscape, with a perspective on South Africa. It also examined the online grocery shopping sector both globally and within South Africa.

Furthermore, it highlighted the need to identify the factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa to potentially assist big retailers and newly formed retailers to improve their strategies to drive increased growth in this sector.

In addition to this, the literature review also explored consumer behavioural intention to use online grocery shopping through the UTAUT2 framework whereby eight hypotheses were developed supported by three moderators age, gender and experience which are listed below:

CHAPTER 3. RESEARCH METHODOLOGY

This chapter outlines the research methodology used in this study, covering the research paradigm, approach, design, and data collection methods. It also details the population, sample, the research instrument, data collection procedures, and data analysis techniques. Additionally, it addresses potential limitations, quality assurance concerning validity, ethical considerations, and the schedule.

3.1 Research Paradigm

According to Saunders et al. (2016), this study assumes a positivistic orientation and tests an existing theoretical framework, thus using a deductive method. Positivism is a method of research that uses observable and quantifiable facts to derive conclusions (Creswell, 2014). In addition, this study's ontological stance is realism as it aligns with the positivist paradigm and the objective is to identify the real factors that influence urban consumer behavioural intention to use online grocery shopping in South Africa (Scotland, 2012).

Furthermore, this study employs an objectivist epistemology which asserts that knowledge is derived from observable phenomena and can be measured of which this study seeks to generate knowledge through the collection and analysis of empirical data, therefore offering objective insights into the factors that influence urban consumer behavioural intention to use online grocery shopping (Bryman, 2016).

Lastly, from an axiology perspective, this study recognises the significance of value neutrality and seeks to reduce researcher bias (Saunders et al., 2016). Thus, by taking the positivist approach, the study aims to achieve objectivity by employing a standardised instrument and statistical procedures to minimise bias in the findings.

3.2 Research Approach

According to Saunders et al. (2016), this study assumes a positivistic orientation and tests an existing theoretical framework, thus using a deductive method. A quantitative research approach was selected and is appropriate as it aims to test hypotheses and establish relationships among variables and constructs of the chosen theory by gathering numerical data (Saunders et al., 2016). The UTAUT2 model is employed in this approach which is good for quantitative analysis as it focuses on performance expectancy, effort expectancy, habit, price value, hedonic motivations, facilitating conditions and social influences that are measurable constructs (Venkatesh et al., 2012). In addition to this, it is assumed that by adopting a quantitative research approach, the UTAUT2 constructs can be explored within the survey instrument and through statistical analysis techniques to identify the factors that influence urban consumer behavioural intention to use online grocery shopping in South Africa (Hair et al., 2013). Furthermore, as highlighted by Creswell (2014), this approach allows for generalizable findings regarding the adoption process of online grocery shopping amongst urban consumers within South Africa.

3.3 Research Design

The study will adopt a survey design which has been widely used in studies exploring behavioural intention and technology adoption (Venkatesh et al., 2012). This research design is appropriate as it is suited to this study’s objectives of trying to identify the factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa. It also aligns with the quantitative nature of this study which aims to collect numerical data that can be statistically analysed. Furthermore, this research design is suitable for testing hypotheses within the UTAUT2 framework. Survey design also enables the collection of data from a large sample of urban consumers (Salkind, 2010). The author also suggests that this design is appropriate because it ensures standardization using

structured questionnaires, enhancing the reliability of the data and validation of the UTAUT2 constructs. Given the time frame for data collection, surveys can also increase efficiency (Salkind, 2010). Whilst there are a few advantages of a survey design, the disadvantages include, lack of interview involvement, lack of depth in responses, respondents might not be entirely comfortable when it comes to filling out surveys and it is limited to a population that have the necessary technological resources like computers (Rea & Parker, 2014).

3.4 Data Collection Methods

Data was collected via the internet-based method of which an online questionnaire was used as this is ideal for quantitative research, providing numerical data that can be statistically analysed to test the hypotheses (Salkind, 2010). This method gathered the type of data required as it was designed based on the constructs within the UTAUT2 framework, with questions related to these constructs of performance expectancy, effort expectancy, facilitating conditions, hedonic motivation, social influence, price value and habit. Both Linkert scale questions and demographic questions were also be included. Two hundred and fifty-eight responses were achieved to answer the research objectives. Qualtrics was used to capture the questionnaire and facilitate data collection of which it was distributed online via email and social media platforms particularly WhatsApp, to reach the diverse sample of urban consumers in a timely and cost-effective manner (Salkind, 2010). In addition to this, a pretest was conducted to ensure poorly worded questions was identified and rephrased, to improve the overall quality of the questionnaire (Rea & Parker, 2014).

3.5 Population and Sample

3.5.1 *Population*

The population of this research study consists of urban consumers, residing in South Africa who are users and non-users of online grocery shopping. This includes consumers from various demographic backgrounds such as age groups, gender, income levels, province, and educational backgrounds. Urban consumers have been chosen, as the objective of this research study is to identify the factors that influence these urban consumers behavioural intention to use online grocery shopping. This population has been specifically selected as these consumers are more likely to have access to the technology required to engage in online grocery shopping in-comparison to consumers in rural areas, making urban consumers a more suitable population for examining behavioural intentions towards adopting these services. Lastly, by understanding urban consumers behavioural intention to use online grocery shopping, this could provide valuable insights for retailers looking to expand their market reach as urban areas represent market potential due to higher population density and great spending power.

3.5.2 *Sample and Sampling Method*

According to Wolf et al. (2016) a sample is a subgroup of a population, whereby respondents are surveyed with the objective to learn about an entire population. Two hundred and fifty-eight questionnaire respondents were achieved to answer the research objectives and to ensure statistical significance to perform robust data analysis. This sample size is also supported by Saunders et al. (2016) who suggests that a large sample size increases reliability of results. The survey was distributed online via email and social media platforms particularly WhatsApp, to reach the diverse sample of urban consumers to participate.

This study used a non-probability sampling strategy whereby every respondent had a low probability of being chosen, thus does not involve random selection (Acharya et al., 2013). Non-probability convenience and snowball sampling methods were adopted. This sampling method was selected, due to the practicality and efficiency of convenience sampling in accessing many respondents within a limited timeframe. To enhance the data collection process and expand the reach, the snowball sampling method was also adopted. From an implementation perspective, the study commenced with convenience sampling by identifying and recruiting respondents through email and social media channels and thereafter adopted the snowballing sampling method by asking initial respondents to refer other individuals residing in other provinces within South Africa.

3.6 The Research Instrument

An online questionnaire was used as the research instrument which has been previously published in the UTAUT2 framework and subsequently adapted in various other studies (Human et al., 2020; Venkatesh et al., 2012). Thus, this is advantageous as it demonstrates high reliability and validity as the instrument measures what it is intended to measure, capturing the factors influencing technology adoption and use. The questionnaire structure included an introduction, explaining the study objectives and requested consent from the respondents to acknowledge their voluntary participation. Section A asked the respondent if they used online grocery shopping services before to distinguish between users and non-users. Thereafter, section B identified demographic characteristics of the respondent to analyse how this may influence behavioural intention. Section C asked questions in relation to the UTAUT2 constructs in alignment with the objectives and sub-objectives of the study which was to ultimately identify the factors that influence urban consumers behavioural intention to use online grocery shopping. The UTAUT2 constructs have been

widely validated in prior studies, ensuring the reliability and validity of the measurement (Habib & Hamadneh, 2021; Human et al., 2020; Van Droogenbroeck & Van Hove, 2021). Section A and B were closed-ended questions of which the respondents were limited to a set of alternative responses (Rea & Parker, 2014). In section C, whilst the Mauritian study opted for the 5-point Likert scale answering method due to it being less time consuming and easily understood, this study used the 7-point Likert scale answering method, which was also adopted by Venkatesh et al. (2012) to understand granular insights and varying degrees of attitudes and behaviours. The scale ranged from strongly disagree (1) to strongly agree (7).

3.7 Procedure for Data Collection

Using Qualtrics technology, the survey was designed and administered of which a link was sent to a few respondents to ensure there were no poorly worded questions and to provide overall suggestions to improve the questionnaire. Once all feedback was taken into consideration, the final online survey link was circulated using social media platforms particularly WhatsApp and email.

3.8 Data Analysis Strategies and Interpretation

Quantitative data analysis techniques were used in this research study to extract meaningful insights from the survey data and to answer the research objectives to identify the factors influencing urban consumer behavioural intention to use online grocery shopping in South Africa.

Part of quantitative data analysis is the requirement to clean the data. Thus, the data collected was thoroughly cleaned to address missing data and other inconsistencies before analysis commenced to ensure quality and reliability of the overall data to draw conclusions (Field, 2013). This step was conducted using the SPSS V27 and AMOS statistical software tools which has robust functionalities

for data cleaning and statistical analysis (Field, 2013). Post data cleaning, the sample reduced to 199 from 258 respondents.

In addition, according to Trochim et al. (2006) descriptive statistics plays a crucial role in providing a succinct and comprehensible overview of the data, facilitating easy analysis. Thus, descriptive statistics was employed to summarise the fundamental aspects of the obtained data collected and provide an overview of the demographic characteristics of the respondents and their responses to the survey items related to the UTAUT2 constructs. Thus, descriptive statistics is essential for identifying initial patterns that inform further analysis (Hair et al., 2013).

This study also tested the applicability of the UTAUT2 model to understand urban consumer behavioural intention to use online grocery shopping, including the direct and indirect relationships between its constructs. Thus, structural equation modelling (SEM) was used as it allows for the analysis of measurement and structural models, ensuring a comprehensive understanding of the data (Byrne, 2016; Schindler, 2019). Through SEM, confirmatory factor analysis (CFA), a specific application of SEM, was used to validate the measurement model and ensure that the constructs are accurately measured by their respective items. CFA was also conducted to examine the goodness-of-fit indices to confirm that the model adequately represents the data.

In addition, SEM was also used to test the structural model and the relationships between constructs as SEM provides a comprehensive analysis by considering measurement errors and testing complex relationships (Byrne, 2016). Furthermore, these data analysis techniques also aligns with the sample size of this study as it is recommended by Kline (2015) that a sample of 200 is necessary for SEM in order to obtain reliable estimations.

Moderating analysis was also performed to investigate the effects of demographic factors, such as age, gender, and experience, on the relationships between the independent variables and behavioural intention.

3.9 Possible Limitations and Challenges of the Study

- From a sampling methodology perspective, the use of non-probability convenience sampling can limit the generalizability of the findings to the broader population of urban consumers in South Africa. In addition, the use of snowball sampling can introduce bias, as respondents can refer others with similar behaviours.
- The study did not reach respondents residing across all nine provinces in South Africa which was a challenge in the data collection process. In addition, majority of the respondents resided in Gauteng, followed by Kwa-Zulu Natal and the Western Cape.
- Post cleaning the data, it is observed that 79.9% of respondents were users of online grocery shopping, with 20.1% being non-users which is a possible limitation in this study due to the uneven distribution of respondents.

3.10 Quality Assurance

3.10.1 *External Validity*

According to Creswell (2014), external validity is the degree to which a study's findings can be generalised to various people and environments. This study targets urban consumers in South Africa who are users and non-users of online grocery shopping of which the sample is specific with efforts to include a diverse range of respondents in terms of age, gender, income, and education to enhance population validity and generalizability. The study however notes that findings

may not be generalizable to consumers in rural areas or those outside South Africa. The research uses SEM statistical techniques to further increase generalizability. This technique will help to ensure that the results are not overfitted to the sample data, which enhances the findings robustness and applicability (Hair et al., 2013).

Furthermore, the strategy may induce biases due to the use of non-probability convenience and snowball sampling approaches, even though it is practical given the time restrictions (Etikan, 2016). To obtain a comprehensive picture of the urban population, the study attained a varied respondent pool from a range of geographic and socioeconomic backgrounds by combining these sampling techniques.

From an implication's standpoint, this study is primarily applicable to urban consumers in South Africa and thus retailers should note this when taking the recommendations into consideration. In addition, the limits of the study's external validity highlight the need for further research in different contexts and populations to enhance the generalizability of the results.

3.10.2 *Internal Validity*

Internal validity is the degree to which the result of a study accurately demonstrates a cause-and-effect connection between variables (Trochim & Donnelly, 2006).

To ensure internal validity, this study employs online surveys which guarantees that all respondents are presented with the same questions in a standardised format, reducing variation caused by different administration methods (Field, 2013). In addition, the research uses the UTAUT2 framework, which has been validated in various studies to measure technology adoption behaviours and thus demonstrated reliability and validity (Venkatesh et al., 2012).

Furthermore, a pretest of the survey instrument assisted in identifying and resolving any issues with the questions (Presser et al., 2004). Refining the survey is essential for improving its internal validity.

3.10.3 *Reliability*

Reliability refers to the consistency and stability of the measurement procedure of which it is important that the research instrument produces consistent outcomes across multiple studies in similar circumstances (Schindler, 2019). This makes certain that the findings are trustworthy and can be reproduced by other researchers. In this research study, the use of the standard survey instrument based on the UTAUT2 framework was used, which has been validated in various studies. Thus, this guarantees that the constructs being measured are accurately and reliably captured (Venkatesh et al., 2012). In addition, a pretest was conducted on the survey instrument to identify and rectify any issues in the questions, thereby improving reliability of the instrument (Presser et al., 2004). Furthermore, Cronbach's alpha was determined for each construct to assess and ensure the reliability of the study instrument.

3.11 Ethical Considerations

To ensure the ethical conduct of this research study, measures were implemented to safeguard the rights, dignity, and well-being of all respondents. No harm was inflicted on any individual in this study and all respondents were treated with respect. All respondents were requested to consent before participating in the study which confirms their understanding of the study and their agreement to participate. Respondents that were unclear about the study, clarification was provided. Participation was entirely voluntary, and respondents could withdraw from the study at any time without any consequences. All information shared by the respondent is confidential and data from the survey is secured on a password-protected laptop. The report resulting from this research

does not include any information that could identify individual respondents. This study complies with the WITS Business School's ethics approval whereby an ethics form was completed and approved before commencing with the study. In addition to this, all the universities legal and institutional regulations governing research was followed. Should respondents want to view the findings post completion of the report, it can be shared in an accessible format.

3.12 Schedule and Timelines

Once the research proposal was approved together with the ethics approval, the research commenced with the pretest which ensured all badly phrased questions was corrected, improving the overall instrument. The data collection process then commenced with the distribution of the survey. The survey was open for approximately three weeks. Thereafter the data was cleaned in four days and analysis took approximately three weeks. This was then translated into the presentation of the findings and interpretation which took two months.

CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the study's results, which begins with an overview of the demographic profile and respondents experience frequency. It then outlines the exploratory factor analysis and reliability analysis which lay the groundwork for further examination. The chapter also includes the SEM process where the measurement model is tested through CFA, followed by hypothesis testing and a moderating analysis to explore nuanced relationships among variables.

4.2 Demographic Profile

The demographic information is detailed in Table 1 below. A total of 300 surveys were sent out, of which 258 surveys were collected which is an 86% response rate. Given that low response rates are a major issue in online surveys, of which response rates has been reported to average around 44%, the response rate of 86% can be viewed as above average (Shiyab et al., 2023).

Post data cleaning, the final sample was 199 respondents with the gender distribution indicating a higher proportion of females (60.8%) than males (39.2%). Most respondents are aged between 45-54 (31.7%), followed by those aged 35-44 (25.6%) and 65 and above (25.1%), indicating a more mature respondent group. There are only a small percentage under 35 years, with only 1.5% aged 25-34 and none in the age group of 18-24.

Income distribution is notably skewed towards higher earnings, with 35.2% of respondents reporting a net income of R50 000 or more. Other notable income categories include R20,000-R29,000 and R30,000-R39,000, each comprising 15.6% of the sample. Income between R10,000-R14,000 is reported by 13.6%, while only 5.5% earn R15,000-R19,000.

In terms of education, the sample is diverse whereby the largest group holds a Diploma (25.6%), followed by those with a Matric (18.6%) or an Honor's Degree (18.6%). Bachelor's and Master's Degree holders represent 18.1% and 16.6% respectively, while PhD holders are the least represented at 2.5%. This suggests a generally educated sample.

Geographically, majority of the respondents are from the Gauteng province (58.3%), followed by KwaZulu-Natal (32.7%). Western Cape has a smaller representation at 6.0%, and other provinces collectively contribute minimal numbers, with only a few respondents from the Eastern Cape (1.5%), Limpopo (1.0%), and Free State (0.5%). Northern Cape, North-West, and Mpumalanga have no representation in this sample.

Table 1: Demographic Profile

		N %
Gender	Male	39.2%
	Female	60.8%
Age Group	18-24	0.0%
	25-34	1.5%
	35-44	25.6%
	45-54	31.7%
	55-64	16.1%
	65 and above	25.1%
Net Income	R10k - R14k	13.6%
	R15k - R19k	5.5%
	R20k - R29k	15.6%

	R30k - R39k	15.6%
	R40k - R49k	14.6%
	R50k and above	35.2%
Educational level	Matric	18.6%
	Diploma	25.6%
	Bachelor's Degree	18.1%
	Honor’s Degree	18.6%
	Master's Degree	16.6%
	PhD	2.5%
Province	Gauteng	58.3%
	KwaZulu-Natal	32.7%
	Western Cape	6.0%
	Eastern Cape	1.5%
	Northern Cape	0.0%
	North-West	0.0%
	Limpopo	1.0%
	Free State	0.5%
	Mpumalanga	0.0%

4.3 Respondents Experience Frequency Table

Descriptive statistics are used to summarize and describe the characteristics of a dataset (Saunders et al., 2016). This was executed through a frequency table

which measures frequencies and percentages to communicate insights like respondents experience level (Saunders et al., 2016). According to Table 2, most respondents (79.9%) have prior experience with online grocery shopping services, while 20.1% have not. Additionally, only 41.2% of respondents have ordered groceries online before the COVID-19 pandemic, whereas 58.8% have not, suggesting that online grocery shopping was less common pre-pandemic.

The COVID-19 pandemic has significantly influenced shopping behaviour with 40.7% of respondents indicating they shop online "a lot more," and 35.2% indicated they shopped "more" due to the pandemic. Only a small number reported shopping ‘less’ (2.0%) or ‘a lot less’ (4.0%) and 18.1% saw no change in behaviour.

In terms of frequency of recent online grocery shopping purchases nearly half of the respondents (45.7%) made grocery purchases online within the past week, indicating a high frequency of recent activity. An additional 15.6% have purchased within the past two weeks, and 19.1% within the past month. While fewer respondents bought within three to six months or the past year.

Furthermore, preferred payment methods amongst respondents lean towards debit cards (52.3%) and credit cards (42.2%), with only a small portion using electronic funds transfer (5.0%) and mobile wallets (0.5%). No respondents opted for cash payment.

Lastly, the Checkers Sixty60 App is the dominant choice, with 67.8% of respondents using it most frequently. Other apps, such as Pick n Pay ASAP! (12.1%) and Woolies Dash (9.0%), hold smaller shares, while only a few respondents prefer options like www.pnp.co.za (5.5%) and www.woolworths.co.za (3.5%). Many alternative stores receive minimal or no usage.

Table 2: Respondents Experience Frequency

		N %
Have you used online grocery shopping services before?	Yes	79.9%
	No	20.1%
Have you ordered groceries online before COVID-19?	Yes	41.2%
	No	58.8%
Has COVID-19 changed your online grocery shopping behaviour?	A lot less	4.0%
	Less	2.0%
	No change	18.1%
	More	35.2%
	A lot more	40.7%
When was the last time you purchased groceries online?	Within the past week	45.7%
	Within the past two weeks	15.6%
	Within the past month	19.1%
	Within the past three months	7.0%
	Within the past six months	6.5%
	Within the past year	6.0%
What is your preferred payment	Credit Card	42.2%
	Debit Card	52.3%

method when purchasing groceries online?	Electronic Funds Transfer (EFT)	5.0%
	Mobile Wallet	0.5%
	Cash	0.0%
Which online grocery store do you purchase groceries from most often?	Checkers Sixty60 App	67.8%
	Pick n Pay ASAP! App	12.1%
	www.pnp.co.za	5.5%
	Woolies Dash App	9.0%
	www.woolworths.co.za	3.5%
	Spazapp	0.5%
	Grocerease	0.0%
	Y-shop	0.0%
	Buy Grocery Online	0.0%
	Zulzi	1.0%
	Vuleka	0.0%
	Smartsentials	0.0%
	Onecart	0.5%
	Sisonke Africa	0.0%
	StockUp	0.0%
	Washesha	0.0%

	Wumdrop	0.0%
	Zanel	0.0%

4.4 Exploratory Factor Analysis

Exploratory factor analysis (EFA) was applied to this study to know the number of factors present in the data set shown in Table 3 below. This statistical technique also provides the foundation for further analysis such as CFA and SEM, which can test the reliability and validity of the identified factors which is outlined further in the study. Marsh et al. (2014) and Hair et al. (2013) emphasizes that EFA serves as a precursor to CFA by ensuring that identified factors are theoretically and statistically sound. The EFA result identified eight distinct factors each grouping variables that load together, suggesting underlying constructs that influence online grocery shopping behaviour.

The first factor that is performance expectancy, includes three items reflecting the perceived usefulness and benefit of online grocery shopping. High loadings on statements like ‘Using an online channel for grocery shopping helps me save time’ (0.803) and ‘Using online grocery shopping channels increases my productivity’ (0.877) indicates that respondents perceive online grocery shopping as a productive, time-efficient tool.

With regards to effort expectancy, this includes four items. High loadings on statements like ‘Learning how to use online grocery shopping channels is easy for me’ (0.881) and ‘It is easy for me to become skilful at using online grocery shopping channels?’ (0.848), suggest that the ease of learning and using online grocery platforms is crucial.

In addition, social influence includes three items which captures the impact of social expectations on respondents in shaping their online shopping behaviour, with items like ‘People who influence my behaviour think that I should use online

grocery shopping channels (.861). High loadings here show that the opinions of close connections significantly affect respondent's choices.

The facilitating conditions component with four items suggests that having adequate resources and compatibility with existing technology is essential for ease of adoption.

The hedonic motivation factor with three items reflects the pleasure derived from the experience, with high loadings indicating that fun and enjoyment play a role in respondents' engagement with online grocery shopping.

Price value which has three items in the factor suggests that respondents assess the economic advantage of online shopping. High loadings here show that price perceptions strongly influence attitudes toward online grocery shopping.

The component habit which has three items indicates that for many, online grocery shopping has become a habitual behaviour.

Lastly the factor behavioural intention to use online grocery shopping has three items which reflects respondents' strong intentions to continue and possibly increase their use of online shopping platforms.

Table 3: Rotated Component Matrix

		Component							
		1	2	3	4	5	6	7	8
PERFORMANCE EXPECTANCY	**I find online grocery shopping useful in my daily life?**					.790			
	Using an online channel for grocery shopping helps me save time?					.803			

	Using online grocery shopping channels increases my productivity?					.877			
EFFORT EXPECTANCY	**Learning how to use online grocery shopping channels is easy for me?**	.881							
	My interaction with online grocery shopping channels is clear and understandable?	.858							
	I find online grocery shopping easy to use?	.893							
	It is easy for me to become skilful at using online grocery shopping channels?	.848							
SOCIAL INFLUENCE	**People who are important to me think that I should use online grocery shopping channels?**		.852						
	People who influence my behaviour think that I should use online grocery shopping channels?		.861						
	People whose opinions that I value prefer that		.868						

	I use online grocery shopping channels?								
FACILITATING CONDITIONS	**I have the necessary resources to use online grocery shopping channels?**				.764				
	I have the necessary knowledge to use online grocery shopping channels?				.765				
	Online grocery shopping channels is compatible with the technologies that I use?				.756				
	I could get help from others if I have difficulties using online grocery shopping channels?				.747				
HEDONIC MOTIVATION	**Using online grocery shopping channels is fun?**							.836	
	Using online grocery shopping channels is enjoyable?							.853	
	Using online grocery shopping channels gives me a pleasing feeling?							.690	

PRICE VALUE	**Online grocery shopping is reasonably priced**						.801		
	Online grocery shopping is good value for money						.815		
	At the current price of internet / data, online grocery shopping provides good value for money						.767		
HABIT	**The use of online grocery shopping is a habit for me**								.741
	I am addicted to using online grocery shopping channels								.858
	Using online grocery shopping channels is a must								.825
BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING	**I intend to keep using online grocery shopping channels in the future**			.836					
	I intend to always use online grocery shopping channels in my daily life			.889					
	I intend to use online grocery shopping channels more			.889					

	frequently than traditional channels								

4.5 Reliability Analysis

The reliability analysis was evaluated using Cronbach's Alpha which indicates strong internal consistency (reliability) across all factors influencing online grocery shopping behaviour (Collier, 2020). According to Collier (2020), Cronbach's Alpha values above 0.7 indicates acceptable reliability, with values closer to 1.0 indicating stronger internal consistency. As shown in Table 4 below, each factor exhibits strong reliability, indicating that the items within each construct consistently measure the intended concept.

For instance, performance expectancy, with three items and a Cronbach's Alpha of 0.945, indicates that the items measuring performance expectancy are strongly consistent and provide reliable insights into respondents' perceived usefulness and productivity related to online grocery shopping. Similarly, effort expectancy achieved an even higher Alpha of 0.954, underscoring the alignment of items related to ease of use and learning within online grocery platforms.

The social influence factor, with a Cronbach's Alpha of 0.924, also shows high consistency, indicating that social expectations around using online grocery shopping channels are uniform among respondents. Similarly, the behavioural intention to use online grocery shopping factor achieved a high reliability score of 0.933, reflecting strong respondent agreement on future intentions to engage in online grocery shopping.

The hedonic motivation factor, with a Cronbach's Alpha of 0.916, highlights that respondents consistently find online grocery shopping enjoyable. The price value and habit factors, with scores of 0.887 and 0.861, respectively, also show high reliability, suggesting that perceptions of value for money and habitual usage are consistent across the sample. The facilitating conditions factor has the lowest

reliability score at 0.857 indicating a moderate level of agreement regarding the resources and technology needed for online shopping.

All factors display Cronbach's Alpha values significantly above the 0.7 threshold, indicating strong internal consistency and reliable measurement across the factors in this analysis (Cronbach, 1951). Additionally, these high Cronbach's Alpha values reinforce the reliability of the survey instrument and suggests that it effectively captures the different dimensions influencing online grocery shopping behaviour.

Table 4: Reliability Analysis of Factors

Factors	Items	Cronbach's Alpha
Performance Expectancy	3	0.945
Effort Expectancy	4	0.954
Social Influence	3	0.924
Facilitating Conditions	4	0.857
Hedonic Motivation	3	0.916
Price Value	3	0.887
Habit	3	0.861
Behavioural Intention to Use Online Grocery Shopping	3	0.933

4.6 Structural Equation Modelling

In the structural equation modelling (SEM) framework, the proposed model evaluated the relationships between key variables influencing online grocery shopping behaviour, with Performance Expectancy**,** Effort Expectancy**,** Social Influence**,** Facilitating Conditions**,** Hedonic Motivation**,** Price Value**,** and Habit as predictor variables, and Behavioural Intention to Use Online Grocery Shopping as the outcome variable. Prior to SEM, a measurement model was conducted using confirmatory factor analysis (CFA) to assess the validity and reliability of the constructs.

4.6.1 *Measurement Model*

Confirmatory Factor Analysis (CFA) is widely used in validating measurement models as part of structural equation modelling (Kline, 2015). The CFA for the measurement model presented in Figure 7 includes eight latent variables representing the primary constructs: Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Value, Habit, and Behavioural Intention to Use Online Grocery Shopping. Each of these latent variables is assessed through a specific set of observed items. Performance expectancy is measured by three items, effort expectancy by four items, social influence by three items, and facilitating conditions by four items. Hedonic motivation is also represented by three items, as are price value and habit. Finally, behavioural intention to use online grocery shopping is gauged by another set of three items. Altogether, the CFA includes twenty-six observed items across these eight latent variables. This setup allows each group of items to load onto its respective factor, establishing construct validity before moving to SEM. By confirming these relationships through CFA, the model ensures that the observed items consistently and accurately reflect their intended latent constructs (Hair et al., 2013; Kline, 2015; Schumacker & Lomax, 2015).

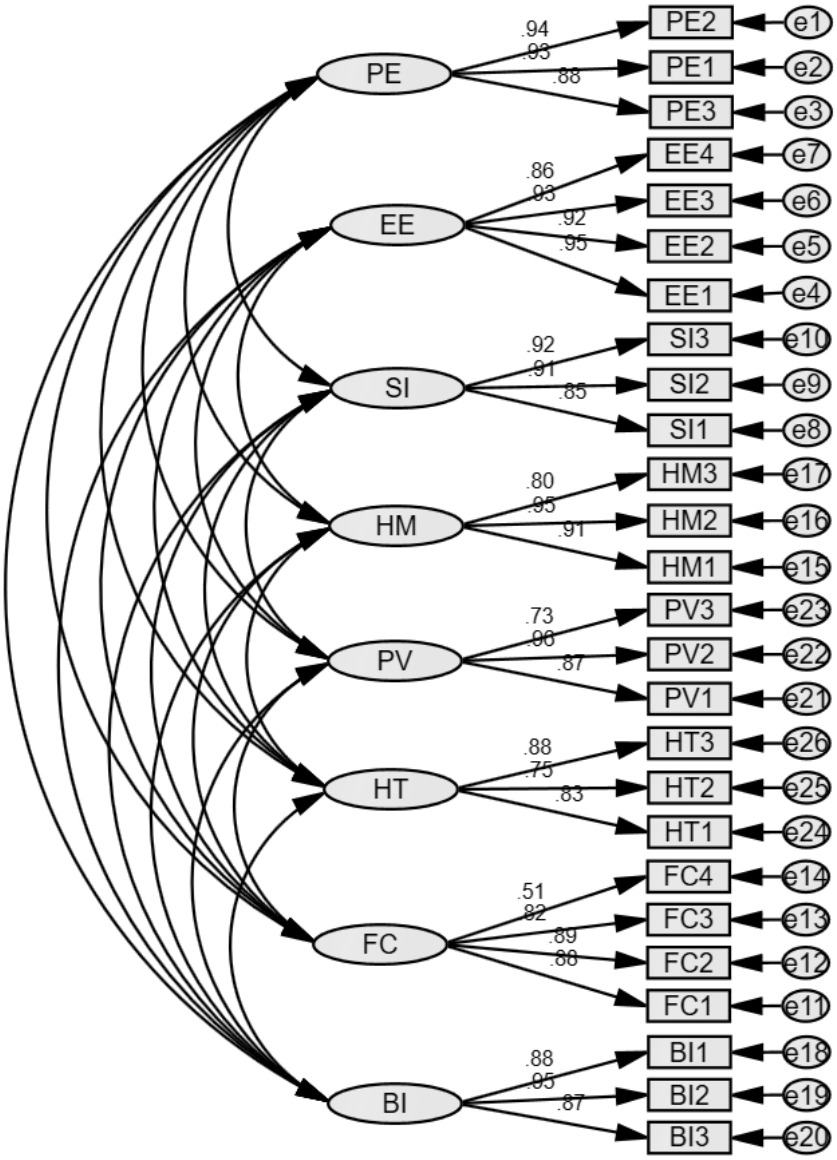


Figure 7: Measurement Model (CFA)

4.6.1.1 Goodness of Fit of Measurement Model

The goodness of fit for the measurement model presented in Table 5 indicates an acceptable level of fit based on several key indices. The Chi-square statistic is reported at 578.72, which provides an overall test of the model fit, however, interpretation should consider the CMIN/DF ratio. The CMIN/DF ratio is 2.082

which falls below the threshold of 5, indicating an acceptable model fit (Hair et al., 2013; Kline, 2015).

The Comparative Fit Index (CFI) is calculated at 0.935, exceeding the recommended value of 0.9, indicating a good fit between the model and the data (Hu & Bentler, 1999). Additionally, the Root Mean Square Error of Approximation (RMSEA) is 0.074, which is below the acceptable threshold of 0.08, further supporting the adequacy of the model fit (Browne & Cudeck, 1992).

Overall, these goodness-of-fit indices collectively suggest that the measurement model demonstrates a satisfactory fit to the data, validating the relationships among the latent variables and observed items which is necessary prior to conducting SEM.

Table 5: Goodness of Fit Measures

	Measurement	**Acceptable Fit**
Chi-square	578.72	
CMIN/DF	2.082	Less than 5
CFI	0.935	Greater than 0.9
RMSEA	0.074	Less than 0.08

4.6.1.2 SEM and Hypothesis Testing

The SEM framework for this study as shown in Figure 8 incorporates a total of eight variables, consisting of seven exogenous variables and one endogenous variable. The exogenous variables include performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit (Venkatesh et al., 2012). The endogenous variable, which is the focus of the study, is behavioural intention to use online grocery shopping, representing the likelihood of individuals using online grocery shopping channels

in the future. This SEM model will be utilized to analyse the direct and indirect relationships among these variables, providing a comprehensive understanding of the factors that influence behavioural intentions regarding online grocery shopping (Hair et al., 2013). Through this analysis, the model aims to offer insights into how each independent variable contributes to the intention to utilize online grocery shopping services (Byrne, 2016).

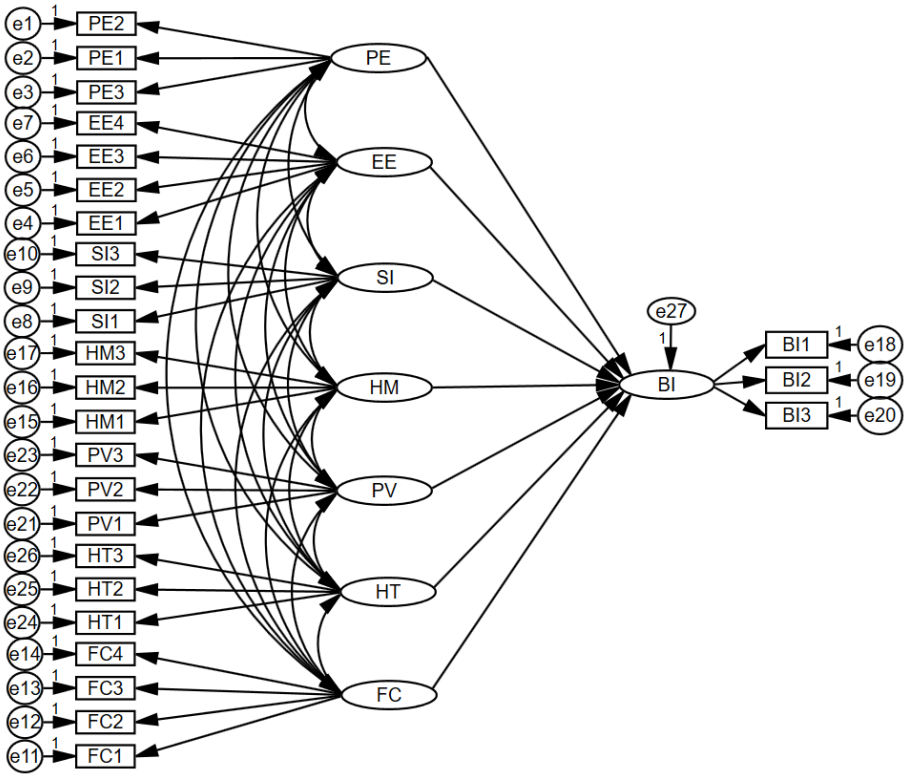


Figure 8: Structural Equation Model

The hypothesis testing results in Table 6 encompass three distinct models: one for all respondents, one specifically for users of online shopping, and another for non-users. In total, eight hypotheses were examined, with hypotheses H1 to H7 focusing on behavioral intention as the dependent variable, while H8 investigates behavioral intention as an independent variable with usage behaviour as the dependent variable.

Table 6: Estimates from SEM

Hypothesis	Variables	All			Users			Non-Users		
		Estimate	P	Results	Estimate	P	Results	Estimate	P	Results
H1	**PE**	.301	.004	Accepted	.322	.012	Accepted	-.020	.914	Rejected
H2	**EE**	.146	.166	Rejected	-.043	.836	Rejected	-.147	.369	Rejected
H3	**SI**	.020	.795	Rejected	.073	.366	Rejected	-.825	.003	Accepted
H4	**FC**	-.006	.968	Rejected	.409	.187	Rejected	-.870	***	Accepted
H5	**HM**	.042	.630	Rejected	-.009	.921	Rejected	.701	.010	Accepted
H6	**PV**	.041	.646	Rejected	-.053	.547	Rejected	1.093	.007	Accepted
H7	**HT**	.222	.003	Accepted	.201	.008	Accepted	.296	.216	Rejected
H8	**BI**	-.429	***	Rejected	-	-	-	-	-	-

4.7 Results pertaining to Hypothesis 1 (Performance Expectancy and Behavioural Intention)

Across all respondents in Table 6, Performance Expectancy (PE) has a positive, significant impact (Estimate = 0.301, p = 0.004), supporting the hypothesis. For users, PE is also significant (Estimate = 0.322, p = 0.012), showing that those who use online grocery shopping finds it beneficial. However, for non-users, this effect is not significant (Estimate = -0.020, p = 0.914), suggesting that PE does not influence their behaviour.

4.8 Results pertaining to Hypothesis 2 (Effort Expectancy and Behavioural Intention)

Effort Expectancy (EE) is not significant for any group in Table 6. For all respondents (Estimate = 0.146, p = 0.166), users (Estimate = -0.043, p = 0.836), and non-users (Estimate = -0.147, p = 0.369), the hypothesis is rejected. This indicates that ease of use does not significantly impact behavioural intention to use online grocery shopping.

4.9 Results pertaining to Hypothesis 3 (Social Influence and Behavioural Intention)

As evident in Table 6, Social Influence (SI) is not significant across all respondents (Estimate = 0.020, p = 0.795) and users (Estimate = 0.073, p = 0.366). However, for non-users, SI was accepted for non-users (Estimate = -0.825, p = 0.003), suggesting that social influence significantly affects non-users' behavioural intentions.

4.10 Results pertaining to Hypothesis 4 (Facilitating Conditions and Behavioural Intention)

As evident in Table 6, Facilitating Conditions (FC) is not significant for all respondents (Estimate = -0.006, p = 0.968) and users (Estimate = 0.409, p = 0.187). However, it is significant for non-users (Estimate = -0.870, p < 0.001), suggesting that lack of resources or support could be a barrier for non-users.

4.11 Results pertaining to Hypothesis 5 (Hedonic Motivation and Behavioural Intention)

As evident in Table 6, Hedonic Motivation (HM) is not significant for all respondents (Estimate = 0.042, p = 0.630) and users (Estimate = -0.009, p = 0.921). For non-users, however, HM has a positive, significant impact (Estimate = 0.701, p = 0.010), implying that enjoyment could potentially attract non-users to online grocery shopping.

4.12 Results pertaining to Hypothesis 6 (Price Value and Behavioural Intention)

As evident in Table 6, Price Value (PV) is not significant for all respondents (Estimate = 0.041, p = 0.646) and users (Estimate = -0.053, p = 0.547). For non-users, PV has a significant positive effect (Estimate = 1.093, p = 0.007), suggesting that the perceived benefit of using this technology is greater than the monetary cost and could encourage non-users to consider online grocery shopping.

4.13 Results pertaining to Hypothesis 7 (Habit and Behavioural Intention)

As evident in Table 6, Habit (HT) is significant for all respondents (Estimate = 0.222, p = 0.003) and for users (Estimate = 0.201, p = 0.008), supporting the hypothesis that habitual use is a strong predictor of continued engagement with online grocery shopping. However, for non-users, the relationship is not significant (Estimate = 0.296, p = 0.216), indicating that habit does not influence their behaviour.

4.14 Results pertaining to Hypothesis 8 (Behavioural Intention and Use Behaviour)

As evident in Table 6, Behavioural Intention (BI) predicting usage behaviour was rejected across the models, suggesting no significant relationship in this context.

Overall, the factors performance expectancy and habit are significant predictors of urban consumer behavioural intention to use online grocery shopping for all respondents. Social influence, facilitating conditions, hedonic motivation, and price value are significant factors only for non-users, either as barriers or

incentives to adoption. These results illustrate the varying influences of different factors on behavioural intention and usage behaviour among different groups, highlighting the importance of understanding user and non-user dynamics in online grocery shopping.

4.15 Moderators of Behavioural Intention Analysis

The following analysis focuses on the moderating effects of age, gender and experience on the relationships between the independent variables and behavioural intention in the context of online grocery shopping. By examining these moderators, it is aimed to uncover how individual characteristics may influence the strength and direction of the relationships identified in the structural equation modelling (Hair et al., 2013; Venkatesh et al., 2012). This analysis provides insights into the differential impacts of these factors on consumer behaviour, allowing for a more focused understanding of the online grocery shopping intentions.

4.15.1 *Age*

In the analysis of the moderating effect of age on the relationships between independent variables and behavioural intention in online grocery shopping, distinct patterns emerged across the different age groups presented in Table 7.

For performance expectancy, no significant moderating effects were observed across the age groups, with estimates close to zero and high p-values, indicating minimal influence on behavioural intention. Similar with effort expectancy, there are no significant moderating effects of age on the relationship between effort expectancy and behavioural intention across all age groups.

Conversely, a significant moderating effect of 0.175 ($p = .049$) is observed for the 35-44 age group, indicating that in this age group, social influence has a

statistically significant positive impact on behavioural intention. For other age groups, no significant moderating effects were observed.

For facilitating conditions**,** a notable positive estimate of 0.446 (p = .149) was observed in the 35-44 age group, however the results were not statistically significant. Regarding hedonic motivation, respondents aged 55-64 reported a significant positive estimate of 0.492 (p = .036), suggesting that enjoyment plays a role in their intention to use online grocery shopping. In contrast, older respondents exhibited a non-significant negative estimate.

Price value revealed a significant positive effect in the 55-64 age group with an estimate of 0.566 (p = .023), highlighting that this demographic perceives online grocery shopping as valuable where the convenience of online grocery shopping, offsets the service charge, thus significantly enhancing behavioural intention.

Habit also presented significant findings, particularly in the 35-44 age group with an estimate of 0.325 (p = .013), which indicates that frequent use of online grocery shopping channels strengthens behavioural intentions to continue using them, while older groups showed weaker estimates.

Overall, behavioural intention was not significantly negative across all age groups. Significant negative relationships were observed specifically for the 35-44 age group with an estimate of -0.545 (p < .001), the 45-54 age group with an estimate of -0.220 (p = .026), and the 65 and above age group. However, for the 55-64 age group, the effect was negative but not statistically significant. This indicates that barriers to adoption vary by age group, with stronger negative behavioural intentions in younger and older consumers.

In summary, these results indicate that social influence impacts behavioural intention significantly for the 35-44 age group. Additionally, hedonic motivation and price value significantly influence behavioural intention for the 55-64 age

group. Lastly, habit significantly strengthens behavioural intention for the 35-44 age group.

Table 7: Estimates from Moderating effect of Age

Variables	35-44 years		45-54 years		55-64 years		65 and above	
	Estimate	P	Estimate	P	Estimate	P	Estimate	P
PE	.011	.967	.312	.273	.251	.269	.189	.261
EE	-.253	.323	.011	.975	.081	.750	-.108	.585
SI	.175	.049	-.117	.428	-.213	.269	.265	.289
FC	.446	.149	.064	.835	-.442	.076	.684	.232
HM	-.049	.654	.074	.647	.492	.036	-.058	.828
PV	.053	.645	-.154	.259	.566	.023	.149	.636
HT	.325	.013	.173	.233	-.101	.715	.249	.097
BI	-.545	***	-.220	.026	-.172	.353	-.451	***

4.15.2 *Gender*

In the analysis of the moderating effect of gender on the relationships between independent variables and behavioural intention in online grocery shopping, notable differences emerged between male and female respondents presented in Table 8.

For performance expectancy, males exhibited a significant positive estimate of 0.448 (p = .006), indicating that men find online grocery shopping useful and it strongly influences their behavioural intention to adopt it, whereas females showed a positive but non-significant relationship of 0.263 (p = .084), suggesting that perceived usefulness is less impactful for women in influencing their intention.

In terms of effort expectancy, both genders had positive estimates around 0.259 for males (p = .065) and 0.263 for females (p = .127), suggesting a similar, albeit not statistically significant, effect on behavioural intention. This indicates that ease of use does not significantly influence behavioural intention for either gender.

Social influence displayed contrasting results, with males showing a negative and non-significant estimate of -0.138 (p = .209) and females a positive but non-significant estimate of 0.086 (p = .438). This suggests that social pressure or the influence of others does not play a significant role for either gender in their intention to adopt online grocery shopping.

For facilitating conditions, both males and females with estimates of -0.047 (p = 0.814) and -0.088 (p=0.691) show non-significant negative relationships between facilitating conditions and behavioural intention, suggesting that available resources and support systems do not significantly affect their intention.

Additionally, for hedonic motivation, males had a negative but non-significant effect with an estimate of -0.080 (p = 0.505), whilst females had a positive but non-significant effect with an estimate of 0.146 (p = 0.250). This indicates that enjoyment derived from online grocery shopping does not significantly drive behavioural intention in either group.

With regards to price value, males presented a positive but non-significant estimate 0.207 (p = 0.086), indicating a marginal influence of cost perception on behavioural intention. However, for female's price value shows a negative and non-significant relationship -0.120 (p = 0.325), suggesting that cost perception is less important for women.

The strongest relationship was observed for habit, where males had a significant estimate of 0.330 (p < .001), indicating that habitual use strongly predicts

behavioural intention, compared to females, who had a less pronounced positive estimate of 0.197 (p = .098).

Lastly, behavioural intention was significantly negative for both genders, with estimates of -0.496 (p < .001) for males and -0.397 (p < .001) for females. This suggests that across genders, other barriers or unmeasured factors may be detracting from their likelihood to adopt online grocery shopping.

These results suggest that while certain factors like performance expectancy and habit significantly influence behavioural intention for males, no independent variable shows significant positive influence for females. This highlights the importance for gender-specific approaches in marketing and user engagement strategies. Furthermore, the significantly negative behavioural intention for both genders indicates the presence of broader barriers to adoption that the tested variables do not fully capture.

Table 8: Estimates from Moderating effect of Gender

Variables	Male		Female	
	Estimate	**P**	**Estimate**	**P**
PE	.448	.006	.263	.084
EE	.259	.065	.263	.127
SI	-.138	.209	.086	.438
FC	-.047	.814	-.088	.691
HM	-.080	.505	.146	.250
PV	.207	.086	-.120	.325
HT	.330	***	.197	.098
BI	-.496	***	-.397	***

4.15.3 *Experience*

In examining the moderating effect of online shopping experience (whether respondents ordered groceries online before COVID-19) on the relationships between independent variables and behavioural intention in online grocery shopping, distinct differences emerged between the two groups, those who had

ordered groceries online prior to the pandemic and those who had not are shown in Table 9.

For performance expectancy, a significant positive estimate of 0.408 (p = .003) was observed among respondents who ordered online before COVID-19, indicating that these individuals found online grocery shopping to be particularly useful. In contrast, those who had not ordered online before the pandemic showed a much lower estimate of 0.203 (p = .257), suggesting that the perception of usefulness is not as strong in this group.

Effort expectancy also demonstrated varying results. Respondents who had ordered groceries online prior to COVID-19 had a positive estimate of 0.266 (p = .030), indicating that they found the process relatively easy. However, those who had not engaged in online shopping showed a non-significant negative estimate of -0.190 (p = .558), indicating a perception that using online grocery channels may be more challenging for them.

For social influence, no significant effects were found in either group, as estimates remained close to zero with high p-values. Facilitating conditions showed a negligible positive estimate of 0.009 (p = .959) for respondents who had ordered online before COVID-19, while those who had not, showed a positive estimate of 0.424 (p = .353), indicating no significant impact on behavioural intention from either group.

Regarding hedonic motivation, both groups had non-significant estimates, reflecting that enjoyment did not significantly influence their behavioural intention. Price value showed non-significant estimates for both groups, with respondents who ordered online prior to COVID-19 at -0.104 (p = .396) and those who had not at 0.130 (p = .344), suggesting a lack of significant impact on their behavioural intentions.

Habit presented a positive estimate of 0.232 (p = 0.050) for those who had ordered online before COVID-19, indicating that habit positively influences their intention to continue using online grocery shopping. In contrast, the estimate for the non-users was 0.220 (p = 0.073), which approached significance indicating a possible influence but was not fully conclusive.

Overall, both groups showed significant negative estimates for behavioural intention, with estimates of -0.507 (p < 0.001) for those who had ordered groceries online before COVID-19 and -0.330 (p < 0.001) for those who had not. This suggests that, regardless of prior online shopping experience, there are underlying barriers influencing the intention to engage with online grocery shopping.

Experience moderates some relationships, particularly performance expectancy and effort expectancy, which significantly influence behavioural intention for those with prior online grocery shopping experience. However, for those without prior experience, these factors are not significant. Habit also shows a marginal influence across both groups, indicating its potential importance. Despite these moderating effects, behavioural intention remains significantly negative for both groups, suggesting persistent barriers to adoption across varying levels of online shopping experience.

Table 9: Estimates from Moderating effect of Experience

Variables	Ordered groceries online before Covid		Not ordered groceries online before Covid	
	Estimate	**P**	**Estimate**	**P**
PE	.408	.003	.203	.257
EE	.266	.030	-.190	.558
SI	-.077	.638	.067	.452
FC	.009	.959	.424	.353
HM	.063	.661	.039	.722
PV	-.104	.396	.130	.344
HT	.232	.050	.220	.073
BI	-.507	***	-.330	***

4.16 Summary of the Results

In summary, this chapter presented the results from the study, structured to include the demographic profile of respondents, results from exploratory and confirmatory factor analyses, hypothesis testing, and moderating effects of age, gender, and experience on behavioural intention toward online grocery shopping in South Africa.

The demographic analysis revealed a predominantly female respondent base, aged 45-54, with high-income levels. Adoption rates were high, with COVID-19 significantly influencing online shopping behaviour. Both EFA and CFA validated the UTAUT2 framework, with strong reliability across constructs (Cronbach's alpha > 0.85) and the model fit was acceptable (CFI = 0.935, RMSEA = 0.074).

Additionally, hypothesis testing indicated that performance expectancy and habit were significant predictors of behavioural intention in the overall sample. Factors such as effort expectancy, social influence, and price value were not significant predictors in the overall sample, although they demonstrated varying levels of influence in subgroups. Behavioural intention was significantly negative across all groups, highlighting barriers to adoption.

Furthermore, moderating factors such as age, gender, and experience had limited impact, highlighting the need for targeted strategies to address these barriers and improve the adoption of online grocery shopping among urban consumers in South Africa.

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

Using the UTAUT2 framework, this study aimed to identify the factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa. By integrating the literature and the study's results, this chapter provides a comprehensive understanding of urban consumer behavioural intention in the South African online grocery market, offering valuable guidance for researchers and online retailers aiming to enhance adoption and address barriers in the emerging digital grocery retail segment within South Africa.

5.2 Factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa.

5.2.1 *Discussion pertaining to Hypothesis 1 – Performance Expectancy*

Prior studies have established that performance expectancy is a strong predictor of behavioural intention to use technology. These studies include Venkatesh et al. (2012), which demonstrated a positive correlation between performance expectancy and behavioural intention to use a technology system.

In this study, the average results across all respondents align with other studies and indicate that performance expectancy significantly influences urban consumers behavioural intention to use online grocery shopping in South Africa. These results also align with Van Droogenbroeck et al. (2021) study conducted in Belgium where performance expectancy was a main driver amongst users behavioural intention to use online grocery shopping. Additionally, performance expectancy was also found to influence behavioural intention in the Mauritian

context (Human et al., 2020). This highlights the importance of perceived convenience and time savings, as these were key drivers of online grocery shopping adoption. These benefits are evident among all respondents and users in this study, aligning well with prior research and reinforcing the relevance of this construct.

However, when comparing these results with non-users, differences emerged, where performance expectancy was not a significant predictor of behavioural intention. This also aligns with Van Droogenbroeck et al. (2021) study with regards to potential adopters and suggests that non-users are either unaware of the value of online grocery shopping or do not perceive the benefits as significant.

Furthermore, the moderating effects revealed that, performance expectancy had a stronger positive impact on males which aligns with the study by Venkatesh et al. (2012) and those with prior online grocery shopping experience, suggesting these groups perceive greater value in the convenience and efficiency offered by online grocery shopping.

5.2.2 *Discussion pertaining to Hypothesis 2 – Effort Expectancy*

The results of this study indicate that effort expectancy does not significantly influence urban consumers behavioural intention to use online grocery shopping in South Africa. The hypothesis was rejected across all respondent groups including users and non-users which contrasts with prior literature, from Venkatesh et al. (2012) who posits that effort expectancy influences behavioural intention in the UTAUT2 framework. This result also diverges from the study conducted in Portugal where young consumers valued the convenience of online grocery shopping compared to the physical effort required for traditional shopping (Gomes & Lopes, 2022).

However, it is important to note that, 35.2% of respondents reported a net income of R50 000 with the largest group holding a Diploma (25.6%). This could indicate

that these educated, higher-income urban consumers are likely accustomed to using various forms of technology where online grocery shopping does not require significant effort, making effort expectancy less relevant in their decision to use and adopt online grocery shopping. For the general sample, the ease of use may be seen as a standard requirement rather than a distinguishing factor influencing their behavioural intention. Whilst this result is inconsistent with other studies, a similar finding in support of this studies results was observed by Malinga et al. (2020) in Uganda. Therefore, the results likely reflect that whist urban consumers find the online grocery shopping process easy to learn without significant effort required, this ease does not actively contribute to their intention to use the service.

Furthermore, the moderating effects of age and gender indicated non-significant results. However, consumers with prior online grocery experience displayed a significant positive relationship between effort expectancy and behavioural intention. This aligns with Habib et al. (2021), who emphasized the importance of user-friendly interfaces and hassle-free deliveries in reducing effort for experienced users.

5.2.3 *Discussion pertaining to Hypothesis 3 – Social Influence*

The average results across all respondents for social influence provide a nuanced perspective on its role in shaping urban consumer behavioural intentions to use online grocery shopping in South Africa. Overall, social influence was not found to significantly influence behavioural intention across the average of all respondents. This contrasts with studies like those of Venkatesh et al. (2012) and Habib et al. (2021), which emphasize social influence as a critical determinant of behavioural intention to use technology like online grocery shopping platforms. These earlier works suggest that recommendations from family and friends to use technology is a strong motivator, however this was not observed in the general sample of this study. Whilst this result is inconsistent with other studies, a similar

finding in support of this studies results was observed by Human et al. (2020) in Mauritius which is an emerging market like South Africa.

However, social influence was a significant factor for non-users, with a negative estimate, suggesting that social influences may discourage this group from using and adopting online grocery shopping. These results contrast from the literature of Van Droogenbroeck et al. (2021), where buying groceries online in Belgium was found to be a good idea amongst friends and family. For non-users, the negative influence might reflect scepticism within their social circles, potentially deterring them from trying the service. These perceptions amongst non-users social circles could also be influenced by the fact that South Africans perceive online shopping as risky, coupled with various other drawbacks (Chokoe & Oyekale, 2022; Madinga & Lappeman, 2023).

Additionally, when examining the moderating effects of social influence on behavioural intention, age indicated a significant role for the 35–44 age group, where social influence positively impacted behavioural intentions. However, no significant moderating effects were observed for other age groups, gender, or experience, indicating the limited scope of social influence's impact on urban consumer behavioural intention to use online grocery shopping in South Africa.

Thus, whilst prior studies have indicated that social influences play a role in the behavioural intention to use online grocery shopping, this studies hypothesis was rejected overall, except for its unique influence among non-users. This highlights the need for tailored strategies that address the way in which social influences impact different consumer segments.

5.2.4 *Discussion pertaining to Hypothesis 4 – Facilitating Conditions*

Facilitating conditions does not significantly influence urban consumer behavioural intention to use online grocery shopping when analysing the average

result of all respondents in this study. This result contrasts with Venkatesh et al. (2012) study, which posits that access to resources and infrastructure is crucial for technology adoption. In the context of this study, facilitating conditions includes stable internet connectivity, devices, and support systems, of which this non-significant result could indicate that this factor may be less impactful for urban South African consumers, who might already possess the necessary technological resources. In the Mauritian context, facilitating conditions was also found to not exhibit significant association with behavioural intention to adopt online grocery shopping (Human et al., 2020).

However, when analysing the results for non-users, facilitating conditions had a negative estimate, suggesting that insufficient resources or support are potential barriers to these urban consumers behavioural intention to use online grocery shopping. Habib et al. (2021), state that gaps in facilitating conditions could hinder behavioural intentions. These contrasting results between users and non-users could also possibly indicate that once non-users adopt online grocery shopping, facilitating conditions like support systems could become less critical as consumers gain familiarity with the platform (Venkatesh et al., 2012).

Furthermore, the moderator analysis yielded no significant results for age, gender, or experience. However, the 35-44 age group showed a positive estimate, but it was not statistically significant, suggesting that the availability of resources and support systems might only slightly influence this demographic.

5.2.5 *Discussion pertaining to Hypothesis 5 – Hedonic Motivation*

Prior studies have highlighted that enjoyment and positive emotions derived from online grocery shopping are strong predictors of behavioural intention and continued use (Habib & Hamadneh, 2021; Human et al., 2020; Venkatesh et al., 2012). However, in this study, the average result for all respondents contrasts with other studies and indicate that hedonic motivation does not significantly influence urban consumers behavioural intention to use online grocery shopping

in South Africa. This could suggest that existing users may have become accustomed to the service, diminishing the excitement that hedonic motivation typically entails.

However, for non-users, hedonic motivation was found to have a positive and significant impact. This result aligns with prior authors who argue that consumers may be attracted by the pleasurable aspects of online shopping, avoiding crowds, long queues, and irritable children (Van Droogenbroeck & Van Hove, 2021; Zolfaghari et al., 2023). Additionally, this result highlights that retailers should consider marketing strategies that target the enjoyment and emotional benefits of online grocery shopping which could encourage intentions to use the service amongst this group (Habib & Hamadneh, 2021).

In terms of the moderator analysis, gender and experience revealed no significant moderating effects. However, the age-related results suggest that hedonic motivation significantly influences the 55-65 age group which highlights the potential for online retailers to attract specific segments of the market.

5.2.6 *Discussion pertaining to Hypothesis 6 – Price Value*

As theorised by Venkatesh et al. (2012), price value was established as the balance between the perceived advantages of using technology and the tangible financial expense associated with its use. However, in this study, when analysing the average result for all respondents, price value did not significantly influence urban consumer behavioural intention to use online grocery shopping in South Africa. This divergence could reflect users' familiarisation with online grocery shopping, where the monetary cost may no longer be a deciding factor in behavioural intention to continue using online grocery shopping. This result also contrasts with Human et al. (2020), who suggests that price value consistently impacts behavioural intention in both developed and developing markets. Considering this result, it is important to note that in this study, 35.2% of respondents reported a net income of R50 000 which could indicate that price

value is not a factor that influences behavioural intention for high-income urban consumers in South Africa.

Furthermore, when analysing the results for non-users, price value significantly influences their behavioural intention to use online grocery shopping. This suggests that for non-users, the perceived advantages and benefits of online grocery shopping are persuasive enough to potentially influence these consumers behavioural intention to use the service, irrespective of the financial expense (Van Droogenbroeck & Van Hove, 2021; Venkatesh et al., 2012).

Additionally, the moderation analysis for price value indicated that gender and experience had no statistically significant effects on behavioural intention. However, with regards to age as a moderator, respondents aged 55-64, price value influenced their behavioural intention. This partly aligns with Venkatesh et al. (2012) who states that age moderates the relationship between price value and behavioural intention.

5.2.7 *Discussion pertaining to Hypothesis 7 – Habit*

Venkatesh et al. (2012) theorised that habit influences consumer behavioural intention, of which repeated use of technology creates familiarity and routine, making it a habit. In this study, the average results for all respondents indicate that habit significantly influences urban consumer behavioural intention to use online grocery shopping which aligns with this authors findings as well as Human et al. (2020) in the Mauritian context and Christino et al. (2021). It is also argued that performance expectancies like convenience, saving time and huge product variety strengthen habitual behaviours, particularly in the context of online grocery platforms (Gružauskas et al., 2024). Considering in this study, performance expectancy influences urban consumer behavioural intention, it aligns with the outcome that habit also influences consumer behavioural intention for all respondents. This suggests that performance expectancies could fuel habitual behaviours as evident in this study.

However, when comparing these results with non-users, it is evident that habit was not a significant predictor of behavioural intention amongst this group. This could be because non-users have no prior engagement with online grocery shopping which likely limits the development of habitual behaviours. This is consistent with the Galushko et al. (2024), who state that habit forms over time and through repeated use.

Furthermore, the moderation analysis indicated that among the 35-44 age group there was a significant influence of habit of which this reflects the active participation of this demographic in establishing routines however this was not evident among older age groups. This aligns with Venkatesh et al. (2012) as it was argued that older consumers might find difficulty with new technologies compared to younger consumers in order for habitual behaviour to even develop. Bartók et al. (2021) also argued that age is a factor in online grocery shopping of which consumers under 55 years old, buy more groceries online hence developing habitual behaviour towards the service. In addition, there was a stronger impact of habit on males than females in this study which suggests that only certain demographics may be more inclined to habitual behaviours. This contrasts with other studies where gender was not a moderator of behavioural intention and in some studies the result was not significant enough to be conclusive (Galushko & Riabchyk, 2024; Gomes & Lopes, 2022; Human et al., 2020). Lastly, users who engaged with online grocery shopping before COVID-19 displayed a significant relationship between habit and behavioural intention which emphasizes the role of prolonged exposure in solidifying habits. This aligns with Galushko et al. (2024) findings that suggest that COVID-19 could change Canadian consumer behaviour resulting in the development of new habits provided there was a positive shopping experience.

5.2.8 *Discussion pertaining to Hypothesis 8 – Behavioural Intention to Usage Behaviour*

The hypothesis that the behavioural intention of urban consumers to use online grocery shopping in South Africa will positively influence usage behaviour was rejected as there was no significant relationship in this context. This result challenges established literature that generally finds a strong relationship between behavioural intention and actual usage (Venkatesh et al., 2012). It also contradicts with the results of other studies around digital wallets and digital learning (Khan & Abideen, 2023; Müller & Leyer, 2023). However, the lack of significance in this study suggests that in the context of South African urban consumers and online grocery shopping, behavioural intention does not entirely translate into usage. This could be due to various factors such as perceived risk and lack of trust in online grocery shopping, resulting in South African consumers potentially going into physical stores (Chokoe & Oyekale, 2022; Madinga & Lappeman, 2023; World Wide Worx et al., 2024).

Furthermore, the moderation analysis indicated that younger (35–44) and older (65+) groups displayed strong negative relationships, and both males and females exhibited significant negative relationships reflecting diverse barriers. In addition, prior online shopping experience did not mitigate these challenges, as both experienced and inexperienced groups showed significant negative estimates, highlighting the pervasive nature of these barriers.

5.2.9 *Discussion pertaining to the Moderators of Behavioural Intention*

Venkatesh et al. (2012) highlights that the moderating effects of age, gender and experience have an impact on consumer behavioural intention to use technology. However, the result from this study provides mixed insights of these moderators in the context of online grocery shopping in South Africa.

It is evident that age plays a conditional role in influencing urban consumer behavioural intention to use online grocery shopping in South Africa. Thus, age cannot be dismissed entirely as a factor, but its role varies depending on the independent variable and demographic segment. This aligns with Human et al. (2020) where the results for the moderation effect of age were mixed. These results also partially aligns with studies from Bartók et al. (2021) and Habib et al. (2021), who suggest that age can be a factor in online grocery shopping.

In addition, gender does not appear to significantly moderate the overall behavioural intention to use online grocery shopping in this study. Whilst this contrasts with Venkatesh et al. (2012) theory, it aligns with Human et al. (2020), where there were no significant moderating effects for gender in the Mauritian context. These results also align with Galushko et al. (2024) in the Canadian context.

Furthermore, experience plays a partial moderating role in this study, but it is not the sole determinant of behavioural intention. This result partly aligns with Venkatesh et al. (2012) and Galushko et al. (2024), however, it is evident that there are slight barriers to usage across varying levels of online shopping experience in South Africa.

5.3 Conclusion

This chapter provided an in-depth discussion of the eight hypotheses to understand the factors influencing urban consumer behavioural intention to use online grocery shopping in South Africa. The results revealed that performance expectancy and habit emerged as significant predictors of behavioural intention for all respondents, emphasizing their importance in promoting sustained engagement. However, UTAUT2 constructs like social influence, facilitating conditions, price value, and hedonic motivation played more significant roles amongst non-users.

Additionally, effort expectancy was rejected across all models suggesting that it may be considered as a standard requirement rather than a distinguishing factor influencing behavioural intention. Furthermore, behavioural intention did not translate into significant usage behaviour in this study, indicating possible barriers unique to the South African context. Lastly, the moderation analysis revealed mixed insights in the context of online grocery shopping in South Africa.

Thus, these results contribute to the growing body of research on technology adoption, reinforcing the need for context-specific insights. It also provides insight into the barriers of online grocery shopping adoption which are necessary for designing effective strategies for greater utilization of these platforms.

CHAPTER 6. CONCLUSION & RECOMMENDATIONS

6.1 Introduction

This chapter provides an overall conclusion related to the research objectives and recommendations for online retailers to better understand the factors that influence urban consumer behavioural intention to use online grocery shopping services. It also includes suggestions for future research which could assist in adding to the growing body of research on technology adoption, particularly online grocery shopping technology adoption.

6.2 Conclusions regarding research objective 1 - To identify the factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa.

This study aimed to identify the factors that influenced urban consumers behavioural intention to use online grocery shopping in South Africa of which this objective was addressed using the UTAUT2 framework. Eight hypotheses were tested to evaluate the roles of performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, habit, and behavioural intention to usage.

Thus, conclusions regarding research objective one for the overall sample indicate that factors like performance expectancy and habit influence urban consumers behavioural intention to use online grocery shopping in South Africa. However, for the overall sample, factors such as effort expectancy, social influence, facilitating conditions, hedonic motivation and price value did not influence urban consumers behavioural intention to use online grocery shopping in South Africa. In addition, behavioural intention was also rejected as a

predicator of usage behaviour for the overall sample, users and non-users. This could possibly suggest that there is still a presence of contextual barriers such as trust, security concerns and privacy risks as highlighted in prior literature which prevails in the South African context and hinders behavioural intention to use online grocery shopping post the COVID-19 pandemic (Chokoe & Oyekale, 2022; Madinga & Lappeman, 2023; World Wide Worx et al., 2024). Furthermore, as indicated in the literature, other factors that could impact behavioural intention include lack of real-time shopping experience and customer dissatisfaction with the service.

Additionally, it is also important to note that this study also considers the results of non-users of which performance expectancy, effort expectancy and habit was rejected, with social influence, facilitating conditions, hedonic motivation and price value being accepted hypotheses. This highlights the importance of cultural and contextual differences, particularly for non-users. It also possibly indicates the need for targeted interventions from an educational and marketing perspective which could accelerate adoption of online grocery shopping in South Africa for this group. Furthermore, prior literature does not sufficiently differentiate between early adopters and hesitant consumers in contexts where online shopping adoption is growing.

Thus, this study potentially fills gaps in understanding the slow adoption of online grocery shopping in South Africa by highlighting the factors that influence and do not influence urban consumer behavioural intentions where previous literature from developed contexts may have contrasted. This study also addresses the gap in literature which focuses on a developing region where cultural, infrastructural and socio-economic barriers significantly shape adoption behaviour.

6.2.1 Conclusions regarding research sub-objective 1.1 - To explore urban consumer behavioural intention to use online grocery shopping using UTAUT2 as a framework.

This study directly answers the call for further research by Venkatesh et. al (2012), who recommended that the UTAUT2 framework be tested in various countries, demographics and technologies, to make it applicable to a wide range of consumer contexts. However, whilst Human et al. (2020) argue that UTAUT2 can apply to emerging market situations due to its broad nature, despite its conception being mostly focused on developed economies, this studies results challenge the universality of UTAUT2 findings from developed economies, emphasizing the need for localized and expanded adaptations of the model.

Nevertheless, considering this is one of the few studies using the original UTAUT2 framework in South Africa in relation to online grocery shopping it provides a valuable starting point for understanding the factors that influence urban consumer behavioural intention to use online grocery shopping in South Africa.

6.3 Recommendations

The second objective of this study was to provide recommendations for online retailers to better understand the factors that influence urban consumer behavioural intention to use online grocery shopping services. Thus, in this study, the factors that influence urban consumer behavioural intention is performance expectancy and habit across the average results of all respondents. Considering these factors significantly influenced behavioural intention, online retailers should consistently focus on communicating the benefits of convenience and time savings of online grocery shopping in marketing campaigns and develop retention strategies such as personalized shopping lists and subscriptions for frequently purchased items to establish habitual use amongst existing customers.

Additionally, to enhance adoption rates of online grocery shopping amongst urban consumers in South Africa, online retailers should identify and address possible underlying consumer concerns by conducting focus groups or surveys to gather information around customer pain points considering this study indicated negative behavioural intentions to usage behaviour across all segments. As indicated in prior research, perceived risks around payment security, data privacy, lack of trust could still be hindering adoption (Chokoe & Oyekale, 2022; Madinga & Lappeman, 2023; World Wide Worx et al., 2024). In addition, considering South Africans frequent shopping malls, online retailers should consider offline promotions in malls to attract consumers to shop for groceries online (Dakora & Rambe, 2022; Madinga & Lappeman, 2023).

Furthermore, online retailers should also consider enhancing the value of online grocery platforms for non-users to increase adoption rates. This can be executed through campaigns where influencers demonstrate the ease, convenience, and value of shopping online to address hesitations amongst non-users. In addition, online retailers should offer 24/7 contact centre support facilities for first orders to reduce barriers amongst those unfamiliar with the process. Competitive pricing strategies and engaging non-users through gamification of online grocery platforms could also attract this segment of consumers.

By implementing these recommendations, online retailers can contribute to addressing the barriers identified in this study and foster greater adoption of online grocery shopping amongst urban consumers in South Africa.

6.4 Suggestions for further research

This study aimed to identify the factors that influence urban consumers behavioural intention to use online grocery shopping in South Africa, applying the UTAUT2 framework. However, whilst conducting the research, several

opportunities for further research emerged, which could expand the current understanding of this topic in the South African context.

One such opportunity includes a broader application of the UTAUT2 framework to investigate how the variables influence rural consumers, as infrastructural challenges and socio-economic factors might impact the results. Additionally, further research could include a comparative study between South Africa and other developing economies in Africa. Furthermore, researchers could expand the UTAUT2 framework of which future adaptations could incorporate factors such as economic access, cultural attitudes, perceived risks, trust and logistical barriers to improve its applicability in developing markets.

Future research could also investigate the gap between intention and actual usage considering this study rejected hypothesis eight which investigated behavioural intention predicting usage behaviour. Lastly, future research could explore non-user barriers preventing this segment from adopting online grocery shopping platforms through qualitative studies.

By addressing these areas, future research can build on this study’s findings, offering deeper insights into consumer behaviour, technology adoption, and strategies to accelerate the adoption of online grocery shopping in South Africa and similar markets.

REFERENCES

Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it? *Indian Journal of Medical Specialities*, *4*(2). https://doi.org/10.7713/ijms.2013.0032

Attar, R., Almusharraf, A., Alfawaz, A., & Hajli, N. (2022). New Trends in E-Commerce Research: Linking Social Commerce and Sharing Commerce: A Systematic Literature Review. *Sustainability*, *14*(23), 16024. https://doi.org/10.3390/su142316024

Bartók, O., Kozák, V., & Bauerová, R. (2021). Online grocery shopping: The customers´ perspective in the Czech Republic. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, *16*(3), 679–695. https://doi.org/10.24136/eq.2021.025

Browne, M. W., & Cudeck, R. (1992). *lternative ways of assessing model fit. In Testing Structural Equation Models* (Vol. 21). Sage Publications.

Brüggemann, P., & Olbrich, R. (2023). The impact of COVID-19 pandemic restrictions on offline and online grocery shopping: New normal or old habits? *Electronic Commerce Research*, *23*(4), 2051–2072. https://doi.org/10.1007/s10660-022-09658-1

Bryman, A. (2016). *Social Research Methods* (5th ed.). Oxford University Press.

Byrne, B. M. (2016). *Structural Equation Modeling With AMOS Basic Concepts, Applications, and Programming* (3rd ed.). Routledge/Taylor & Francis Group.

Changchit, C. (2006). Consumer Perceptions of Online Shopping. *Issues in Information Systems*, *VII*(2). https://doi.org/10.48009/2_iis_2006_177-181

Chokoe, S. C., & Oyekale, A. S. (2022). Perceptions of online shopping and determinants of consumers' online purchase of food groceries in Polokwane local municipality, South Africa. *African Journal of Food, Agriculture, Nutrition and Development*, *22*(112), 20905–20923. https://doi.org/10.18697/ajfand.112.21040

Christino, J., Cardozo, É., Petrin, R., & Pinto, L. (2021). Factors Influencing the Intent and Usage Behavior of Restaurant Delivery Apps. *Review of Business Management*, 21–42. https://doi.org/10.7819/rbgn.v23i1.4095

Collier, J. E. (2020). *Applied Structural Equation Modeling Using AMOS: Basic to Advanced Techniques* (1st ed.). Routledge. https://doi.org/10.4324/9781003018414

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage.

Cronbach, L. J. (1951). *Coefficient alpha and the internal structure of tests* (Vol. 16). Psychometrika. https://doi.org/10.1007/bf02310555

Dakora, E., & Rambe, P. (2022). The digital transformation of food and grocery retailing under the covid-19 pandemic: A case of major South African retailers. *The Retail and Marketing Review*, *18*(1), 17.

Eastin, M. S. (2002). Diffusion of e-commerce: An analysis of the adoption of four e-commerce activities. *Telematics and Informatics*, *19*(3), 251–267. https://doi.org/10.1016/S0736-5853(01)00005-3

eMarketer. (2021). *In 2021, online grocery sales will surpass $100 billion*. Retrieved January 12, 2025, from https://www.emarketer.com/content/2021-online-grocery-sales-will-surpass-100-billion

Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1. https://doi.org/10.11648/j.ajtas.20160501.11

Field, A. (2013). *Discovering statistics using IBM SPSS Statistics*. Sage.

Galushko, V., & Riabchyk, A. (2024). The demand for online grocery shopping: COVID-induced changes in grocery shopping behavior of Canadian consumers. *Plos One*, *19*(2), 39. https://doi.org/10.1371/journal.pone.0295538

Gomes, S., & Lopes, J. M. (2022). Evolution of the Online Grocery Shopping Experience during the COVID-19 Pandemic: Empiric Study from Portugal.

Journal of Theoretical and Applied Electronic Commerce Research, *17*(3), 909–923. https://doi.org/10.3390/jtaer17030047

Gružauskas, V., Burinskienė, A., & Airapetian, A. (2024). Digital transformation in food retail: A case study of Lithuania e-grocery buying behaviours. *Entrepreneurship and Sustainability Issues*, *11*(3), 65–84. https://doi.org/10.9770/jesi.2024.11.3(5)

Habib, S., & Hamadneh, N. N. (2021). Impact of Perceived Risk on Consumers Technology Acceptance in Online Grocery Adoption amid COVID-19 Pandemic. *Sustainability*, *13*(18), 10221. https://doi.org/10.3390/su131810221

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate data analysis* (7th ed.). Pearson.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Human, G., Ungerer, M., & Azémia, J.-A. J. C. (2020). *Mauritian consumer intentions to adopt online grocery shopping: An extended decomposition of UTAUT2 with moderation*. *29*.

Jabareen, Y. (2009). Building a Conceptual Framework: Philosophy, Definitions, and Procedure. *International Journal of Qualitative Methods*, *8*(4), 49–62. https://doi.org/10.1177/160940690900800406

Katrodia, A. (2023). Consumer buying behaviour post and pre COVID analysis-specific reference to South Africa. *International Journal of Business & Economic Development*, *11*(01). https://doi.org/10.24052/IJBED/V011N01/ART-05

Khaled, A. S. D., Zaid, G. A. A., Thabit, A., & Saeed, A. M. M. (2023). Preference for Online Shopping. *Manar Elsharq Journal for Management and Commerce Studies*, *1*(1), 61–67. https://doi.org/10.56961/mejmcs.v1i1.382

Khan, W. A., & Abideen, Z. U. (2023). Effects of behavioural intention on usage behaviour of digital wallet: The mediating role of perceived risk and moderating role of perceived service quality and perceived trust. *Future Business Journal*, *9*(1), 73. https://doi.org/10.1186/s43093-023-00242-z

Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling* (4th ed.). The Guilford Press.

Kumar, S. (2015). Online Shopping-A Literature Review. *National Conference on Innovative Trends in Computer Science Engineering (ITCSE-2015)*.

Kvalsvik, F. (2022). Understanding the role of situational factors on online grocery shopping among older adults. *Journal of Retailing and Consumer Services*, *68*, 7. https://doi.org/10.1016/j.jretconser.2022.103009

Lefophane, M. H. (2023). Rural Consumers' Willingness to Pay for Online Grocery Delivery Services during COVID-19 Pandemic: Preliminary Evidence from South Africa. In Kang & Namisango, F. (Eds.), *E-Service Digital Innovation* (p. 25). IntechOpen. https://doi.org/10.5772/intechopen.107490

Ligaraba, N., Nyagadza, B., Dörfling, D., & Zulu, Q. M. (2023). Factors influencing re-usage intention of online and mobile grocery shopping amongst young adults in South Africa. *Arab Gulf Journal of Scientific Research*, *41*(3), 389–415. https://doi.org/10.1108/AGJSR-06-2022-0088

Madinga, N. W., & Lappeman, J. (2023). Social Media Sentiment Analysis: Online versus 'Brick and Mortar' Retailers in South Africa. *Journal of African Business*, *24*(2), 345–362. https://doi.org/10.1080/15228916.2022.2069418

Maduku, D. K., & Thusi, P. (2023). Understanding consumers' mobile shopping continuance intention: New perspectives from South Africa. *Journal of Retailing and Consumer Services*, *70*, 17. https://doi.org/10.1016/j.jretconser.2022.103185

Malinga, R. B., & Maiga, G. (2020). A model for mobile money services adoption by traders in Uganda. *The Electronic Journal Of Information Systems In Developing Countries*, *86*(2), 14. https://doi.org/10.1002/isd2.12117

Marsh, H. W., Morin, A. J. S., Parker, P. D., & Kaur, G. (2014). Exploratory Structural Equation Modeling: An Integration of the Best Features of Exploratory and Confirmatory Factor Analysis. *Annual Review of Clinical Psychology*, *10*(1), 85–110. https://doi.org/10.1146/annurev-clinpsy-032813-153700

Mkansi, M., & Mugurusi, G. (2023). E-grocery supply chain innovation and financial inclusion: A framework. *Procedia Computer Science*, *217*, 979–987. https://doi.org/10.1016/j.procs.2022.12.296

Mkansi, M., & Nsakanda, A. L. (2023). Mobile application e-grocery retail adoption challenges and coping strategies: A South African small and medium enterprises' perspective. *Electronic Commerce Research*, 46. https://doi.org/10.1007/s10660-023-09698-1

Monsuwé, T. P. y, Dellaert, B. G. C., & Ruyter, K. de. (2004). What drives consumers to shop online? A literature review. *International Journal of Service Industry Management*, *15*(1), 102–121. https://doi.org/10.1108/09564230410523358

Moodley, P., & Buthelezi, M. (2023). Enhancing the online grocery shopping experience for South African consumers: A study of challenges,

preferences and strategies. *The Retail and Marketing Review*, *19*(2), 17. https://doi.org/10.5281/ZENODO.10220622

Moran. (2024, January 12). *Grocery e-commerce sales slip to $95.8B in 2023*. Retrieved May 17, 2024, from https://www.grocerydive.com/news/grocery-e-commerce-sales-slipped-2023-brick-meets-click/704363/

Müller, W., & Leyer, M. (2023). Understanding intention and use of digital elements in higher education teaching. *Education and Information Technologies*, *28*(12), 15571–15597. https://doi.org/10.1007/s10639-023-11798-2

Musakwa, I. S., & Petersen, F. (2023). Factors affecting consumer acceptance and use of mobile delivery applications in South Africa. *South African Journal of Information Management*, *25*(1), 1–8. https://doi.org/10.4102/sajim.

Musikavanhu, T. B., & Musakuro, R. N. (2023). Consumer adoption of online grocery shopping in South Africa. *South African Journal of Information Management*, *25*(1), 1–14. https://doi.org/10.4102/sajim.v25i1.1637

Presser, S., Couper, M. P., Lessler, J. T., Martin, E., Martin, J., Rothgeb, J. M., & Singer, E. (2004). Methods For Testing and Evaluating Survey Questions. *Public Opinion Quarterly*, *68*(1), 109–130. https://doi.org/10.1093/poq/nfh008

PricewaterhouseCoopers. (2022). *The future of grocery shopping*. Retrieved June 6, 2024, from https://www.strategyand.pwc.com/tr/the-future-of-grocery-shopping

Rea, L. M., & Parker, R. A. (2014). *Designing and conducting survey research: A comprehensive guide* (4th ed.). Jossey-Bass.

Salkind, N. J. (2010). *Encyclopedia of Research Design* (Vol. 1). Sage.

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Pearson.

Schindler, P. (2019). *Business research methods*. McGraw Hill.

Schneider, G. P., & Perry, J. T. (2001). *Electronic commerce* (2nd ed.). Course Technology.

Schumacker, R. E., & Lomax, R. G. (2015). *A Beginner's Guide to Structural Equation Modeling* (4th ed.). Routledge.

Scotland, J. (2012). Exploring the Philosophical Underpinnings of Research: Relating Ontology and Epistemology to the Methodology and Methods of the Scientific, Interpretive, and Critical Research Paradigms. *English Language Teaching*, *5*(9), p9. https://doi.org/10.5539/elt.v5n9p9

Shen, H., Namdarpour, F., & Lin, J. (2022). Investigation of online grocery shopping and delivery preference before, during, and after COVID-19.

Transportation Research Interdisciplinary Perspectives, *14*, 100580. https://doi.org/10.1016/j.trip.2022.100580

Shiyab, W., Ferguson, C., Rolls, K., & Halcomb, E. (2023). Solutions to address low response rates in online surveys. *European Journal of Cardiovascular Nursing*, *22*(4), 441–444. https://doi.org/10.1093/eurjcn/zvad030

Shumba, T., Ferreira, D., & Nelson Mandela University, South Africa. (2023). Quality Expectation Factors Influencing E-customer Satisfaction: Evidence from Online Shopping in South Africa. *Eurasian Journal of Social Sciences*, *11*(2), 75–94. https://doi.org/10.15604/ejss.2023.11.02.004

Statista. (2024a). *E-commerce worldwide*. Retrieved May 17, 2024, from https://www.statista.com/topics/871/online-shopping/#topicOverview

Statista. (2024b). *U.S. retail e-commerce sales share 2023*. Retrieved May 17, 2024, from https://www.statista.com/statistics/187439/share-of-e-commerce-sales-in-total-us-retail-sales-in-2010/

Tang, D., Gong, X., & Liu, M. (2022). Residents' behavioral intention to participate in neighborhood micro-renewal based on an extended theory of planned behavior: A case study in Shanghai, China. *Habitat International*, *129*, 102672. https://doi.org/10.1016/j.habitatint.2022.102672

Trochim, W., & Donnelly, J. P. (2006). *The Research Methods Knowledge Base* (3rd ed.). Atomic Dog.

Tyrväinen, O., & Karjaluoto, H. (2022). Online grocery shopping before and during the COVID-19 pandemic: A meta-analytical review. *Telematics and Informatics*, *71*, 101839. https://doi.org/10.1016/j.tele.2022.101839

Van Droogenbroeck, E., & Van Hove, L. (2021). Adoption and Usage of E-Grocery Shopping: A Context-Specific UTAUT2 Model. *Sustainability*, *13*(8), 28. https://doi.org/10.3390/su13084144

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425. https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, *36*(1), 157. https://doi.org/10.2307/41410412

Vhukeya, M. M., De Jager, J. W., & Roux, T. A. (2024). Factors influencing consumers' attitude toward online shopping for airline tickets. *Journal of Contemporary Management*, *21*(1), 25–46. https://doi.org/10.35683/jcman1056.237

Wolf, C., Joye, D., Smith, T., & Fu, Y. (2016). *The Sage Handbook of Survey Methodology*. Sage.

World Wide Worx, Mastercard, & Peach Payments. (2024). *Online Retail In South Africa 2024*. Retrieved May 17, 2024, from https://www.peachpayments.com/scale/world-wide-worx-2024-online-retail-report

Zolfaghari, A., Thomas-Francois, K., & Somogyi, S. (2023). Consumer adoption of digital grocery shopping: What is the impact of consumer's prior-to-use knowledge? *British Food Journal*, *125*(4), 1355–1373. https://doi.org/10.1108/BFJ-02-2022-0187

APPENDIX A - Participant Information Sheet

Dear Respondent,

My name is Shivani Naidoo, and I am currently conducting research for my Master's in Management: Digital Business through the Wits Business School. The title of my study is: Adoption of online grocery shopping by urban consumers in South Africa

This study aims to identify the factors that influence urban consumers' behavioural intention to use online grocery shopping in South Africa, focusing on both users and non-users of these services.

Your insights are valuable to my research study, and I would greatly appreciate your participation in an online questionnaire that should take approximately 10 – 15 minutes to complete.

Online Questionnaire Link: [insert link]

Please note that participation is entirely voluntary, and your responses are strictly anonymous and confidential. The online questionnaire does not ask for your name, therefore individual responses cannot be identified.

Thank you for your participation.

Should you require any further information, please feel free to contact me on the details below.

Kind Regards,
Shivani Naidoo
Email: 1588004@students.wits.ac.za
Mobile: 082 414 6007

APPENDIX B – Participant Consent Form

Title of the study: Adoption of online grocery shopping by urban consumers in South Africa

Name of Researcher: Shivani Naidoo

Institution: Wits Business School

Question	Yes	No
I have read and understood the Participant Information Sheet for this research study and understand that my participation is voluntary and that I can withdraw from this survey at any time without consequences or penalties.		
I have had the opportunity to ask questions about the study.		
I therefore consent to participate in this research study and agree that the data collected will be used for academic purposes as described.		

Name: _____

Signature: _____

Date: _____

APPENDIX C - Research Instrument

NON-USERS:

SECTION A: ONLINE GROCERY SHOPPING EXPERIENCE

Have you used online grocery shopping services before?	Yes	No
		X

SECTION B: DEMOGRAPHIC INFORMATION

Please select your gender	Male	Female

Please select your age group	18 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65+

Please select your net income bracket	R10k – R14k	R15k – R19k	R20k – R29k	R30k – R39k	R40k – R49k	R50k+

Please select educational level	Matric	Diploma	Bachelor's Degree	Honour's Degree	Master's Degree	PHD

Please select the province you live in	Province	
	Gauteng	
	KwaZulu Natal	
	Western Cape	
	Eastern Cape	
	Northern Cape	
	North-West	
	Limpopo	
	Free State	
	Mpumalanga	

SECTION C:

PERFORMANCE EXPECTANCY (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
PE1	**I would find online grocery shopping useful in my daily life**							
PE2	**Using an online channel for grocery shopping would help me save time**							
PE3	**Using online grocery shopping channels would increase my productivity**							

EFFORT EXPECTANCY (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
EE1	**Learning how to use online grocery shopping channels would be easy for me**							
EE2	**My interaction with online grocery shopping channels would be clear and understandable**							
EE3	**I would find online grocery shopping easy to use**							
EE4	**It would be easy for me to become skilful at using online grocery**							

	shopping channels							

SOCIAL INFLUENCE (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
SI1	**People who are important to me would think that I should use online grocery shopping channels**							
SI2	**People who influence my behaviour would think that I should use online grocery shopping channels**							
SI3	**People whose opinions that I value would prefer that I use online grocery shopping channels**							

FACILITATING CONDITIONS (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
FC1	**I have the necessary resources to use online grocery shopping channels**							
FC2	**I have the necessary knowledge to**							

	use online grocery shopping channels							
FC3	**Online grocery shopping channels will be compatible with technologies I use**							
FC4	**I could get help from others when I would have difficulties using online grocery shopping channels**							

HEDONIC MOTIVATION (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
HM1	**Using online grocery shopping channels would be fun**							
HM2	**Using online grocery shopping channels would be enjoyable**							
HM3	**Using online grocery shopping channels would be very entertaining**							

PRICE VALUE (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
PV1	**Online grocery shopping would be reasonably priced**							
PV2	**Online grocery shopping would be good value for money**							
PV3	**At the current price of internet / data, online grocery shopping will provide good value for money**							

HABIT (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
HT1	**The use of online grocery shopping would become a habit for me**							
HT2	**I would be addicted to using online grocery shopping channels**							
HT3	**Using online grocery shopping channels**							

	would be a must							

BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
BI1	**I intend to use online grocery shopping channels in the future**							
BI2	**I would try to use online grocery shopping channels in my daily life**							
BI3	**I would use online grocery shopping channels more frequently than traditional channels**							

End of survey. Thank you for your participation.

USERS:

If the respondent selects **[Yes]** in Section A, the survey will divert to the following questions below:

SECTION A: ONLINE GROCERY SHOPPING EXPERIENCE

	Yes	No

Have you used online grocery shopping services before?	**X**	

Have you ordered groceries online before COVID-19?	**Yes**	**No**

Has COVID-19 changed your online grocery shopping behaviour? I now purchase groceries online…	**A lot less**	
	Less	
	No change	
	More	
	A lot more	

When was the last time you purchased groceries online?	**Within the past week**	
	Within the past two weeks	
	Within the past month	
	Within the past three months	
	Within the past six months	
	Within the past year	

What is your preferred payment method when purchasing groceries online?	**Credit Card**	
	Debit Card	
	Electronic Funds Transfer (EFT)	
	Mobile Wallet	
	Cash	

Which online grocery store do you purchase groceries from most often?	**Checkers Sixty60 App**	
	Pick n Pay ASAP! App	
	www.pnp.co.za	
	Woolies Dash App	
	www.woolworths.co.za	
	Spazapp	
	Grocerease	
	Y-shop	
	Buy Grocery Online	
	Zulzi	
	Vuleka	
	Smartsentials	
	Onecart	
	Sisonke Africa	
	StockUp	
	Washesha	
	Wumdrop	

	Zanel	

SECTION B: DEMOGRAPHIC INFORMATION

Please select your gender	**Male**	**Female**

Please select your age group	**18 - 24**	**25 - 34**	**35 - 44**	**45 - 54**	**55 - 64**	**65+**

Please select your net income bracket	**R10k – R14k**	**R15k – R19k**	**R20k – R29k**	**R30k – R39k**	**R40k – R49k**	**R50k+**

Please select educational level	**Matric**	**Diploma**	**Bachelor's Degree**	**Honour's Degree**	**Master's Degree**	**PHD**

Please select the province you live in	**Province**	
	Gauteng	
	KwaZulu Natal	
	Western Cape	
	Eastern Cape	
	Northern Cape	
	North-West	
	Limpopo	
	Free State	
	Mpumalanga	

SECTION C:

PERFORMANCE EXPECTANCY (Human et al., 2020; Venkatesh et al., 2012)

Code	**Item**	**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
PE1	**I find online grocery shopping useful in my daily life**							
PE2	**Using an online channel for grocery**							

	shopping helps me save time							
PE3	**Using online grocery shopping channels increases my productivity**							

EFFORT EXPECTANCY (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
EE1	**Learning how to use online grocery shopping channels is easy for me**							
EE2	**My interaction with online grocery shopping channels is clear and understandable**							
EE3	**I find online grocery shopping easy to use**							
EE4	**It is easy for me to become skilful at using online grocery shopping channels**							

SOCIAL INFLUENCE (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
SI1	**People who are important to me think that I should use**							

	online grocery shopping channels							
SI2	**People who influence my behaviour think that I should use online grocery shopping channels**							
SI3	**People whose opinions that I value prefer that I use online grocery shopping channels**							

FACILITATING CONDITIONS (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
FC1	**I have the necessary resources to use online grocery shopping channels**							
FC2	**I have the necessary knowledge to use online grocery shopping channels**							
FC3	**Online grocery shopping channels is compatible with the technologies that I use**							
FC4	**I could get help from others if I have**							

	difficulties using online grocery shopping channels							

HEDONIC MOTIVATION (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
HM1	**Using online grocery shopping channels is fun**							
HM2	**Using online grocery shopping channels is enjoyable**							
HM3	**Using online grocery shopping channels gives me a pleasing feeling**							

PRICE VALUE (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
PV1	**Online grocery shopping is reasonably priced**							
PV2	**Online grocery shopping is good value for money**							
PV3	**At the current price of internet /**							

	data, online grocery shopping provides good value for money							

HABIT (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
HT1	**The use of online grocery shopping is a habit for me**							
HT2	**I am addicted to using online grocery shopping channels**							
HT3	**Using online grocery shopping channels is a must**							

BEHAVIOURAL INTENTION TO USE ONLINE GROCERY SHOPPING (Human et al., 2020; Venkatesh et al., 2012)

Code	Item	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
BI1	**I intend to keep using online grocery shopping channels in the future**							
BI2	**I intend to always use online grocery shopping**							

	channels in my daily life							
BI3	**I intend to use online grocery shopping channels more frequently than traditional channels**							

End of survey. Thank you for your participation.

APPENDIX D – 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/DB1588004/676
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	Adoption of online grocery shopping by urban consumers in South Africa
Investigator / Researcher	Ms Shivani Naidoo
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentialty.
Issue Date of Certificate	12/09/2024
Expiry date	Date of submission of the project / research report
Chairperson	Dr Ayanda Magida ☎ +27 11 717 3953 ✉ ayanda.magida@wits.ac.za

Declaration by Researcher

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

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

12 / 09 / 2024

APPENDIX E – Approval of Title

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Private Bag 3 Wits, 2050
Fax:
Tel:

Reference: Ms Jennifer Mgolodela
E-mail: jennifer.mgolodela@wits.ac.za

16 January 2025
Person No: 1588004
PAG

Ms S Naidoo
PO Box 11460 PO Box 11460 Vorna Valley
Vorna Valley
1686
South Africa

Dear Ms Shivani Naidoo

Master of Management: Approval of Title

We have pleasure in advising that your proposal entitled *Adoption of online grocery shopping by urban consumers in South Africa* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Marike Bosman
Faculty Registrar
Faculty of Commerce, Law and Management